

QUALIFICATIONS VALIDATED
ANNUALLY

CUSTOM HYBRID MICROCIRCUITS
QML-38534-15
20 November 1992
SUPERSEDING
QML-38534-14
8 April 1992

QUALIFIED MANUFACTURERS LIST
OF
CUSTOM HYBRID MICROCIRCUITS
QUALIFIED UNDER MILITARY SPECIFICATION
MIL-H-38534
CUSTOM HYBRID MICROCIRCUITS
GENERAL REQUIREMENTS FOR

FSC 5962

This list has been prepared for use by or for the Government in the acquisition of products covered by Specification MIL-H-38534. Listing of a product is not intended to and does not connote endorsement of the product by the Department of Defense. This list is subject to change without notice; revision or amendment of this list will be issued as necessary. The listing of a product does not in any way release the supplier from compliance with the individual item specification requirements.

THE ACTIVITY RESPONSIBLE FOR THIS QML IS THE UNITED STATES AIR FORCE, CODE 17. The activity designated as agent for all contacts relative to this QML is the Defense Electronics Supply Center (DESC-EQ), Dayton, OH 45444-5285.

If a manufacturer desires to have test data considered for qualification, he must perform all required qualification tests; the qualification sample must be produced under a valid authorization to test with DESC certified materials and manufacturing construction techniques; and he must comply with the requirements specified in MIL-H-38534 prior to the start of any testing.

The listing of custom hybrid microcircuit materials and manufacturing construction techniques in QML-38534 applies only to products produced on the MIL-STD-1772 certified line(s) at the plant(s) specified on the QML.

Only those products that have been manufactured, assembled, and tested within the United States and its territories, except as provided by international agreement establishing reciprocal and equivalent quality systems and procedures, can be supplied as qualified custom hybrid QML devices.

Custom hybrid microcircuits manufactured, assembled, and tested in accordance with MIL-H-38534 shall bear the "QML" certification mark for SMD controlled hybrid microcircuits and the "CH" (compliant hybrid) certification mark for non-SMD controlled hybrid microcircuits. The certification mark shall be located preceding the date code. The certification mark abbreviation "Q" or "C" may be used for small devices. Products manufactured, assembled, and tested for Class S or Class B, with all the provisions of MIL-H-38534, MIL-STD-883, Test Method 5008, MIL-STD-1772, and with DESC certified materials and manufacturing construction techniques, can be represented as being compliant to the appropriate product assurance levels as listed herein. The information contained in this QML reflects the material and manufacturing construction techniques of the particular test sample(s). Any product represented as being compliant shall be comprised combinatorially of a manufacturer's listing from the materials and manufacturing construction techniques listed herein, as is necessary to meet the requirements of the user. The user shall be responsible for determining if the QML listing is adequate to demonstrate capability for the intended application. Supplemental testing and listing can be accomplished by application and approval of DESC-EQ. Testing is not limited to those materials and manufacturing construction techniques currently listed herein. However, testing must be completed and approved before the product can be shipped or used in the intended application.

To obtain MIL-H-38534 qualified custom hybrid microcircuits, the procurement document must specify that the product be manufactured to MIL-H-38534, and be comprised of materials and manufacturing construction techniques listed herein. Ordering data is contained in paragraph 6.1 of MIL-H-38534. All procurement documents shall meet the requirements of MIL-H-38534, Appendix C (see cautionary note herein).

1 of 129

CUSTOM HYBRID MICROCIRCUITS
QML-38534-15

AMSC N/A

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

Caution: Hybrid microcircuit devices that are built tested, and shipped under the QML provision (using certified/qualified manufacturing materials and construction techniques) and in full compliance with MIL-H-38534 and MIL-STD-1772 can be determined by this QML.

Contractor acquiring activities, military program offices, and other government representatives can determine if hybrid microcircuits meet the requirements of MIL-H-38534 and MIL-STD-1772 by:

- a. Product listed in the product eligibility section herein, and
- b. Product marked with "QML" certification for SMD controlled hybrid microcircuits and the "CH" (compliant hybrid) certification mark for non-SMD controlled hybrid microcircuits. the certification mark shall proceed the date code. the certification mark abbreviation "Q" or "C" may be used for small devices.

Products that do not meet the above conditions are not manufactured on a MIL-STD-1772 certified/qualified line and are not in full compliance with MIL-H-38534 and MIL-STD-1772 requirements. Hybrids microcircuits that require MIL-H-38534 and MIL-STD-1772 and are not listed herein should be carefully reviewed and verified for contract compliance by the acquisition activity. To determine whether new products are in accordance with MIL-H-38534 and MIL-STD-1772 you may call the agent for the qualifying activity (DESC-EQ).

NOTES:

- 1/ The QML listing can be expanded provided appropriate qualification testing is performed and passed. Therefore the manufacture may accept an order for compliant product not covered by his QML listing, but shall not ship the compliant product until the testing has been successfully completed, and approved by the qualifying activity (DESC-EQ).
- 2/ Package seal perimeter is listed by largest perimeter successfully tested in inches
- 3/ Package lead counts are listed by maximum number of leads covered by qualification.
- 4/ Caution. Do not use this number for item acquisition. Item acquired to this number may not satisfy the performance requirements of the listed SMD.
- 5/ Inactive for new design, no longer available from manufacturer.

-2-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Advanced Analog A Division of Intech 2270 Martin Avenue Santa Clara, California 95050-2781	52467	CEXA

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-89-065) EQ(EQC-90-652) EQ(EQC-92-103)	Class H	N/A	AD/DA Converters DC/DC Converters Sample and Hold Amplifier

SUBSTRATE FABRICATION OPERATION (S) 1/	
LOCATION: Santa Clara, CA FLOW: 8002-0044 CAPABILITY: thick film on alumina, 2 conductor levels, resistors	LOCATION: Santa Clara, CA FLOW: 8002-0074 CAPABILITY: thick film on alumina, 4 conductor levels, resistors

ASSEMBLY OPERATION(S) 1/	
LOCATION: Santa Clara, CA FLOW: 8002-0044 CAPABILITY: polymer conductive epoxy; gold wire bonding	LOCATION: Santa Clara, CA FLOW: 8002-0074 CAPABILITY: polymer conductive/nonconductive epoxy, solder; gold, aluminum, and copper wire bonding
ADD-ON ELEMENTS: unpackaged die, chip capacitors, molytab, transformer, chip resistor SUBSTRATE ATTACH: polymer conductive/nonconductive epoxy	

PACKAGE INFORMATION 1/ 2/ 3/		
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	ceramic dual-in-line seam weld 24 3.69 gold	metal, with axial leads seam weld 10 6.44 gold
		metal, with peripheral leads seam weld 58 5.15 gold

-3-
HYBRID MICROCIRCUITS
QML-38534-14

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER		CAGE CODE	SYMBOL CODE	PRODUCT ELIGIBILITY: The that the following listi built, tested, and shipp QUALIFIED MATERIALS AND FULL COMPLIANCE with MIL requirements. The listing does not in interchangeability, equi	
Advanced Analog A Division of Intech 2270 Martin Avenue Santa Clara, California 95050-2781		52467	CEXA		
SPECIFIC PRODUCT TYPES				PRODUCT TYPE/DESCRIPTION	SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/			
5962-8950901XX	1	RGBDAC3808H/B	D/A conv., triple, 8-bit, video RAM		
5962-8968301HXX	1	AHE2805S/CH	DC/DC conv., 5V, 15W out, single ch.		
5962-8968301H2X	1	AHE2805SF/CH	DC/DC conv., 5V, 15W out, single ch.		
5962-8968302HXX	1	AHE2805S/CHSLV	DC/DC conv., 5V, 15W out, single ch.		
5962-8968302H2X	1	AHE2805SFCHSLV	DC/DC conv., 5V, 15W out, single ch.		
5962-8968303HXX	1	AHE2805S/CHMST	DC/DC conv., 5V, 15W out, single ch.		
5962-8968303H2X	1	AHE2805SFCHMST	DC/DC conv., 5V, 15W out, single ch.		
5962-9095401HXX	1	ATO2815T/CH	DC/DC conv., 5V, +15V, 15W out, triple ch.		
5962-9095401H2X	1	ATO2815TF/CH	DC/DC conv., 5V, +15V, 15W out, triple ch.		
5962-9157501HXX	1	AHE2815D/CH	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157501H2X	1	AHE2815DF/CH	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157502HXX	1	AHE2815D/CHSLV	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157502H2X	1	AHE2815DFCHSLV	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157503HXX	1	AHE2815DCHMSTR	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157503H2X	1	AHE2815DFCHMSTR	DC/DC conv., +15V, 15W out, dual ch.		
5962-9157901HXX	1	ATW2805SCH	DC/DC conv., 5V, 30W out, single ch.		
5962-9157902HXX	1	ATW2805SCH-SLV	DC/DC conv., 5V, 30W out, single ch.		
5962-9157903HXX	1	ATW2805SCHMSTR	DC/DC conv., 5V, 30W out, single ch.		
5962-9158001HXX	1	AHE2812S/CH	DC/DC conv., 12V, 20W out, single ch.		
5962-9158001H2X	1	AHE2812SF/CH	DC/DC conv., 12V, 20W out, single ch.		
5962-9158002HXX	1	AHE2812S/CHSLV	DC/DC conv., 12V, 20W out, single ch.		
5962-9158002H2X	1	AHE2812SFCHSLV	DC/DC conv., 12V, 20W out, single ch.		
5962-9158003HXX	1	AHE2812SCHMSTR	DC/DC conv., 12V, 20W out, single ch.		
5962-9158003H2X	1	AHE2812SFCHMSTR	DC/DC conv., 12V, 20W out, single ch.		
5962-9160001HXX	1	AHE2805S/CH	DC/DC conv., 5V, 12W out, single ch.		
5962-9160201HXX	1	ATO2812T/CH	DC/DC conv., 5V, +12V, 15W out, triple ch.		
5962-9160201H2X	1	ATO2812TF/CH	DC/DC conv., 5V, +12V, 15W out, triple ch.		

-4-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Advanced Analog A Division of Intech 2270 Martin Avenue Santa Clara, California 95050-2781	52467	CESA

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-9161301H2X	1	ATW2815D/CH	DC/DC conv., +15V, 30W out, dual ch.	No
5962-9161302H2X	1	ATW2815D/CHSLV	DC/DC conv., +15V, 30W out, dual ch.	Yes
5962-9161303H2X	1	ATW2815DCHMSTR	DC/DC conv., +15V, 30W out, dual ch.	No
5962-9162501HXX	1	AHE2815S/CH	DC/DC conv., +15V, 20W out, single ch.	No
5962-9162501H2X	1	AHE2815SF/CH	DC/DC conv., +15V, 20W out, single ch.	No
5962-9162502HXX	1	AHE2815S/CHSLV	DC/DC conv., +15V, 20W out, single ch.	No
5962-9162502H2X	1	AHE2815SF/CHSL	DC/DC conv., +15V, 20W out, single ch.	No
5962-9162503HXX	1	AHE2815SCHMST	DC/DC conv., +15V, 20W output single ch.	No
5962-9162503H2X	1	AHE2815SFCHMS	DC/DC conv., +15V, 20W output single ch.	No
5962-9204001HXX	1	AHE2812D/CH	DC/DC conv., +12V, 15W out, dual ch.	No
5962-9204001H2X	1	AHE2812DF/CH	DC/DC conv., +12V, 15W out, dual ch.	Yes
5962-9204002HXX	1	AHE2812D/CHSLV	DC/DC conv., +12V, 15W out, dual ch.	No
5962-9204002H2X	1	AHE2812DFCHSLV	DC/DC conv., +12V, 15W out, dual ch.	No
5962-9204003HXX	1	AHE2812DCHMSTR	DC/DC conv., +12V, 15W out, dual ch.	No
5962-9204003H2X	1	AHE2812DFCHMST	DC/DC conv., +12V, 15W out, dual ch.	No
5962-9210901H2X	1	ATW2812D/CH	DC/DC conv., +12V, 30W out, dual ch.	No
5962-9210902H2X	1	ATW2812D/CHSLV	DC/DC conv., +12V, 30W out, dual ch.	No
5962-9210903H2X	1	ATW2812DCHMSTR	DC/DC conv., +12V, 30W out, dual ch.	No
5962-9235101HXX	1	AHF2815D/CH	DC/DC conv., +15V, 12W out, dual ch.	No
Stock class 5915				
5915-9102001HXX	1	AFC-461/CH	Filter, EMF, 4.0 A input current	Yes
5915-9102001H2X	1	AFC-461F/CH	Filter, EMF, 4.0 A input current	Yes

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

-5-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Aeroflex Laboratories Incorporated 35 South Service Road Plainview, NY 11803		88379	CFAS
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-90-616) EQ(EQC-91-896) EQ9EQC-92-001)	Class H	N/A	Linear Analog Digital
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Plainview, NY FLOW: QAP21-241 CAPABILITY: thick film on alumina, 6 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Plainview, NY FLOW: QAP21-241 CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, tabs SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with axial leads	ceramic, dual-in-line	metal, with peripheral leads
SEAL METHOD:	seam weld	seam weld	seam weld
LEAD COUNT:	78	24	82
SEAL PERIMETER:	7.94	3.72	7.01
LEAD FINISH:	gold	gold	gold

-6-

HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Aeroflex Laboratories Incorporated 35 South Service Road Plainview, NY 11803	88379	CFAS

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8604903YX	1	ARX2402	1553 single channel driver-receiver	No
5962-8604904UX	1	ARX3402	1553 single channel driver/rec., low power	No
5962-8753502XX	1	ARX2452	1553 remote terminal unit, dual red.	Yes
5962-8753502YX	1	ARX2452FP	1553 remote terminal unit, dual red.	Yes
5962-8757903YX	1	ARX2411FP	1553 dual channel driver/receiver, -15	No
5962-8757903XX	1	ARX2411	1553 dual channel driver/receiver, -15	No
5962-8757904XX	1	ARX3411	1553 dual ch. driver/rec., low power -15	Yes
5962-8757904YX	1	ARX3411FP	1553 dual ch. driver/rec., low power -15	No
5962-8944701HUX	1	ARX3436	1553 dual ch. driver/rec., low power -15	No
5962-8944701HXX	1	ARX3416	1553 dual ch. driver/rec., idle high	No
5962-8944701HYX	1	ARX3416FP	1553 dual ch. driver/rec., idle high	No
5962-8944701HZX	1	ARX3436FP	1553 dual ch. driver/rec., idle high	No
5962-8952202XX	1	ARX-2453	1553 transceiver, dual channel, 5V	No
5962-8952202YX	1	ARX-2453FP	1553 transceiver, dual channel, 5V	No
5962-8952208XX	1	ARX-3453	1553 transceiver, dual channel, 5V	No
5962-8952208YX	1	ARX-3453FP	1553 transceiver, dual channel, 5V	No
5962-8959201XX	1	ARX3407	1553 driver/rec., single ch., low power	No
5962-8959201YX	1	ARX3407FP	1553 driver/rec., single ch., low power	No
5962-8959202XX	1	ARX3404	Unv1 driver/rec., single ch., low power	Yes
5962-8959202YX	1	ARX3404FP	Unv1 driver/rec., single ch., low power	Yes
5962-8959203XX	1	ARX3407-001	1553 driver/rec., single ch., low power	Yes
5962-8959203YX	1	ARX3407-001FP	1553 driver/rec., single ch., low power	Yes
5962-8959204XX	1	ARX3404-001	Unv1 driver/rec., single ch., low power	Yes

-7-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER		CAGE CODE	SYMBOL CODE	PRODUCT ELIGIBILITY: The that the following listing built, tested, and shipped QUALIFIED MATERIALS AND FULL COMPLIANCE with MIL requirements. The listing does not in interchangeability, equi	
Aeroflex Laboratories Incorporated 35 South Service Road Plainview, NY 11803		88379	CFAS		
SPECIFIC PRODUCT TYPES					
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED	
5962-8959204YX	1	ARX3404-001FP	Unv1 driver/rec., single ch., low power	No	
5962-8959205XX	1	ARX3467	1553 driver/rec., single ch., low power	No	
5962-8959205YX	1	ARX3467FP	1553 driver/rec., single ch., low power	No	
5962-8959206XX	1	ARX3464	1552 driver/rec., single ch., low power	No	
5962-9859206YX	1	ARX3464FP	1553 driver/rec., single ch., low power	No	
5962-8982602XX	1	ARX3419	Driver/resceiver, dual channel	No	
5962-8982602YX	1	ARX3419FP	Driver/resceiver, dual channel	No	
5962-9063603HXX	1	ARX2410	Driver/resceiver, dual channel	No	
5962-9063604HXX	1	ARX3410	Driver/resceiver, dual channel	No	
5962-9082903HUX	1	ARX3420	Driver/resceiver, single channel	No	
5962-9082904HUX	1	ARX3424	Driver/resceiver, single channel	No	
5962-9174908HXX	1	ARX4407	Single channel, driver-receiver	No	
5962-9174908HYX	1	ARX4407FP	Single channel, driver-receiver	No	
5962-9174908HTX	1	ARX4407LPFP	Single channel, driver-receiver	No	
5962-9174909HXX	1	ARX4404	Single channel, driver-receiver	No	
5962-9174909HYX	1	ARX4404LP	Single channel, driver-receiver	No	
5962-9174909HTX	1	ARX4404LPFP	Single channel, driver-receiver	No	
5962-9208502XX	1	ARX4451	Single channel, driver-receiver	No	
5962-9208502YX	1	ARX4451FP	Single channel, driver-receiver	No	
5962-9208503XX	1	ARX4418	Single channel, driver-receiver	No	
5962-9208503YX	1	ARX4418FP	Single channel, driver-receiver	No	
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:				25	

-8-

HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Analog Devices Incorporated Micro Electronics Division 829 Woburn Street Wilmington, Massachusetts 01887			51640	CEUJ
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQM-87-2531) EQ(EQC-89-253)	Class H	N/A	AD/DA Converters Voltage Reference Signal Processor	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Wilmington, MA FLOW: EE-QA-8419 CAPABILITY: thick film on alumina, 2 conductor levels, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Wilmington, MA FLOW: EE-QA-8122 CAPABILITY: polymer conductive/non-conductive epoxy; gold and aluminum wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistor SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	ceramic dual-in-line seam weld 32 4.35 gold		TO can projection weld 12 0.942 gold	

-9-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Analog Devices Incorporated Micro Electronics Division 829 Woburn Street Wilmington, Massachusetts 01887	51640	CEUJ

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
8300201JX	1	DAC87	D/A Conv., 12-bit, programmable	Yes
8503001YX	1	2700SD	Reference, Precision Voltage, +10V	Yes
8503002YX	1	2700UD	Reference, Precision Voltage, +10V	Yes
8503003YX	1	2701SD	Reference, Precision Voltage, -10V	Yes
8503004YX	1	2702SD	Reference, Precision Voltage, +/-10V	Yes
8503005YX	1	2702UD	Reference, Precision Voltage, +/-10V	Yes
8503006YX	1	2701UD	Reference, Precision Voltage, -10V	Yes
5962-8850901XX	1	AD390S	D/A conv, 12-bit, bipolar, linear, quad	Yes
5962-8850902XX	1	AD390T	D/A conv, 12-bit, bipolar, linear, quad	Yes
5962-8851001XX	1	AD394S	D/A conv, 12-bit, bipolar	Yes
5962-8851002XX	1	AD394T	D/A conv, 12-bit, quad, bipolar	Yes
5962-8851003XX	1	AD395S	D/A conv, 12-bit, quad, unipolar	Yes
5962-8851004XX	1	AD395T	D/A conv, 12-bit, quad, unipolar	Yes
5962-8865801XX	1	AD578X	A/D conv, 12-bit, high speed	Yes
5962-8865802XX	1	AD578T	A/D conv, 12-bit, high speed	Yes
5962-8865803XX	1	AD578ZSD	A/D conv, 12-bit, high speed	No
5962-8865804XX	1	AD578ZTD	A/D conv, 12-bit, high speed	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING			MIL-H-38534 COMPLIANT:	22

-10-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Analog Devices Incorporated Computer Labs Division (CLD) 7910 Triad Center Drive Greensboro, North Carolina 27409		34031	CETW

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-92-025) EQ(EQC-92-119) EQ(EQC-92-476) EQ(EQC-92-047)	Class H	N/A	Buffer Data Converters Op-Amp Track and Hold

SUBSTRATE FABRICATION OPERATION (S) 1/	
LOCATION: Greensboro, NC FLOW: QAP 3060 CAPABILITY: thick film on alumina, 3 conductor level, resistors	LOCATION: Greensboro, NC FLOW: QAP 3060 CAPABILITY: thin film on alumina, 1 conductor level, resistors

ASSEMBLY OPERATION(S) 1/	
LOCATION: Greensboro, NC FLOW: QAP 3060 CAPABILITY: polymer conductive & nonconductive epoxy; gold and aluminum wire bonding	LOCATION: N/A FLOW: N/A CAPABILITY: N/A

ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors
SUBSTRATE ATTACH: polymer nonconductive epoxy ** Maximum constant acceleration level qualified 7500g, A7910 package only.

PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	TO can	metal, with axial leads **	ceramic dual-in-line
SEAL METHOD:	projection Weld	seam weld	seam weld
LEAD COUNT:	12	46	28
SEAL PERIMETER:	1.91	7.94	4.69
LEAD FINISH:	gold & solder	gold & solder	gold

-11-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Analog Devices Incorporated Computer Labs Division (CLD) 7910 Triad Center Drive Greensboro, North Carolina 27409	34031	CETW

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
8001301ZX	1	0032	Op amp, thick film	Yes
8001401ZX	1	0033	Hi Speed Buffer Amp, Volt. Foll., FET in	Yes
5962-8857901XC	1	HOS-050A	Op Amp, Video, Fast Settling, +/- 15mV	Yes
5962-8857902XC	1	HOS-060SH	Op Amp, Video, Fast Settling, +/- 1.5mV	Yes
5962-9073001YX	1	HTC-0300AM/883	High speed track and hold amplifier	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 17				

-12-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Apex Microtechnology Corporation 5980 North Shannon Road Tucson, AZ 85741			60024	CFAB
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-93-028) EQ(EQC-91-347) EQ(EQC-92-410)	Class H	N/A	Power Operational Amplifier	
SUBSTRATE FABRICATION OPERATION(S) 1/				
LOCATION: Tucson, AZ FLOW: FLOW 01 CAPABILITY: thick film on beryllium oxide, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Tucson, AZ FLOW: FLOW 10, FLOW 99 CAPABILITY: polymer conductive epoxy, solder; aluminum wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: solder				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: TO can				
SEAL METHOD: projection weld				
LEAD COUNT: 8				
SEAL PERIMETER: 2.67				
LEAD FINISH: gold & solder				

-13-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Apex Microtechnology Corporation 5980 North Shannon Road Tucson, AZ 85741	60024	CFAB

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8762002HXX	1	PA51M/883	Power operational amplifier	Yes
5962-9063801HXX	1	PA07M/883	Power operational amplifier	Yes
5962-9065901HXX	1	PA12M/883	Operational amplifier, power	Yes
5962-9067901HXX	1	PA02M/883	Power operational amplifier	Yes
5962-9072301HXX	1	PA08M/883	Power operational amplifier	No
5962-9082801HXX	1	PA10M/883	Power operational amplifier	Yes
5962-9162101HXX	1	PA83M/883	Power operational amplifier	Yes
5962-9073601HXX	1	PA84M/883	Power operational amplifier	No
5962-9170001HXX	1	PA09M/883	Power operational amplifier	Yes
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 132				

-14-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Beckman Industrial Corporation Electronic Technologies Division 4141 Palm Street Fullerton, California 92635		73138	CEXB

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-89-071) EQ(EQC-91-718) EQ(EQC-92-382) EQ(EQC-92-383)	Class H	N/A	Data Converters Voltage Regulator Analog

SUBSTRATE FABRICATION OPERATION (S) 1/	
LOCATION: Fullerton, CA FLOW: 800-403-2 CAPABILITY: thick film on alumina, 3 conductor level, resistors	LOCATION: N/A FLOW: N/A CAPABILITY: N/A

ASSEMBLY OPERATION(S) 1/	
LOCATION: Fullerton, CA FLOW: 800-403-03 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire bonding	LOCATION: N/A FLOW: N/A CAPABILITY: N/A
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, molytaps SUBSTRATE ATTACH: polymer nonconductive epoxy	

PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal ,with peripheral leads	ceramic, dual-in-line	ceramic co-fire, dual-in-line
SEAL METHOD:	seam weld	seam weld	seam weld
LEAD COUNT:	61	44	10
SEAL PERIMETER:	5.86	6.87	1.04
LEAD FINISH:	solder	gold	gold

-15-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER		CAGE CODE	SYMBOL CODE
Beckman Industrial Corporation Electronic Technologies Division 4141 Palm Street Fullerton, California 92635		73138	CEXB
SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
None	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING

-16-

HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Boeing Electronics Company 20403 Sixty-Eighth Avenue South Kent, Washington 98124		81205	CEUW
QUALIFICATION LETTER(S)	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQM-87-2947) EQ(EQC(91-624)	N/A	Custom	
EQ(EQC-91-046) EQ(EQC(91-438)			
EQ(EQC-91-079)	PRODUCT CLASS DESIGNATOR		
EQ(EQC-91-228) EQ(EQC-91-630) EQ(EQC-91-672)	Class H		
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Kent, WA FLOW: D900-10476-1-2 CAPABILITY: thick film on alumina, 10 conductor levels, resistors; thick film on beryllia, 5 conductor levels		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Kent, WA FLOW: D900-10476-1-2 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire and ribbon bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, tabs SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with axial leads	metal, with peripheral leads	
SEAL METHOD:	metal, with axial leads seam weld	metal, with peripheral leads seam weld	
LEAD COUNT:	30	94	
SEAL PERIMETER:	5.86	9.16	
LEAD FINISH:	gold	gold	

-17-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Boeing Electronics Company 20403 Sixty-Eighth Avenue South Kent, Washington 98124	81205	CEUW

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 5				

-18-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
CMAC Microcircuits Limited South Denes Great Yarmouth Norfolk NR30 3PX England			U4388	N/A
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-91-835) EQ(EQC-92-084)	Class H	N/A	MIL-STD-1553 Transceiver	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Great Yarmouth, England FLOW: QCPM 458 CAPABILITY: Thick film on alumina, 2 conductor levels			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Great Yarmouth, England FLOW: QCPM 458 CAPABILITY: polymer conductive/nonconductive epoxy, gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	SEAL METHOD:	LEAD COUNT:	SEAL PERIMETER:	LEAD FINISH:
Metal, with axial leads	Seam weld	36	5.3	gold, solder
Metal with peripheral leads	Seam weld	36	5.3	gold, solder

-19-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
CMAC Microcircuits Limited South Denes Great Yarmouth Norfolk NR30 3PX England	U4388	N/A

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8944703XX	1	FC1553622	1553 Dual Transceiver, 15V	No
5962-8944703YX	1	FC1553622FP	1553 Dual Transceiver, 15V	No
5962-8757906XX	1	FC1553623	1553 Dual Transceiver, 15V	No
5962-8757906YX	1	FC1553623FP	1553 Dual Transceiver, 15V	No
5962-8982605XX	1	FC1553721	1553 Dual Transceiver, 12V	No
5962-8982605YX	1	FC1553721FP	1553 Dual Transceiver, 12V	No
5962-8979901XX	1	FC155391	1553 Single Transceiver, 5V	No
5962-8979901YX	1	FC155391FP	1553 Single Transceiver, 5V	No
5962-8979902XX	1	FC155392	1553 Single Transceiver, 5V	No
5962-8979902YX	1	FC155392FP	1553 Single Transceiver, 5V	No
5962-8952206XX	1	FC1553921	1553 Dual Transceiver, 5V	No
5962-8952206YX	1	FC1553921FP	1553 Dual Transceiver, 5V	No
5962-8952207XX	1	FC1553923	1553 Dual Transceiver, 5V	No
5962-8952207YX	1	FC1553923FP	1553 Dual Transceiver, 5V	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING	MIL-H-38534 COMPLIANT:	11
--	------------------------	----

-20-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
CTS Microelectronics 1201 Cumberland Avenue West Lafayette, Indiana 47906			23223	CEUR
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-92-787)	Class H	N/A	Analog Converter	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: West Lafayette, IN FLOW: STD-THINFLM-BDI CAPABILITY: thin film on alumina, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: West Lafayette, IN FLOW: STD-C&W-1772 CAPABILITY: eutectic; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	TO can			
SEAL METHOD:	projection weld			
LEAD COUNT:	12			
SEAL PERIMETER:	2.75			
LEAD FINISH:	gold & solder			

-21-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
CTS Microelectronics 1201 Cumberland Avenue West Lafayette, Indiana 47906	23223	CEUR

SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
7801301XX 7801301GX	1 1	CTS0002 CTS0002XB	Amplifier, current, thick/thin film Amplifier, current, thick/thin film
			Yes Yes
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 7			

-22-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Canadian Marconi Company 2442 Trenton Avenue Montreal, Quebec, Canada H3P 1Y9		90073	CDDF
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-720) EQ(EQC-92-427)	Class H	N/A	Voltage Regulator
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Montreal, Canada FLOW: 411-146425-000 CAPABILITY: Thick film on alumina, 1 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Montreal, Canada FLOW: 411-146426-000 CAPABILITY: polymer conductive and nonconductive epoxy, eutectic, gold wire bonding.		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitor. SUBSTRATE ATTACH: polymer nonconductive epoxy.			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with axial leads		
SEAL METHOD:	seam weld		
LEAD COUNT:	16		
SEAL PERIMETER:	3.61		
LEAD FINISH:	gold		

-23-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Canadian Marconi Company 2442 Trenton Avenue Montreal, Quebec Canada H3P 1Y9	90073	CDDF

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-24-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Comlinear Corporation 4800 Wheaton Drive Fort Collins, Colorado 80525			62839	CEYA
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-89-0244) EQ(EQC-90-0392) EQ(EQC-90-0393) EQ(EQC-91-0704) EQ(EQC-91-746)	Class H	N/A	Data Converters Op-Amp	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Fort Collins, CO FLOW: TFS-01-001 CAPABILITY: thin film on alumina, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Fort Collins, CO FLOW: PDS-01-001 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	TO can projection weld 12 1.81 Gold & solder		Ceramic dawl-in-line Seam weld 40 6.22 Gold & solder	

-25-

HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Comlinear Corporation 4800 Wheaton Drive Fort Collins, Colorado 80525	62839	CEYA

SPECIFIC PRODUCT TYPES					SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION		
5962-8959401XX	1	CLC231A8C	Op amp, wideband, high speed	Yes	
5962-8985801XX	1	CLC206A8C	Op amp, wideband	Yes	
5962-8991001XX	1	CLC200A8C	Op amp, wideband, high speed	Yes	
5962-8991101XX	1	CLC220A8C	Op amp, wideband	Yes	
5962-9083301HXX	1	CLC201A8C	Op amp, wideband	Yes	
5962-9083501HXX	1	CLC205A8C	Op amp, wideband	NO	
5962-9083601HXX	1	CLC221A8C	Op amp, wideband	NO	
5962-9097701HXX	1	CLC207A8C	Op amp, wideband, low distortion	Yes	
5962-9099501HXX	1	CLC925B8C	12-bit, A/D converter	Yes	
5962-9166501HXX	1	CLC232A8C	Op amp, wideband, low distortion	NO	
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2					

-26-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Datel Incorporated 11 Cabot Boulevard Mansfield, MA 02048-1194			50721	CFAT
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-0626) EQ(EQC-90-0677) EQ(EQC-91-029)	Class H	N/A	Digital	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Mansfield, MA FLOW: D-4552 CAPABILITY: thick film on alumina, 2 conductor levels			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Mansfield, MA FLOW: D-4552 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	ceramic dual-in-line seam weld 32 5.57 gold			

-27-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Datel Incorporated 11 Cabot Boulevard Mansfield, MA 02048-1194	50721	CFAT

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8850801XX	1	ADC-HX/883B	A/D Conv., 12-bit, 20us conversion time	Yes
5962-8850802XX	1	ADC-Hz/883B	A/D Conv., 12-bit, 8us conversion time	Yes
5962-8952801XX	1	DAC HKB/883B	D/A Conv., 12-bit, binary input code	Yes
5962-8952802XX	1	DAC HKB-2/883B	D/A Conv., 12-bit, two's complement	Yes
5962-8953101XX	1	DAC HPB/883B	D/A Conv., 16-bit, 0 to +10,+5 volts output	Yes
5962-8953102XX	1	DAC HPB-1/883B	D/A Conv., 16-bit, +10 volts output	Yes
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 17				

-28-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Elantec Incorporated 1996 Tarob Court Milpitas, California 95035		64762	CEWO
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQM-88-1646) EQ(EQC-90-0804)	Class H	N/A	Analog Converter Power Converter
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Milpitas, CA FLOW: FCA-0002 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Milpitas, CA FLOW: FCA-0004, FCA-0008, FCA-0015 CAPABILITY: eutectic; aluminum & gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: solder, polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	TO can		
SEAL METHOD:	projection weld		
LEAD COUNT:	12		
SEAL PERIMETER:	2.31		
LEAD FINISH:	gold & solder		

-29-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Elantec Incorporated 1996 Tarob Court Milpitas, California 95035	64762	CEWO

SPECIFIC PRODUCT TYPES					SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION		
7801301XX	1	0002	Amplifier, current, thick film	Yes	
8001301ZX	1	0032	Op amp, thick film	Yes	
8001401ZX	1	0033	Hi Speed Buffer Amp, Volt. Foll., FET in	Yes	
8508701ZX	1	0041	Hi Power Op Amp, Ext. Comp., 0.2A Out.	Yes	
8508801YX	1	ELH0021K	Hi pwr. Op amp, ext. comp., 1.0A Out.	Yes	
8508901YX	1	ELH0101AK	Hi pwr. Op amp, wideband, thick film	Yes	
8508902YX	1	ELH0101K	Hi pwr. Op amp, wideband, thick film	Yes	
5962-8965901XX	1	EL2004G/883B	Buffer amp, FET in.	Yes	
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:					1

-30-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Film Microelectronics Incorporated 530 Turnpike Street North Andover, Massachusetts 01845		27851	CEYB
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-89-233)	Class H	N/A	Power (Buffer) Bi-polar
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Burlington, MA FLOW: 52-0069 CAPABILITY: thin film on Beryllia, 1 conductor level		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Peabody, MA FLOW: 52-0015 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with peripheral leads		
SEAL METHOD:	seam weld		
LEAD COUNT:	19		
SEAL PERIMETER:	4.78		
LEAD FINISH:	gold		

-31-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Film Microelectronics Incorporated 530 Turnpike Street North Andover, Massachusetts 01845	27851	CEYB

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-32-

HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
General Microcircuits Corporation 780 Boston Road Billerica, Massachusetts 08121		67294	CEYC
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-89-0235)	Class H	N/A	Custom
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Billerica, MA FLOW: 10000 CAPABILITY: thin film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Billerica, MA FLOW: 10000 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with peripheral leads		
SEAL METHOD:	seam weld		
LEAD COUNT:	22		
SEAL PERIMETER:	2.05		
LEAD FINISH:	gold		

-33-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
General Microcircuits Corporation 780 Boston Road Billerica, Massachusetts 08121	67294	CEYC

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-34-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Hewlett-Packard Company Optical Communications Division 370 West Trimble Road San Jose, California 95131		50434	CEUS

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQM-87-2594) EQ(EQM-88-1265) EQ(EQC-90-0754)	Class H	N/A	Optocoupler

SUBSTRATE FABRICATION OPERATION (S) 1/	
LOCATION: San Jose, CA FLOW: 5956-9439-20, 5956-8000-20, 5956-9523-30, 5956-9526-30 CAPABILITY: light emitting diode fabrication, integrated circuit fabrication	LOCATION: N/A FLOW: N/A CAPABILITY: N/A

ASSEMBLY OPERATION(S) 1/	
LOCATION: San Jose, CA FLOW: 1CP1-0016-3 CAPABILITY: eutectic; gold and aluminum wire bonding	LOCATION: N/A FLOW: N/A CAPABILITY: N/A

ADD-ON ELEMENTS: unpackaged die	
SUBSTRATE ATTACH: eutectic, solder	

PACKAGE INFORMATION 1/ 2/ 3/	
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	ceramic dual-in-line solder 16 1.28 gold, solder
	leadless chip carrier solder 20 0.92 solder

-35-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hewlett-Packard Company Optical Communications Division 370 West Trimble Road San Jose, California 95131	50434	CEUS

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8978501PX	3	HCPL-5731	Optocoupler, dual channel	Yes
5962-89785022X	2	HCPL-6731	Optocoupler, dual channel, LCC package	Yes
5962-8981001PX	2	HCPL-5701	Optocoupler, single channel, high gain	Yes
5962-9085401HPX	1	HCPL-5501	Optocoupler, single ch., transistr out	Yes
5962-9085501HPX	1	HCPL-5601	Optocoupler, dual channel	Yes
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:				21

-37-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Honeywell Incorporated Sperry Central Manufacturing 21111 North Nineteenth Avenue Phoenix, Arizona 85036			58960	CEUT
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQM-87-1933) EQ(EQC-90-0768)	Class H	N/A	Analog Digital Drive controller	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Phoenix, AZ FLOW: 51549 CAPABILITY: thick film on alumina, 2 conductor levels, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Phoenix, AZ FLOW: 51550 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: eutectic				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	metal, with peripheral leads			
SEAL METHOD:	seam weld			
LEAD COUNT:	36			
SEAL PERIMETER:	3.5			
LEAD FINISH:	gold			

-38-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Honeywell Incorporated Sperry Central Manufacturing 21111 North Nineteenth Avenue Phoenix, Arizona 85036	58960	CEUT

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT:				1

-39-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Hughes Aircraft Company Microelectronics Circuit Division Space Business Unit 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658-8903		55267	CEYN
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-89-341)	Class H	N/A	Analog Digital
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Space Business Unit, Newport Beach, CA FLOW: 1051091 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Space Business Unit, Newport Beach, CA FLOW: 1120379 CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, molytab SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with axial leads seam weld 22 2.03 gold		

-40-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Hughes Aircraft Company Microelectronics Circuit Division Multichip Microcircuit Business Unit (E1000) 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658-8903			55267	CEYN
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-326)	Class H	N/A	Analog Digital	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Multichip Microcircuit Business Unit, Newport, CA FLOW: 1051089 CAPABILITY: thin film on alumina, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Multichip Microcircuit Business Unit, Newport, CA FLOW: 1050994 CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistor SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	leadless chip carrier			
SEAL METHOD:	seam weld			
LEAD COUNT:	68			
SEAL PERIMETER:	4.25			
LEAD FINISH:	solder			

-41-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hughes Aircraft Company Microelectronics Circuit Division Space/Multichip Micro. Business Unit 500 Superior Avenue Building 700 P. O. Box H Newport Beach, California 92658	55267	CEYN

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-42-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Hycomp Incorporated 165 Cedar Hill Street Marlborough, Massachusetts 01752			34707	CEYP
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-89-421)	Class H	N/A	Voltage Reference Analog	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Marlborough, MA FLOW: EMA-75 CAPABILITY: thin film on alumina, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Marlborough, MA FLOW: EMA-75 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:		ceramic dual-in-line seam weld 10 2.9 gold		

-43-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hycorp Incorporated 165 Cedar Hill Street Marlborough, Massachusetts 01752	34707	CEYP

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
8503001YX	1	2700SD	Reference, Precision Voltage, +10V	No
8503002YX	1	2700UD	Reference, Precision Voltage, +10V	No
8503003YX	1	2701SD	Reference, Precision Voltage, -10V	No
8503004YX	1	2702SD	Reference, Precision Voltage, +/-10V	No
8503005YX	1	2702UD	Reference, Precision Voltage, +/-10V	No
8503006YX	1	2701UD	Reference, Precision Voltage, -10V	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 22				

-44-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Hytek Microsystems Incorporated 400 Hot Springs Road Carson City, Nevada 89706		0ANN4	CEYO
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-859)	Class H	N/A	Active Delay Line
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Carson City, NV FLOW: RN1005-002 CAPABILITY: thick film on alumina, 2 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Carson City, NV FLOW: RN1005-002 CAPABILITY: polymer conductive/nonconductive epoxy, solder; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, inductors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	platform		
SEAL METHOD:	projection weld		
LEAD COUNT:	16		
SEAL PERIMETER:	2.94		
LEAD FINISH:	solder or gold		

-45-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Hytek Microsystems Incorporated 400 Hot Springs Road Carson City, Nevada 89706	0ANM4	CEYO

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 75				

-46-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716		19645	CEPB
QUALIFICATION LETTER(S)	QUALIFICATION LETTER(S)	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-90-220) EQ(EQC-91-104) EQ(EQC-91-306) EQ(EQC-91-308) EQ(EQC-91-386) EQ(EQC-91-667)		N/A	1553 Bus Data Converters
		PRODUCT CLASS DESIGNATOR	
		Class H	
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Bohemia, NY FLOW: 41637 CAPABILITY: thick film on alumina, 5 conductor levels, resistors		LOCATION: Bohemia, NY FLOW: 41638 CAPABILITY: thin film on alumina, 1 conductor level, resistors	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Bohemia, NY FLOW: 36070, 36071 CAPABILITY: polymer conductive/nonconductive epoxy, solder; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with axial leads seam weld 94 10.26 gold	platform projection weld 32 5.38 gold	metal, with peripheral leads seam weld 82 7.58 gold
			ceramic dual-in-line seam weld 24 4.09 gold

-47-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
ILC Data Device Corporation 30 Orville Drive Bohemia, New York 11716			19645	CEPB
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-657) EQ(EQC-91-606)	Class H	N/A	Data Converters Power	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Bohemia, NY FLOW: 41639 CAPABILITY: thick film on alumina, 3 conductor levels, resistors; thick film on beryllia, 1 conductor level, resistor			LOCATION: Bohemia, NY FLOW: 41638 CAPABILITY: thin film on alumina, 1 conductor level, resistors	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Bohemia, NY (Power Line) FLOW: 41634 CAPABILITY: polymer conductive epoxy; gold wire bonding.			LOCATION: Bohemia, NY (Power Line) FLOW: 45552 CAPABILITY: polymer conductive/nonconductive epoxy and solder; gold and aluminum wire and copper/tin bracket (solder) bonding.	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, molytaps				
SUBSTRATE ATTACH: polymer conductive/nonconductive epoxy, solder				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT:	metal, with axial leads seam weld 24	metal, with peripheral leads seam weld 16		
SEAL PERIMETER: LEAD FINISH:	4.10 gold	8.80 gold		

-48-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716	19645	CEPB

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8604902ZX	1	BUS63105II	1553 Single Ch., Drvr./Rec., Low Power	Yes
5962-8604902TX	1	BUS63106II	1553 Single Ch., Drvr./Rec., Low Power	Yes
5962-8604902XC	1	BUS63105	1553 Single Ch., Drvr./Rec.	No
5962-8604905XX	1	BUS63100-617	1553 Single Ch., Drvr./Rec.	No
5962-8753501XA	1	BUS65112	1553 Remote Terminal Unit, Dual Redun.	Yes
5962-8753501YC	1	BUS65117	1553 Remote Terminal Unit, Dual Redun.	Yes
5962-8757902XX	1	BUS63125II	1553 Dual Ch., Drvr./Rec., Low Pwr., -15V	Yes
5962-8757902YC	1	BUS63126II	1553 Dual Ch., Drvr./Rec., Low Pwr., -15V	Yes
5962-8768701XC	1	HSDC8920A883B	R/S-to-digi. conv., 400Hz, +/-4.0 arcmin	Yes
5962-8768702XC	1	HSDC8920883B	R/S-to-digi. conv., 400Hz, +/-2.6 arcmin	No
5962-8768703XC	1	RDC14505-641	R/S to digi. conv., 400Hz, +/-2.6 arcmin	No
5962-8851702XX	1	DAC02310-113	D/A Conv., 14-bit, deglitched	Yes
5962-8851702YX	1	DAC02311-113	D/A Conv., 14-bit, deglitched	No
5962-8851701XX	1	DAC02310-112	D/A Conv., 14-bit, deglitched	Yes
5962-8851701YX	1	DAC02311-112	D/A Conv., 14-bit, deglitched	No
5962-8854201XX	1	ADC00300-112	D/A Conv., 12-bit track/hold	Yes
5962-8854201YX	1	ADC00302-112	D/A conv., 12-bit track/hold	No
5962-8858601XX	1	BUS66300II883B	1553 Bus to microprocessor interface unit	Yes
5962-8858601YC	1	BUS66301II883	1553 Bus to microprocessor interface unit	No
5962-8869201XX	1	BUS61553-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869201YX	1	BUS61563-883B	1553 Advcd. Intgrtd. MUX, 8k x 16 RAM	Yes

-49-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716	19645	CEPB

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8869202XX	1	BUS61554-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869202YC	1	BUS61564-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869203XC	1	BUS61555-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869203YC	1	BUS61565-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8869204XC	1	BUS61556-883B	1553 Advcd. Intgrtd. MUX, 8K x 16 RAM	Yes
5962-8944704HXC	1	BUS63135II	Dual channel, driver-reciever, rec.idle	Yes
5962-8944704HYC	1	BUS63136II	Dual channel, driver-reciever, rec.idle	No
5962-8949801XX	1	SDC14561IIII114	90 V, 400Hz, S/D converter, 2.0 minutes	No
5962-8949802XX	1	SDC14561IIII115	90 V, 400Hz, S/D converter, 1.0 minutes	No
5962-8949901XX	1	SDC14560IIII114	S/D Conv, 11.8V, 400Hz, 2.0 min. Arc.	No
5962-8949902XX	1	SDC14560IIII115	S/D Conv, 11.8V, 400Hz, 1.0 min. Arc.	No
5962-8949903XC	1	SDC14560IIII605	S/D Conv, 11.8V, 400Hz, Prog. Res., 2 Mn.Arc	Yes
5962-8979801XX	1	BUS-65142	Remote terminal unit, dual redundant	No
5962-8979801YX	1	BUS-65144	Remote terminal unit, dual redundant	No
5962-8979801XX	1	BUS-65143-883B	Remote terminal unit, dual redundant	No
5962-8979801XX	1	BUS-65145-883B	Remote terminal unit, dual redundant	No
5962-8982601XC	1	BUS63127II	Low power, dual channel, driver-reciever	Yes
5962-8982601YC	1	BUS63128II	Low power, dual channel, driver-reciever	Yes
5962-8990801XX	1	SDC14565IIII114	11.8V, 400 Hz, R/D converter, 2 min Arc.	No
5962-8990802XX	1	SDC14565IIII115	11.8V, 400 Hz, R/D converter, 1 min Arc.	No
5962-8990803XC	1	SDC14565IIII116	11.8V, 400 Hz, 80 Hz BW, R/D Converter	Yes
5962-8990804XX	1	SDC14566IIII115	11.8V, 400 Hz, trimmed velocity, R/D conv.	No
5962-8990805XC	1	SDC14565IIII118	7.0V, 400 Hz, 80 Hz bandwidth, R/D conv.	No
5962-9055101XC	1	SDC14567IIII111	DR/D converter, 400Hz, +/-6.0 min. acc.	Yes

-50-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
ILC Data Device Corporation 105 Wilbur Place Bohemia, New York 11716	19645	CEPB

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-9055102XC	1	SDC14567IIII112	DR/D converter, 400Hz, +/-4.0 min. acc.	Yes
5962-9055103XC	1	SDC14567IIII114	DR/D converter, 400Hz, +/-2.0 min. acc.	Yes
5962-9055104XC	1	SDC14567IIII115	DR/D converter, 400Hz, +/-1.0 min. acc.	Yes
5962-9055105XC	1	SDC14569IIII111	DR/D converter, trim. vel., 400Hz, +/-6.0acc	Yes
5962-9055106XC	1	SDC14569IIII112	DR/D converter, trim. vel., 400Hz, +/-4.0acc	No
5962-9055107XC	1	SDC14569IIII114	DR/D converter, trim. vel., 400Hz, +/-2.0acc	No
5962-9055108XC	1	SDC14569IIII115	DR/D converter, trim. vel., 400Hz, +/-1.0acc.	No
5962-9055401XC	1	HSDC8915A883B	R/D or S/D converter, +/-2.6 arcmin acc.	No
5962-9055402XC	1	HSDC8915883B	R/D or S/D converter, +/-4.0 arcmin acc.	No
5962-9063401HXX	1	ADH030-III12-1	D/A converter, 12-bit	No
5962-9070701HXC	1	SDC14500-635	S/D converter, 400Hz, 11.8v, acc. +/-2.6	No
5962-9070702HXC	1	SDC14500-636	S/D converter, 400Hz, 11.8v, acc. +/-4.0	Yes
5962-9070703HXC	1	SDC14502-605	S/D converter, 400Hz, 11.8v, acc. +/-2.6	No
5962-9070704HXC	1	SDC14502-606	S/D converter, 400Hz, 11.8v, acc. +/-4.0	Yes

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING	MIL-H-38534 COMPLIANT:	44
--	------------------------	----

-51-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Interpoint Corporation 10301 Willows Road Redmond, Washington 98052			50821	CEUU
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQM-87-2838) EQ(EQM-89-0439) EQ(EQC-92-300)	Class H	N/A	Linear amplifier Signal processor Data converters Analog, Digital	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Redmond, WA FLOW: QA-039 CAPABILITY: thick film on alumina, 2 conductor levels, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Redmond, WA FLOW: QA-039 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:		metal, with axial leads seam weld 38 6.0 gold		
metal, with peripheral leads seam weld 32 4.00 solder				

-52-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Interpoint Corporation 10301 Willows Road Redmond, Washington 98052	50821	CEUU

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-53-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
ITT Avionics Division 100 Kingsland Road Clifton, New Jersey 07014		28527	CEWQ
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	TECHNOLOGY TYPES	
EQ(EQM-88-1955) EQ(EQC-91-367) EQ(EQC-91-543) EQ(EQC-91-556) EQ(EQC-91-875) EQ(EQC-91-812)	Class H	Memory Custom	
RADIATION HARDNESS LEVEL			
N/A			
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Clifton, NJ FLOW: TFH-102 CAPABILITY: thick film on alumina, 8 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Clifton, NJ FLOW: TFH-103 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, ceramic posts, tabs SUBSTRATE ATTACH: polymer nonconductive/conductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: metal, with axial leads		PACKAGE TYPE: metal, with peripheral leads	
SEAL METHOD: seam weld		SEAL METHOD: seam weld	
LEAD COUNT: 78		LEAD COUNT: 94	
SEAL PERIMETER: 7.94		SEAL PERIMETER: 9.16	
LEAD FINISH: gold		LEAD FINISH: gold	

-54-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER		CAGE CODE	SYMBOL CODE
ITT Avionics Division 100 Kingsland Road Clifton, New Jersey 07014		28527	CEWQ
PRODUCT ELIGIBILITY: The listing is for a product that the following listing is for a product that is built, tested, and shipped as a single unit. The listing does not in any way imply interchangeability, equivalence, or compatibility with MIL-STD-883C requirements.			
PRODUCT TYPE/DESCRIPTION			
N/A			
SHIPPED			
N/A			
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0			

-55-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Lockheed Sanders, Incorporated Microwave Technology Center 65 Spit Brook Road Nashua, NH 03061-2041			94117	
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-92-467)	Class H	N/A	Voltage regulator Decoder Attenuators IFM	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Nashua, NH FLOW: MEC-01-7-017 CAPABILITY: thick film on alumina, 1 conductor levels			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Nashua, NH FLOW: MEC-01-7-017 CAPABILITY: polymer conductive/nonconductive epoxy; aluminum and gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, tantalum capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: metal, with peral leads SEAL METHOD: seam weld LEAD COUNT: 88 SEAL PERIMETER: 7.2 LEAD FINISH: gold				

-56-
 HYBRID MICROCIRCUITS
 QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Lockheed Sanders, Incorporated Microwave Technology Center 65 Spit Brook Road Nashua, NH 03061-2041	94117	(TED)

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-57-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
M.S. Kennedy Corporation 8170 Thompson Road Cicero, NY 13041		51651	CFAA
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-90-451) EQ(EQC-90-507) EQ(EQC-92-417)	Class H	N/A	High Power DC-Amplifier
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Cicero, NY FLOW: 2422-1563 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: Clay, NY FLOW: 2422-1563 CAPABILITY: thick film on beryllia, 2 conductor levels, resistors	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Cicero, NY FLOW: 2422-1518 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer conductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	TO can projection weld 12 3.14 gold		
platform projection weld 14 2.59 gold			

-58-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
M.S. Kennedy Corporation 8170 Thompson Road Cicero, NY 13041	51651	CFAA

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-59-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Marconi Circuit Technology Corporation 160 Smith Street Farmingdale, NY 11735		32116	(TBD)
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-369)	Class H	N/A	Digital
SUBSTRATE FABRICATION OPERATION(S) 1/			
LOCATION: Farmingdale, NY FLOW: 11-2915 CAPABILITY: thick film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Farmingdale, NY FLOW: 11-2915 CAPABILITY: polymer conductive/nonconductive epoxy and eutectic, gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, tabs SUBSTRATE ATTACH: solder			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with peripheral leads		
SEAL METHOD:	seam weld		
LEAD COUNT:	22		
SEAL PERIMETER:	7.05		
LEAD FINISH:	gold		

-60-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY:The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER		CAGE CODE	SYMBOL CODE	
Marconi Circuit Technology Corporation 160 Smith Street Farmingdale NY 11735		32116	(TBD)	
PRODUCT ELIGIBILITY: The that the following listing built, tested, and shipped QUALIFIED MATERIALS AND FULL COMPLIANCE with MIL requirements. The listing does not in interchangeability, equi				
SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2				

-61-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Martin Marietta Building E-8 12506 Lake Underhill Drive Orlando, FL 32862-8007		04939	(TBD)
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-402) EQ(EQC-91-764) EQ(EQC-92-112) EQ(EQC-92-312) EQ(EQC-92-412)	Class H	N/A	Analog
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Orlando, FL FLOW: 72301772 CAPABILITY: thick film on alumina, 2 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Orlando, FL FLOW: 72301772 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, inductors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	ceramic leadless chip carrier	ceramic dual-in-line	platform
SEAL METHOD:	solder	solder	projection weld
LEAD COUNT:	68	18	44
SEAL PERIMETER:	3.8	2.88	5.76
LEAD FINISH:	gold	gold & solder	gold

-62-

HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE	
Martin Marietta Building E-8 12505 Lake Underhill Drive Orlando, FL 32862-8007	04939	(TBD)	
SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
None	N/A	N/A	N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MI

-63-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Micro-Rel Division Medtronic Incorporated 2343 West Tenth Place Tempe, Arizona 85281		8K957	CEUZ
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-417) EQ(EQC-91-727) EQ(EQC-92-136)	Class H	N/A	Linear 1553 bus
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Tempe, AZ FLOW: 1403818 CAPABILITY: co-fire on alumina, 5 conductor levels		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Tempe, AZ FLOW: 1403818 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: solder			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	leadless chip carrier solder 76 3.5 solder	metal, with axisle leads seam weld 36 4.36 gold & solder	ceramic co-fire, peripheral leads seam weld 36 3.87 gold & solder

-64-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micro-Rel Division Medtronic Incorporated 2343 West Tenth Place Tempe, Arizona 85281	8K957	CEUZ

SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
5962-8757908XC	1	MR63125MPR	low power, dual channel, driver-receiver
5962-9174905HZX	1	MR3231MP5	single channel, driver-receiver
5962-9174906HZX	1	MR3232MP2	single channel, driver-receiver
5962-9174907HZX	1	MR3232MP5	single channel, driver-receiver
			SHIPPED
			Yes
			No
			No
			No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 3			

-65-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606		50507	CEVQ
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQM-88-0709) EQ(EQC-91-235) EQ(EQC-91-894) EQ(EQC-92-062)	Class H	N/A	Data converters Track and Hold Amplifier
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Worcester, MA FLOW: FC-23 CAPABILITY: thin film on alumina, 1 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Worcester, MA FLOW: FC-25 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	SEAL METHOD:	leadless chip carrier	
SEAL COUNT:	SEAL PERIMETER:	solder	
LEAD FINISH:		22	
		1.134	
		solder	

-66-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606	50507	CEVQ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8768801XX	1	MN3008H/B	D/A Conv., 8-bit, 0 to 4V output	Yes
5962-8768802XX	1	MN3009H/B	D/A Conv., 8-bit, -2V to +2V Output	No
5962-8850802XX	1	MNADC87H/B	12-bit A/D converter, 8 micro sec.	No
5962-8953102HXX	1	MN3292T/B-V	16-bit D/A converter; +10 V output	Yes
5962-8953103HXX	1	MN3290T/B-V	16-bit D/A converter; 0 to 10 V output	Yes
5962-8953104HXX	1	MN3291T/B-V	16-bit D/A converter; +5 V output	No
5962-8956301HXX	1	MN5290H/B	A/D converter, 16-bit resolution	No
5962-8956302HXX	1	MN5291H/B	A/D converter, 16-bit resolution	No
5962-8956901HXX	1	MN5295H/B	A/D Conv., 16-bit	No
5962-8958301YX	1	MN5200H/B	A/D Conv., 12-bit, 0 to -10V, Int. Comp.	No
5962-8958302YX	1	MN5203H/B	A/D Conv., 12-bit, -5 to +5V, Int. Comp.	No
5962-8958303YX	1	MN5201H/B	A/D Conv., 12-bit, -10 to +10V, Int. Comp.	No
5962-8958304YX	1	MN5204H/B	A/D Conv., 12-bit, 0 to -10V, Ext. Comp.	No
5962-8958305YX	1	MN5202H/B	A/D Conv., 12-bit, -5 to +5V, Ext. Comp.	No
5962-8958306YX	1	MN5205H/B	A/D Conv., 12-bit, -10 to +10V, Ext. Comp.	No
5962-8958307YX	1	MN5206H/B	A/D Conv., 12-bit, 0 to +10V, Int. Comp.	No
5962-8958401YX	1	MN5210H/B	A/D Conv., 12-bit, 0 to -10V, Int. Comp., HS	No
5962-8958402YX	1	MN5213H/B	A/D Conv., 12-bit, -5 to +5V, Int. Comp., HS	Yes
5962-8958403YX	1	MN5211H/B	A/D Conv., 12-bit, -10 to +10V, Int. Comp., HS	Yes
5962-8958404YX	1	MN5214H/B	A/D Conv., 12-bit, 0 to -10V, Ext. Comp., HS	No
5962-8958405YX	1	MN5212H/B	A/D Conv., 12-bit, -5 to +5V, Ext. Comp., HS	No
5962-8958406YX	1	MN5215H/B	A/D Conv., 12-bit, -10 to +10V, Ext. Comp., HS	Yes
5962-8958407YX	1	MN5216H/B	A/D Conv., 12-bit, 0 to +10V, Int. Comp., HS	Yes

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 200

-67-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micro Networks Company 324 Clarke Street Worcester, Massachusetts 01606	50507	CEVQ

SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
5962-8959501XX	1	MN5245H/B	D/A Conv., 12-bit, 0 to +5V
5962-8959502XX	1	MN5245AH/B	A/D Conv., 12-bit, 0 to +5 V, 3-State output
5962-8959503XX	1	MN5246H/B	A/D Conv., 12-bit, ± 2.5 V
5962-8959504XX	1	MN5246AH/B	A/D Conv., 12-bit, ± 2.5 V, 3-State output
5962-8971801XX	1	MN3020H/B	A/D Conv., 8-bit, with input register
5962-9057001HXX	1	MN3860H/B	12-bit, D/A converter with input reg.
5962-9073001HXX	1	MN376H/B	High speed track and hold amplifier
5962-9079701HXX	1	MN7140H/B	12-bit, 8 channel, data acquisition sys.
			SHIPPED
			Yes
			No
			Yes
			No
			No
			No
			No
			No

-68-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Micro System Engineering Incorporated 6024 Southwest Jean Road Lake Oswego, OR 97034		75800	CFAU
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-90-619) EQ(EQC-91-737)	Class H	N/A	Digital Power
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Lake Oswego, OR FLOW: 3100002 CAPABILITY: thick film on alumina, 2 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Lake Oswego, OR FLOW: 3100001 CAPABILITY: polymer conductive/nonconductive epoxy, eutectic, solder; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with axial leads	ceramic, dual-in-line	
SEAL METHOD:	seam weld	seam weld	
LEAD COUNT:	34	30	
SEAL PERIMETER:	5.0	5.0	
LEAD FINISH:	gold	gold	

-69-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/ QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micro System Engineering Incorporated 6024 Southwest Jean Road Lake Oswego, OR 97034	75800	CFAU

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-70-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Micropac Industries, Incorporated 905 East Walnut Street Garland, TX 75040		31757	CEJG
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-178) EQ(EQC-91-647) EQ(EQC-92-183)	Class H	N/A	Custom
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Garland, TX (Hybrid Line) FLOW: 90138 CAPABILITY: thick film on alumina, 5 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Garland, TX (Hybrid Line) FLOW: 90138 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors SUBSTRATE ATTACH: solder, polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE:	metal, with axial leads	metal, with peripheral leads	
SEAL METHOD:	seam weld	seam weld	
LEAD COUNT:	28	46	
SEAL PERIMETER:	5.0	5.0	
LEAD FINISH:	gold	gold	

-71-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Micropac Industries, Incorporated 912 East Walnut Street Garland, TX 75040		31757	CEJG
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-90-625) EQ(EQC-91-328) EQ(EQC-91-338) EQ(EQC-92-183)	Class H	N/A	Power
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Garland, TX (Power Line) FLOW: 90138 CAPABILITY: thick film on alumina, 1 conductor level, resistors; thick film on beryllia, 2 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Garland, TX (Power Line) FLOW: 90138 CAPABILITY: polymer conductive epoxy and solder; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	TO can projection weld 2 2.27 gold		

-72-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Micropac Industries, Incorporated 725 East Walnut Street Garland, TX 75040			31757	CEJG
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-624) EQ(EQC-91-188) EQ(EQC-91-466) EQ(EQC-92-120)	Class H	N/A	Optocoupler	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Garland, TX (Optocoupler Line) FLOW: 90138 CAPABILITY: thick film on alumina, 2 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Garland, TX (Optocoupler Line) FLOW: 90138 CAPABILITY: polymer conductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: polymer conductive/nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	ceramic dual-in-line	leadless chip carrier		
SEAL METHOD:	solder	solder		
LEAD COUNT:	16	24		
SEAL PERIMETER:	1.89	1.60		
LEAD FINISH:	gold & solder	solder		

-73-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Micropac Industries, Incorporated 725, 905 & 925 East Walnut Street Garland, TX 75040	31757	CEJG

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
8102801EX	1	66013-001	Optocoupler, dual channel	Yes
8102801XX	1	66072-001/883	Optocoupler, dual channel	No
8102802PX	1	66056-103	Optocoupler, dual channel	No
81028032X	1	66123-001	Optocoupler, dual channel	No
8302401EX	1	6N140/883B	Four channel optical coupler	Yes
5962-8762001XX	1	MIOP42106/883	Op amp, high power	Yes
5962-8767901EX	1	4N55/883B	Optocoupler, dual channel	Yes
5962-8767902PX	1	66126-103	Optocoupler, dual channel	No
5962-8978501PX	1	66058-003	Optocoupler, dual channel	No
5962-8978501XX	1	66071-001	Optocoupler, dual channel	No
5962-89785022X	1	66124-001	Optocoupler, dual channel	No
5962-89785032X	1	66125-001	Optocoupler, dual channel	No
5962-8981001PX	1	66058-105	Optocoupler, single channel	No
5962-9063801EXX	1	MIOP42114/883	Op amp, high power	No
5962-9065901EXX	1	MIOP42109/883	Op amp, power	Yes
5962-9067901EXX	1	MIOP42120/883	Op amp, power	Yes
5962-9072301EXX	1	MIOP42116/883	Op amp, high power	No
5962-9082801EXX	1	MIOP42115/883	Op amp, high power	No
5962-9085401HPX	1	66126-105	Optocoupler, single channel	No
5962-9167601HPX	1	66079-001	Digital opticalcoupler filter	Yes
5962-9170001EXX	1	MIOP42119/883	Op amp, high power	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 7

-74-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Natel Engineering Co., Inc. 4550 Runway Street Simi Valley, CA 93063-3493		09059	CFEN
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	TECHNOLOGY TYPES	
EQ(EQC-91-714) EQ(EQC-92-048) EQ(EQC-92-039) EQ(EQC-92-202)	Class H	Synchro (Resolver) to Digital Converter	
RADIATION HARDNESS LEVEL			
N/A			
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Simi Valley, CA FLOW: NHPS-01.001 CAPABILITY: Thick film on alumina, 3 conductor levels		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Simi Valley, CA FLOW: NHPS-01.001 CAPABILITY: polymer conductive and nonconductive epoxy, gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, daughter board, ceramic post SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: metal, with axial leads		PACKAGE TYPE: metal, with peripheral leads	
SEAL METHOD: seam weld		SEAL METHOD: seam weld	
LEAD COUNT: 40		LEAD COUNT: 36	
SEAL PERIMETER: 6.56		SEAL PERIMETER: 9.16	
LEAD FINISH: gold		LEAD FINISH: gold	

-75-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Natel Engineering Co., Inc. 4550 Runway Street Simi Valley, CA 93063-3493	09059	CFEN

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified LOU/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8949904XX	1	HSD1066-341H/2	11.8 V, 400 Hz, S/D converter	No
5962-8949905XX	1	HSD1066-341V/2	11.8 V, 400 Hz, S/D converter	No
5962-8949906XX	1	HSD1066-381H/2	11.8 V, 80 Hz bandwidth, S/D converter	No
5962-8990806XX	1	HRD1066-341H/2	11.8 V, 400 Hz, R/D converter	No
5962-8990807XX	1	HRD1066-381V/2	11.8 V, 400 Hz, R/D converter	No
5962-8990808XX	1	HRD1066-381H/2	11.8 V, 80 Hz bandwidth, R/D converter	No
5962-9070704XX	1	SDC14502-606	60 Hz, 90 V, synchro-to-digital conv.	No
5962-9070705XX	1	HSD1024-C672H2	400Hz, 11.8V, synchro-to-digital conv.	No
5962-9070706XX	1	HSD1024-C673S2	400Hz, 11.8V, synchro-to-digital conv.	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 22				

-76-
HYBRID MICROELECTRONICS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
National Hybrid, Incorporated 2200 Smithtown Ave Ronkonkoma, NY 11779			57363	CFAQ
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-557) EQ(EQC-92-035)	Class H	N/A	Linear, Sample and Hold Data Converters, Data Bus Digitals, Custom, Amplifier	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Ronkonkoma, NY FLOW: FL1772A7THK CAPABILITY: thick film on alumina, 3 gold conductive layers, resistors. thick film on beryllia, 1 gold conductive layer.			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Ronkonkoma, NY FLOW: FL883500834 CAPABILITY: polymer conductive epoxy, eutectic; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip resistors, chip capacitors, chip thermistors, daughterboards SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	metal package, axial leads		metal package peripheral leads	
SEAL METHOD:	seam weld		seam weld	
LEAD COUNT:	66		36	
SEAL PERIMETER:	6.32		5.34	
LEAD FINISH:	gold		gold	

-77-
HYBRID MICRO CIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.
The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
National Hybrid, Incorporated 2200 Smithtown Avenue Ronkonkoma, NY 11779	57363	CFAQ

SPECIFIC PRODUCT TYPES				SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	
5962-8604906YX	1	NHI-1509	Single channel digital driver-receiver	No
5962-8757905XX	1	NHI-1500	Low power, dual channel, driver-receiver	No
5962-8757905YX	1	NHI-1500FP	Low power, dual channel, driver-receiver	No
5962-8944702XX	1	NHI-1501	Dual channel, driver-receiver, rec	No
5962-8944702YX	1	NHI-1501FP	Dual channel, driver-receiver, rec	No
5962-8952203XX	1	NHI-1529	Dual channel, five volt, transceiver	Yes
5962-8952203YX	1	NHI-1529FP	Dual channel, five volt, transceiver	Yes
5962-8982603XX	1	NHI-1502	Low power, dual channel, driver-receiver	No
5962-8982603YX	1	NHI-1502FP	Low power, dual channel, driver-receiver	No
5962-8982604XX	1	NHI-1523	Low power, dual channel, driver-receiver	No
5962-8982604YX	1	NHI-1523FP	Low power, dual channel, driver-receiver	No
5962-9082905YX	1	NHI-1531	Single channel, driver-receiver	No
5962-9082905YX	1	NHI-1531FP	Single channel, driver-receiver	No
5962-9082906YX	1	NHI-1545	Single channel, driver-receiver	No
5962-9082906YX	1	NHI-1545FP	Single channel, driver-receiver	No
5962-9168701HXX	1	NHI-1553RT	Bus, remote terminal	No
5962-9168701HXX	1	NHI-1553RTFP	Bus, remote terminal	No
5962-9168702HXX	1	NHI-1554RT	Bus, remote terminal	No
5962-9168702YX	1	NHI-1554RTFP	Bus, remote terminal	No

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 2

-78-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
National Semiconductor 2900 Semiconductor Drive Santa Clara, CA 95051-8090			27014	CCXP
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQM-87-1840) EQ(EQC-90-0627) EQ(EQC-92-218)	Class H	N/A	Analog Converter Power Converter	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Santa Clara, CA FLOW: 902471 CAPABILITY: thick film on alumina, 1 conductor level, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Santa Clara, CA FLOW: AS-4000-HY CAPABILITY: eutectic; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die SUBSTRATE ATTACH: solder				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:		TO can projection weld 12 1.882 solder & gold		

-79-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
National Semiconductor 2900 Semiconductor Drive Santa Clara, CA 95052-8090	27014	CCXP

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES					SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION		
7801301XX 8001301ZX 8001401ZX 8508701ZX	3 1 1 1	0002H/883 LH0032G/883 LH0033G/883 LH0041G/883	Amplifier, current, thick film Op amp, thick film Hi Spd. Buffr. Amp., Vol. Fol., Fet in Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	Yes Yes Yes Yes	
The following listing is to support National (Tucson) inventory covered by Qualification letters EQ(EQM-87-1840) and EQ(EQC-90-0627).					
7801301XX 8001301ZX 8508801XX	3 1 1	0002H/883 LH0032G/883 LH0021K/883	Amplifier, current, thick film Op amp, thick film Hi Pwr. Op Amp, Ext. Comp.	Yes Yes Yes	
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 1					

-80-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Omnirel Corporation 205 Crawford Street Leominster, MA 01453		69210	CESN
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-408) EQ(EQC-91-807) EQ(EQC-91-838)	Class H	N/A	Voltage Regulator Power
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Leominster, MA FLOW: D070002G CAPABILITY: thick film on alumina, 2 conductor levels, resistors; thick film on beryllia, 1 conductor level, resistor		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Leominster, MA FLOW: D050015G CAPABILITY: solder, polymer nonconductive/conductive epoxy; gold and aluminum wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, tab, chip resistor, chip capacitor SUBSTRATE ATTACH: solder ** Maximum constant acceleration level qualified 7500g, peripheral leaded package only.			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with peripheral leads seam weld 5 2.47 nickel/tin		
metal, with peripheral leads seam weld 20 8.8 gold		metal, with peripheral leads **	

-81-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Omnirel Corporation 205 Crawford Street Leominster, MA 01453	69210	CESN

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
5962-8949001XX	1	OM7509SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949002XX	1	OM7501SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949003XX	1	OM7502SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949004XX	1	OM7503SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949005XX	1	OM7504SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949006XX	1	OM7505SC/883B	Linear, Dual, Pos. and Neg. Regulator	Yes
5962-8949007XX	1	OM7506SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949008XX	1	OM7507SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
5962-8949009XX	1	OM7508SC/883B	Linear, Dual, Pos. and Neg. Regulator	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 13				

-82-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
PCA/Slatersville Incorporated Hybrid Microelectronics 100 Providence Pike Slatersville, RI 02876		25403	(TBD)
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-0159)	Class H	N/A	Analog Digital Linear
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Slatersville, RI FLOW: Form 145 CAPABILITY: thin film on alumina, 1 conductor level, resistor		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Slatersville, RI FLOW: Form 539 CAPABILITY: polymer conductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, peripheral lead solder seam seal 14 1.52 gold		

-83-
HYBRID MICRO CIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
PCA/Slatersville, Incorporated Hybrid Microelectronics 100 Providence Pike Slatersville, RI 02876	25403	(TBD)

SPECIFIC PRODUCT TYPES			
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION
None	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0			

-84-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Raytheon Company Missile System Division 465 Centre Street P. O. Box 5300 Quincy, Massachusetts 02269		94144	CETX
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQM-87-1031) EQ(EQC-91-668) EQ(EQC-91-669) EQ(EQC-92-327) EQ(EQC-92-372)	Class H	N/A	Amplifier
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Quincy, MA FLOW: 38756 CAPABILITY: thick film on alumina, 8 conductor level, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Quincy, MA FLOW: 38230, 42771 CAPABILITY: polymer conductive/nonconductive epoxy and eutectic; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, tantalum capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy, solder			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with axial leads seam weld 13 2.76 gold	metal, with peripheral leads seam weld 76 6.36 gold	

-85-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Raytheon Company Missile System Division 465 Centre Street P. O. Box 5300 Quincy, Massachusetts 02269	94144	CETX

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 4				

86-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
SIPEX Corporation Hybrid Systems Division 22 Linnell Circle Billerica, MA 01821			33256	CFAC
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-506) EQ(EQC-91-781) EQ(EQC-91-813) EQ(EQC-92-052)	Class H	N/A	AD Converters Sample and Hold Amplifier	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Billerica, MA FLOW: 239-0232 CAPABILITY: thin film on alumina, 1 gold conductor layer, resistors.			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Billerica, MA FLOW: 239-0458 CAPABILITY: polymer conductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip resistors, chip capacitor SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: ceramic dual-in-line SEAL METHOD: seam weld LEAD COUNT: 62 SEAL PERIMETER: 7.476 LEAD FINISH: gold		metal, with axial leads seam weld 32 5.78 gold		

-87-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
SIPEX Corporation Hybrid Systems Division 22 Linnell Circle Billerica, MA 01821	33256	CFAC

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
8503001CX	1	HS2700S	Precision +10.00 volt reference	Yes
8503002CX	1	HS2700U	Precision +10.00 volt reference	Yes
8503003CX	1	HS2702S	Precision + 10.00 volt reference	Yes
8503004CX	1	HS2702U	Precision + 10.00 volt reference	Yes
8503005CX	1	HS2701S	Precision - 10.00 volt reference	Yes
8503006CX	1	HS2701U	Precision - 10.00 volt reference	Yes
5962-8851401XX	1	HS9403B-8	12-bit data acquisition system	Yes
5962-8851402XX	1	HS9403B-16	12-bit data acquisition system	Yes
5962-8877601XX	1	HS1068B	8-bit, flash, A/D converter	No
5962-8956501XX	1	HS362SB	12-bit data acquisition system	No
5962-8956601HCX	1	HS9716TB	16-bit sample and hold amplifier	No
5962-8971801XX	1	HS3020B	8-bit D/A converter	No
5962-8997901XX	1	SP1078B	8-bit, flash, A/D converter	No
5962-9079501HCX	1	HS9576S/B	16-bit A/D converter	Yes
5962-9079502HCX	1	HS9576T/B	16-bit A/D converter	No
5962-9063001HCX	1	SP9760B	16-bit track and hold amplifier	No
5962-9063101HCX	1	SP9588	14-bit A/D converter	No
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 79				

-88-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
TRW Manufacturing Division Hybrid Manufacturing Department One Space Park Redondo Beach, CA 90278	11982	CFHA

QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-92-334)	Class H	N/A	Digital Analog Custom

SUBSTRATE FABRICATION OPERATION (S) 1/	
LOCATION: Redondo Beach, CA FLOW: D16545 CAPABILITY: thin film on alumina, 1 conductor levels, resistors	LOCATION: N/A FLOW: N/A CAPABILITY: N/A

ASSEMBLY OPERATION(S) 1/	
LOCATION: Redondo Beach, CA FLOW: D16545 CAPABILITY: polymer conductive/nonconductive epoxy and eutectic: aluminum and gold wire bonding	LOCATION: N/A FLOW: N/A CAPABILITY: N/A
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: eutectic ** Maximum constant acceleration level qualified 7500g.	

PACKAGE INFORMATION 1/ 2/ 3/	
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:	metal, with peripheral leads ** seam seal 32 4.00 gold

-89-
HYBRID MICROCIRCUITS
QML-38534-15

The listing does not in anyway represent or imply interchangeability, equivalency.

SPECIFIC PRODUCT TYPES					SHIPPED
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION		
N/A	N/A	N/A	N/A		N/A

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0

-90-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER	CAGE CODE	SYMBOL CODE
Teledyne Microelectronics 12964 Panama Street Los Angeles, California 90066	16170	CEOL
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL
EQ(EQM-87-1898) EQ(EQC-91-897)	Class H	N/A
TECHNOLOGY TYPES		
Data converters linear		
SUBSTRATE FABRICATION OPERATION (S) 1/		
LOCATION: Los Angeles, CA FLOW: 7700530 Exhibit 2.4 CAPABILITY: thick film on alumina, 7 conductor levels		
ASSEMBLY OPERATION(S) 1/		
LOCATION: Los Angeles, CA FLOW: 700530 Exhibit 2.6 CAPABILITY: polymer conductive/nonconductive epoxy, solder and eutectic; gold and aluminum wire and ribbon bonding ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: solder		
PACKAGE INFORMATION 1/ 2/ 3/		
PACKAGE TYPE: metal, with peripheral leads SEAL METHOD: seam weld LEAD COUNT: 94 SEAL PERIMETER: 8.75 LEAD FINISH: gold		

-91-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Teledyne Microelectronics 12964 Panama Street Los Angeles, California 90066	16170	CEOL

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 17				

-92-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER		CAGE CODE	SYMBOL CODE
Texas Instruments Inc DSEG/MPS Hybrids 13532 North Central Expressway Dallas, TX 75243		96214	CFCA
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES
EQ(EQC-91-031) EQ(EQC-92-392)	Class H	N/A	linear
SUBSTRATE FABRICATION OPERATION (S) 1/			
LOCATION: Dallas, Texas FLOW: AII-HYB-005 CAPABILITY: thick film on alumina, 5 conductor levels, resistors		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/			
LOCATION: Dallas, Texas FLOW: AII-HYB-005 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding		LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy			
PACKAGE INFORMATION 1/ 2/ 3/			
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:		metal, with axial leads seam weld 64 7.88 gold	

-93-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Texas Instruments Inc DSEG/MPS Hybrids 13532 North Central Expressway Dallas, TX 75243	96214	CFCA

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 0				

-94-
HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
Westinghouse Electric Corporation 7323 Aviation Boulevard Baltimore, MD 21203			97942	CFAR
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-90-567) EQ(EQC-91-629)	Class H	N/A	Custom Digital Analog Power	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Baltimore, MD FLOW: 1L88-2461-1/MT CAPABILITY: thick film on alumina, 8 conductor levels			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Baltimore, MD FLOW: 1L88-2461-5/DM CAPABILITY: polymer conductive/nonconductive epoxy, eutectic; gold and aluminum wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip capacitors, chip resistors, spacer post, tab SUBSTRATE ATTACH: polymer nonconductive epoxy, solder				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE: SEAL METHOD: LEAD COUNT: SEAL PERIMETER: LEAD FINISH:		metal, with peripheral leads seam weld 68 5.92 gold		
		power, metal, with peripheral leads seam weld 12 6.0 gold		

-95-
HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
Westinghouse Electric Corporation 7323 Aviation Boulevard Baltimore, MD 21203	97942	CFAR

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 3				

-36-

HYBRID MICROCIRCUITS
QML-38534-15

MANUFACTURER			CAGE CODE	SYMBOL CODE
White Technology 4246 East Wood Street Phoenix, Arizona 85040			54230	CEWR
QUALIFICATION LETTER(S)	PRODUCT CLASS DESIGNATOR	RADIATION HARDNESS LEVEL	TECHNOLOGY TYPES	
EQ(EQC-92-070) EQ(EQC-92-138)	Class H	N/A	linear (oscillator) Digital memory	
SUBSTRATE FABRICATION OPERATION (S) 1/				
LOCATION: Phoenix, AZ FLOW: 106B00006 CAPABILITY: thick film on alumina, 1 conductor levels, resistors			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ASSEMBLY OPERATION(S) 1/				
LOCATION: Phoenix, AZ FLOW: 106B00006 CAPABILITY: polymer conductive/nonconductive epoxy; gold wire bonding			LOCATION: N/A FLOW: N/A CAPABILITY: N/A	
ADD-ON ELEMENTS: unpackaged die, chip resistors, chip capacitors SUBSTRATE ATTACH: polymer nonconductive epoxy				
PACKAGE INFORMATION 1/ 2/ 3/				
PACKAGE TYPE:	platform	ceramic co-fire, side braze leads		
SEAL METHOD:	projection weld	seam weld		
LEAD COUNT:	16	32		
SEAL PERIMETER:	3.53	4.27 (dual cavity)		
LEAD FINISH:	gold	gold		

-97-

HYBRID MICROCIRCUITS
QML-38534-15

PRODUCT ELIGIBILITY: The above manufacturer has certified that the following listing of hybrid microcircuits are built, tested, and shipped using the above certified FLOW/QUALIFIED MATERIALS AND MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

The listing does not in anyway represent or imply interchangeability, equivalency.

MANUFACTURER	CAGE CODE	SYMBOL CODE
White Technology 4246 East Wood Street Phoenix, Arizona 85040	54230	CEWR

SPECIFIC PRODUCT TYPES				
STANDARDIZED MILITARY DRAWING (SMD)	ESDS CLASS	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SHIPPED
None	N/A	N/A	N/A	N/A
NUMBER OF SCD/SID DEVICES COVERED BY QUALIFICATION TESTING MIL-H-38534 COMPLIANT: 3				

-98-
HYBRID MICROCIRCUITS
QML-38534-15

**APPROVED SOURCE
MASTER PRODUCT LISTING**

TABLE I

PRODUCT ELIGIBILITY: The manufacturers listed below have certified that the following Hybrid Microcircuits are built, tested, and shipped using MIL-STD-1772 CERTIFIED FLOW/QUALIFIED MATERIALS and MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
7801301GX	CTS0002	Amplifier, current, thick/thin film	CTS Corporation
7801301XX	CTS0002XB	Amplifier, current, thick/thin film	CTS Corporation
7801301XX	ELH0002H/883B	Amplifier, current, thick film	Elantec Incorporated
7801301XX	LH0002H/883B	Amplifier, current, thick film	National Semiconductor Corporation
8001301ZX	ADLH0032G/883B	Op amp, thick film	Analog Devices Computer Labs Div.
8001301ZX	ELH0032G/883E10003	Op amp, thick film	Elantec Incorporated
8001301ZX	LH0032G	Op amp, thick film	National Semiconductor Corporation
8001401ZX	0033	Hi Speed Buffer Amp., Volt. Follower	Analog Devices Computer Labs Div.
8001401ZX	ELH0033G/883B	Hi Spd. Buffr. Amp., Vol. Fol., FET in	Elantec Incorporated
8001401ZX	LH0033G	Hi Spd. Buffr. Amp., Vol. Fol., FET in	National Semiconductor Corporation
8001401ZX	0033	Hi Speed Buff. Amp., Volt.Foll.,FET in	Teledyne Components
8102801EX	6N134/883B	Optocoupler, Dual Channel	Hewlett-Packard Company
8102801EX	6N134/883B	Optocoupler, Dual Channel	Micropac Industries Incorporated
8102801XX	66072-001/883	Optocoupler, Dual Channel	Micropac Industries Incorporated
8102802PX	HCPL-5631	Optocoupler, Dual Channel	Hewlett-Packard Company
8102802PX	66056-103	Optocoupler, Dual Channel	Micropac Industries Incorporated
81028032X	HCPL-6631	Optocoupler, Dual Channel	Hewlett-Packard Company
81028032X	66123-001	Optocoupler, Dual Channel	Micropac Industries Incorporated
8300201JX	DAC87CBI	Optocoupler, Dual Channel	Hewlett-Packard Company
8300201XX	-----	D/A Conv., 12-bit, Programmable	Analog Devices MED
8302401EX	6N140A/883B	D/A Conv., 12-bit, Programmable	NO APPROVED SOURCE
8302401EX	6N140A/883B	Optocoupler, Quad	Hewlett-Packard Company
85030013X	-----	Optocoupler, Quad	Micropac Industries Incorporated
8503001CX	HS2700SD/883B	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503001XX	-----	Reference, Precision Voltage, +10V	Sipex Corporation
8503001XX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503001YX	2700SD/883B	Reference, Precision Voltage, +10V	Analog Devices MED
8503001YX	HC2700SD/883B	Reference, Precision Voltage, +10V	Hycamp Incorporated

-99-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
85030023X	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503002CX	HS2700UD/883B	Reference, Precision Voltage, +10V	Sipex Corporation
8503002XX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503002YX	2700UD/883B	Reference, Precision Voltage, +10V	Analog Devices MED
8503002YX	HC2700UD/883B	Reference, Precision Voltage, +10V	Hycomp Incorporated
85030033X	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503003CX	HS2702SD/883B	Reference, Precision Voltage, -10V	Sipex Corporation
8503003XX	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503003YX	2702SD/883B	Reference, Precision Voltage, -10V	Analog Devices MED
8503003YX	HC2702SD/883B	Reference, Precision Voltage, -10V	Hycomp Incorporated
85030043X	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503004CX	HS2702UD/883B	Reference, Precision Voltage, +10V	Sipex Corporation
8503004XX	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503004YX	2702UD/883B	Reference, Precision Voltage, +10V	Analog Devices MED
8503004YX	HC2702UD/883B	Reference, Precision Voltage, +10V	Hycomp Incorporated
85030053X	-----	Reference, Precision Voltage, +10V	NO APPROVED SOURCE
8503005CX	HS2701SD/883B	Reference, Precision Voltage, +10V	Sipex Corporation
8503005YX	2701SD/883B	Reference, Precision Voltage, +10V	Analog Devices MED
8503005YX	HC2701SD/883B	Reference, Precision Voltage, +10V	Hycomp Incorporated
85030063X	-----	Reference, Precision Voltage, -10V	NO APPROVED SOURCE
8503006CX	HS2701UD/883B	Reference, Precision Voltage, -10V	Sipex Corporation
8503006YX	2701UD/883B	Reference, Precision Voltage, -10V	Analog Devices MED
8503006YX	HC2701UD/883B	Reference, Precision Voltage, -10V	Hycomp Incorporated
85087012X	ELH0041G/883B	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	Elantec Incorporated
85087012X	LH0041G/883	Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	National Semiconductor Corporation
8508801XX	LH0021	Hi. Pwr. Op Amp, Ext. Comp.	National Semiconductor Corporation
8508801YX	ELH0021K/E10036	Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.	Elantec Incorporated
8508901YX	ELH0101AK/E10039	Power Op amp., Wideband, Thick Film	Elantec Incorporated
8508902YX	ELH0101K/E10038	Power Op Amp., Wideband, Thick Film	Elantec Incorporated
5915-9102001HXX	AFC-461/CH	Filter, EMI, 4.0A	Advanced Analog
5915-9102001HZX	AFC-461F/CH	Filter, EMI, 4.0A	Advanced Analog
5962-8604901XX	-----	1553 Single Ch. Drvr/Rec	NO APPROVED SOURCE
5962-8604902YX	BUS-831061I	1553 Single Ch. Drvr/Rec., Low Power	ILC Data Device Corporation
5962-8604902ZX	BUS-631051I	1553 Single Ch. Drvr/Rec., Low Power	ILC Data Device Corporation
5962-8604903YX	ARX2402	1553 Single Ch. Drvr/Rec.	Aeroflex Laboratories Incorporated

-100-

HYBRID MICROCIRCUITS

QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8604904UX	ARX3402	1553 Single Ch. Drvr/Rec., Low Power	Aeroflex Laboratories Incorporated
5962-8604905XX	BUS63100-617	1553 Single Ch. Drvr/Rec.	ILC Data Device Corporation
5962-8604906TX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8604906YX	NHI-1509	1553 Single Ch. Drvr/Rec.	National Hybrid Incorporated
5962-8604907XX	-----	1553 Single Ch. Drvr/Rec.	NO APPROVED SOURCE
5962-8753501XA	BUS-65112	1553 Remote Terminal Unit, Dual Red.	ILC Data Device Corporation
5962-8753501YC	BUS-65117	1553 Remote Terminal Unit, Dual Red.	ILC Data Device Corporation
5962-8753502XX	ARX2452	1553 Remote Terminal Unit, Dual Red.	Aeroflex Laboratories Incorporated
5962-8753502YX	ARX2452FP	1553 Remote Terminal Unit, Dual Red.	Aeroflex Laboratories Incorporated
5962-8757901XX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757901YX	-----	1553 Dual Ch. Drvr/Rec., -15V	NO APPROVED SOURCE
5962-8757902XX	BUS-63125II	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	ILC Data Device Corporation
5962-8757902YC	BUS-63126II	1553 Dual Ch. Drvr/Rec., Low Pwr -15V	ILC Data Device Corporation
5962-8757903XX	ARX2411	1553 Dual Ch. Drvr/Rec., -15V	Aeroflex Laboratories Incorporated
5962-8757903YX	ARX2411FP	1553 Dual Ch. Drvr/Rec., -15V	Aeroflex Laboratories Incorporated
5962-8757904XX	ARX3411	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	Aeroflex Laboratories Incorporated
5962-8757904YX	ARX3411FP	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	Aeroflex Laboratories Incorporated
5962-8757905XX	NHI-1500	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	Aeroflex Laboratories Incorporated
5962-8757905YX	NHI-1500FP	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	National Hybrid Incorporated
5962-8757906XX	FC1553621	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	National Hybrid Incorporated
5962-8757906YX	FC1553621FP	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	CMAC Microcircuits Limited
5962-8757907XX	-----	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	CMAC Microcircuits Limited
5962-8757907YX	-----	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	NO APPROVED SOURCE
5962-8757908XC	MR63125MPR	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	NO APPROVED SOURCE
5962-8757908YX	-----	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	Micro-Rel Incorporated
5962-8761701XX	-----	1553 Dual Ch. Drvr/Rec, Low Pwr -15V	NO APPROVED SOURCE
5962-8761702XX	-----	Driver, High Voltage, 1.5 Amp.	NO APPROVED SOURCE
5962-8762001XX	42106	Driver, High Voltage, 3.0 Amp.	NO APPROVED SOURCE
5962-8762002HXX	PA51M/883	Op Amp, High Power	NO APPROVED SOURCE
5962-8763201XX	-----	Op Amp, High Power	NO APPROVED SOURCE
5962-8767901EX	4N55/883B	1553 Remote Term., Dual Red., Low Pwr.	Micropac Industries Incorporated
5962-8767901EX	66024-001	Optocoupler, Dual Channel	Apex Microtechnology Corporation
5962-8767902PX	HCPL-5531	Optocoupler, Dual Channel	NO APPROVED SOURCE
5962-8767902PX	66126-103	Optocoupler, Dual Channel	Hewlett-Packard Company
5962-87679032A	HCPL-6531	Optocoupler, Dual Channel	Micropac Industries Incorporated
			Hewlett-Packard Company

-101-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-87679032X	-----	Optocoupler, Dual Channel	NO APPROVED SOURCE
5962-8768701XC	HSDC-8920A-883B	R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	ILC Data Device Corporation
5962-8768702XC	HSDC-8920-883B	R/S to Dig. Conv., 400Hz, +/-4.0 arcmin.	ILC Data Device Corporation
5962-8768703XC	RDC14505-641	R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	ILC Data Device Corporation
5962-8768801XX	MN3008H/B	D/A Conv., 8-bit, 0 to 4V Output	Micronetworks Incorporated
5962-8768801YX	-----	D/A Conv., 8-bit, 0 to 4V Output	NO APPROVED SOURCE
5962-8768802XX	MN3009H/B	D/A Conv., 8-bit, -2 to +2V Output	Micronetworks Incorporated
5962-8768802YX	-----	D/A Conv., 8-bit, -2 to +2V Output	NO APPROVED SOURCE
5962-8850801XX	ADC-HX/883B	A/D Conv., 12-bit, 20 microseconds	Datel Incorporated
5962-8850802XX	ADC-HZ/883B	A/D Conv., 12-bit, 8 microseconds	Datel Incorporated
5962-8850802YX	MNADC87H/B	A/D Conv., 12-bit, 8 microseconds	Micronetworks Incorporated
5962-8850901XX	AD390SD/883B	D/A Conv., 12-bit, bipolar, linear, quad	Analog Devices MED
5962-8850902XX	AD390TD/883B	D/A Conv., 12-bit, bipolar, linear, quad	Analog Devices MED
5962-8851001XX	AD394SD/883B	D/A Conv., 12-bit, quad, bipolar	Analog Devices MED
5962-8851002XX	AD394TD/883B	D/A Conv., 12-bit, quad, bipolar	Analog Devices MED
5962-8851003XX	AD395SD/883B	D/A Conv., 12-bit, quad	Analog Devices MED
5962-8851004XX	AD395TD/883B	D/A Conv., 12-bit, quad	Analog Devices MED
5962-8851401XX	HS9403B-8	12-bit data acq. sys., 8-ch. diff. inp.	Sipex Corporation
5962-8851402XX	HS9403B-16	12-bit data acq. sys., 16ch. sng-ended	Sipex Corporation
5962-8851402YX	-----	12-bit data acq. sys., 16ch. sng-ended	NO APPROVED SOURCE
5962-8851701XX	DAC-02310-112	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851701YX	DAC-02311-112	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851702XX	DAC-02310-113	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8851702YX	DAC-02311-113	D/A Conv., 14-bit, deglitched	ILC Data Device Corporation
5962-8854201XX	ADC00300-112	D/A Conv., 12-bit, track/hold	ILC Data Device Corporation
5962-8854201YX	ADC00302-112	D/A Conv., 12-bit, track/hold	ILC Data Device Corporation
5962-8857901XC	HOS-050A/883B	Video Op Amp, Fast Settling	Analog Devices Computer Labs Div.
5962-8857902XC	HOS-060SH/883B	Video Op Amp, Fast Settling	Analog Devices Computer Labs Div.
5962-8858501XX	-----	1553 Bus Controller, RTU & Monitor	NO APPROVED SOURCE
5962-8858501YX	-----	1553 Bus Controller, RTU & Monitor	NO APPROVED SOURCE
5962-8858601XX	BUS-66300 II-883B	1553 to Microprocessor Interface	ILC Data Device Corporation
5962-8858601YC	BUS-66301 II-883B	1553 to Microprocessor Interface	ILC Data Device Corporation
5962-8862901XX	-----	D/A Conv., 12-bit, Quad	NO APPROVED SOURCE
5962-8865801XX	AD578SD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8865802XX	AD578TD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED

-102-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8865803XX	AD578ZSD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8865804XX	AD578ZTD/883B	A/D Conv., 12-bit, High Speed	Analog Devices MED
5962-8869201XX	BUS61553-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869201YX	BUS61563-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869202XX	BUS61554-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869202YC	BUS61564-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869203XC	BUS61555-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869203YC	BUS61565-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8869204XC	BUS61556-883B	1553, BC/RTU/MT, Multiplexed Terminal	ILC Data Device Corporation
5962-8870101XX	-----	Power Op Amp, High Current	NO APPROVED SOURCE
5962-8876801PX	HCPL-5201	Optocoupler, Single Channel, Hi Speed	Hewlett-Packard Company
5962-8876901PX	HCPL-5231	Optocoupler, Dual Channel, Hi Speed	Hewlett-Packard Company
5962-8876902XX	HCPL-6231	Optocoupler, Dual Channel, High Speed	Hewlett-Packard Company
5962-8877601XX	HS1068B	A/D Conv., 8-bit, Flash	Sipex Corporation
5962-8944701HUX	ARX3436	1553 Dual Ch. Drvr/Rec, Idle High	Aeroflex Laboratories Incorporated
5962-8944701HXX	ARX3416	1553 Dual Ch. Drvr/Rec, Idle High	Aeroflex Laboratories Incorporated
5962-8944701HYX	ARX3416FP	1553 Dual Ch. Drvr/Rec, Idle High	Aeroflex Laboratories Incorporated
5962-8944701H2X	ARX3436FP	1553 Dual Ch. Drvr/Rec, Idle High	Aeroflex Laboratories Incorporated
5962-8944702HXX	NHI-1501	1553 Dual Ch. Drvr/Rec, Idle High	National Hybrid Incorporated
5962-8944702HYX	NHI-1501FP	1553 Dual Ch. Drvr/Rec, Idle High	National Hybrid Incorporated
5962-8944703HXX	FC1553622	1553 Dual Ch. Drvr/Rec, Idle High	CMAC Microcircuits Limited
5962-8944703HYX	FC1553622FP	1553 Dual Ch. Drvr/Rec, Idle High	CMAC Microcircuits Limited
5962-8944704HXC	BUS63135II	1553 Dual Ch. Drvr/Rec, Idle High	ILC Data Device Corporation
5962-8944704HYC	BUS63136II	1553 Dual Ch. Drvr/Rec, Idle High	ILC Data Device Corporation
5962-8947701PX	HCPL-5761	Optocoupler, AC/DC Logic Interface	Hewlett-Packard Company
5962-8949001XX	OM7509SC/883B	Voltage Regulator, Dual, +15 & -15V	Omnirel Corporation
5962-8949002XX	OM7501SC/883B	Voltage Regulator, Dual, +5 & -5 V	Omnirel Corporation
5962-8949003XX	OM7502SC/883B	Voltage Regulator, Dual, +5 & -12 V	Omnirel Corporation
5962-8949004XX	OM7503SC/883B	Voltage Regulator, Dual, +5 & -15 V	Omnirel Corporation
5962-8949005XX	OM7504SC/883B	Voltage Regulator, Dual, +12 & -5 V	Omnirel Corporation
5962-8949006XX	OM7505SC/883B	Voltage Regulator, Dual, +12 & -12 V	Omnirel Corporation
5962-8949007XX	OM7506SC/883B	Voltage Regulator, Dual, +12 & -15 V	Omnirel Corporation
5962-8949008XX	OM7507SC/883B	Voltage Regulator, Dual, +15 & -5 V	Omnirel Corporation
5962-8949009XX	OM7508SC/883B	Voltage Regulator, Dual, +15 & -12 V	Omnirel Corporation
5962-8949801XX	SDC14561111603	S/D Conv., 90V, 400Hz, 2 min. accuracy	ILC Data Device Corporation

-103-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8949802XX	SDC14561111604	S/D Conv., 90V, 400Hz, 1 min. accuracy	ILC Data Device Corporation
5962-8949901XX	SDC145601111607	S/D Conv., 11.8V, 400Hz., 2 min. accrcy	ILC Data Device Corporation
5962-8949902XX	SDC145601111608	S/D Conv., 11.8V, 400Hz., 1 min. accrcy	ILC Data Device Corporation
5962-8949903XX	SDC14560-605	S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	ILC Data Device Corporation
5962-8949904HXX	HSD1066-341H/2	S/D Conv., 11.8V, 400Hz., 2 min. accrcy	Natel Engineering Company, Inc.
5962-8949905HXX	HSD1066-341V/2	S/D Conv., 11.8V, 400Hz., 1 min. accrcy	Natel Engineering Company, Inc.
5962-8949906HXX	HSD1066-381H/2	S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	Natel Engineering Company, Inc.
5962-8950901XX	RGBDAC3808H/B	D/A Conv., Triple, 8-bit, Video RAM	Advanced Analog
5962-8952201XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952202XX	ARX-2453	1553 Transceiver, Dual Channel, 5V	Aeroflex Laboratories Incorporated
5962-8952202XX	ARX-2453FP	1553 Transceiver, Dual Channel, 5V	Aeroflex Laboratories Incorporated
5962-8952203XX	NHI-1529	1553 Transceiver, Dual Channel, 5V	National Hybrid Incorporated
5962-8952203XX	NHI-1529FP	1553 Transceiver, Dual Channel, 5V	National Hybrid Incorporated
5962-8952204XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952205XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952205XX	-----	1553 Transceiver, Dual Channel, 5V	NO APPROVED SOURCE
5962-8952206XX	FC1553921	1553 Transceiver, Dual Channel, 5V	CMAC Microcircuits Limited
5962-8952206XX	FC1553921FP	1553 Dual Transceiver, 5V	CMAC Microcircuits Limited
5962-8952207XX	FC1553923	1553 Transceiver, Dual Channel, 5V	CMAC Microcircuits Limited
5962-8952207XX	FC1553923FP	1553 Dual Transceiver, 5V	CMAC Microcircuits Limited
5962-8952208XX	ARX-3453	1553 Transceiver, Dual Channel, 5V	Aeroflex Laboratories Incorporated
5962-8952208XX	ARX-3453FP	1553 Transceiver, Dual Channel, 5V	Aeroflex Laboratories Incorporated
5962-8952801XX	DAC-HBK/883B	1553 Transceiver, Dual Channel, 5V	Datel Incorporated
5962-8952802XX	DAC-HBK-2/883B	D/A Conv., 12-bit, binary input	Datel Incorporated
5962-8953101HXX	DAC-HPB/883B	D/A Conv., 12-bit, two's complmnt.	Datel Incorporated
5962-8953102HXX	DAC-HPB-1/883B	D/A Conv., 16-bit, 0 to 10V & +/-5V Out	Datel Incorporated
5962-8953102HXX	MN3292T/B-V	D/A Conv., 16-bit, +/- 10V Output	Datel Incorporated
5962-8953103HXX	MN3290T/B-V	D/A Conv., 16-bit, +/- 10V Output	Micronetworks Incorporated
5962-8953104HXX	MN3291T/B-V	D/A Conv., 16-bit, 0 to +10V Output	Micronetworks Incorporated
5962-8956301HXX	MN5290H/B	D/A Conv., 16-bit, +/- 5V Output	Micronetworks Incorporated
5962-8956302HXX	MN5291H/B	A/D Conv., 16-bit, shrt.cycle 14-bit	Micronetworks Incorporated
5962-8956501XX	HS362SB	A/D Conv., 16-bit, shrt.cycle 13-bit	Micronetworks Incorporated
5962-8956601HXX	HS9716TB	Sample/Hold Multiplexer, Dual 8-ch.	Sipex Corporation
5962-8956901HXX	MN5295H/B	Sample/Hold Amp., 16-bit	Sipex Corporation
5962-8957001PX	HCPL-5401	A/D Conv., 16-bit, High Speed Optocoupler, Single Ch., High Speed	Micronetworks Incorporated Hewlett-Packard Company

-104-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8957101PX	HCPL-5431	Optocoupler, Dual Ch., Hi Spd, Com Sup	Hewlett-Packard Company
5962-89571022X	HCPL-6431	Optocoupler, Dual Ch., Hi Spd, Sep Sup	Hewlett-Packard Company
5962-8957201EX	HCPL-1931	Optocoupler, Dual Ch., Line Receiver	Hewlett-Packard Company
5962-8958301YX	MN5200H/B	A/D Conv., 12-bit, 0 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958302YX	MN5203H/B	A/D Conv., 12-bit, 0 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958303YX	MN5201H/B	A/D Conv., 12-bit, -5 to +5V Int. Ref.	Micronetworks Incorporated
5962-8958304YX	MN5204H/B	A/D Conv., 12-bit, -5 to +5V Ext. Ref.	Micronetworks Incorporated
5962-8958305YX	MN5202H/B	A/D Conv., 12-bit, -10 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958306YX	MN5205H/B	A/D Conv., 12-bit, -10 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958307YX	MN5206H/B	A/D Conv., 12-bit, 0 to 10V Int. Ref.	Micronetworks Incorporated
5962-8958401YX	MN5210H/B	ADC, Hi Sp, 12-bit, 0 to -10V Int. Ref.	Micronetworks Incorporated
5962-8958402YX	MN5213H/B	ADC, Hi Sp, 12-bit, 0 to -10V Ext. Ref.	Micronetworks Incorporated
5962-8958403YX	MN5211H/B	ADC, Hi Spd, 12-bit, -5 to 5V Int. Ref.	Micronetworks Incorporated
5962-8958404YX	MN5214H/B	ADC, Hi Spd, 12-bit, -5 to 5V Ext. Ref.	Micronetworks Incorporated
5962-8958405YX	MN5212H/B	ADC, Hi Spd, 12-bit, -10 to 10V Int. Ref.	Micronetworks Incorporated
5962-8958406YX	MN5215H/B	ADC, Hi Spd, 12-bit, -10 to 10V Ext. Ref.	Micronetworks Incorporated
5962-8958407YX	MN5216H/B	ADC, Hi Spd, 12-bit, 0 to 10V Int. Ref.	Micronetworks Incorporated
5962-8959201XX	ARX3407	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959201YX	ARX3407FP	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959202XX	ARX3404	Unv1 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959202YX	ARX3404FP	Unv1 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959203XX	ARX3407-001	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959203YX	ARX3407-001FP	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959204XX	ARX3404-001	Unv1 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959204YX	ARX3404-001FP	Unv1 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959205XX	ARX3467	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959205YX	ARX3467FP	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959206XX	ARX3464	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959206YX	ARX3464FP	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959401XX	CLC231A8C	1553 Driver/Rec., Single Ch., Low Pwr.	Aeroflex Laboratories Incorporated
5962-8959501XX	5245H/B	Op Amp, Wideband, High Speed	Comlinear Corporation
5962-8959501YX	5245AH/B	A/D Conv, 12-bit, 0 to 5V	Micronetworks Incorporated
5962-8959502XX	-----	A/D Conv, 12-bit, 0 to 5V	NO APPROVED SOURCE
5962-8959502YX	-----	A/D Conv, 12-bit, 0 to 5V, 3-state inp.	Micronetworks Incorporated
5962-8959503XX	5246H/B	A/D Conv, 12-bit, +/-2.5V	NO APPROVED SOURCE
			Micronetworks Incorporated

-105-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8959503YX	-----	A/D Conv, 12-bit, +/-2.5V	NO APPROVED SOURCE
5962-8959504XX	5246AH/B	A/D Conv, 12-bit, +/-2.5V, 3-state inp.	Micronetworks Incorporated
5962-8959504YX	-----	A/D Conv, 12-bit, +/-2.5V, 3-state inp.	NO APPROVED SOURCE
5962-8965901XX	EL2004G/883B	Buffer Amp, FET in.	Elantec Incorporated
5962-8965901YX	-----	Buffer Amp, FET in.	NO APPROVED SOURCE
5962-8968301HXX	AHE2805S/CH	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968301HZX	AHE2805SF/CH	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968302HXX	AHE2805S/CH-SLV	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968302HZX	AHE2805SF/CH-SLV	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968303HXX	AHE2805S/CH-MSTR	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8968303HZX	AHE2805SF/CH-MSTR	DC/DC Conv., 5V, 15W Out, Single Ch.	Advanced Analog
5962-8971801XX	MN3020H/B	D/A Conv., 8-bit, w/ input register	Micronetworks Incorporated
5962-8971801YX	HS3020B/B	D/A Conv., 8-bit, w/ input register	Sipec Corporation
5962-8978501PX	HCPL-5731	Optocoupler, Dual Ch., Common supplies	Hewlett-Packard Company
5962-8978501PX	66058-003	Optocoupler, Dual Ch., Common supplies	Micropac Industries Incorporated
5962-8978501XX	66071-001	Optocoupler, Dual Ch., Common supplies	Micropac Industries Incorporated
5962-89785022X	HCPL-6731	Optocoupler, Dual Ch., Separate supplies	Hewlett-Packard Company
5962-89785022X	66124-001	Optocoupler, Dual Ch., Separate supplies	Micropac Industries Incorporated
5962-8979801XX	BUS-65142	Remote terminal unit, dual redundant	Micropac Industries Incorporated
5962-8979801YX	BUS-65144	Remote terminal unit, dual redundant	Hewlett-Packard Company
5962-8979802XX	BUS65143-883B	Remote terminal unit, dual redundant	Micropac Industries Incorporated
5962-8979802YX	BUS65145-883B	Remote terminal unit, dual redundant	ILC Data Device Corporation
5962-8979901XX	FC155391	Remote terminal unit, dual redundant	ILC Data Device Corporation
5962-8979901YX	FC155392	Remote terminal unit, dual redundant	ILC Data Device Corporation
5962-8979902XX	FC155392FP	Remote terminal unit, dual redundant	ILC Data Device Corporation
5962-8979902YX	FC155392FP	1553 Driver/Rec., Single Ch., Low Pwr.	CMAC Microcircuits Limited
5962-8981001PX	HCPL-5701	1553 Driver/Rec., Single Ch., Low Pwr.	CMAC Microcircuits Limited
5962-8981001PX	66058-105	1553 Driver/Rec., Single Ch., Low Pwr.	CMAC Microcircuits Limited
5962-89813013X	HC1437L/883	1553 Driver/Rec., Single Ch., Low Pwr.	CMAC Microcircuits Limited
5962-8981301GX	HC1437/883	Optocoupler, Sngl Ch., Low Cur., Hi Gn.	Hewlett-Packard Company
5962-8982601XC	BUS-63127II	Optocoupler, Sngl Ch., Low Cur., Hi Gn.	Micropac Industries Incorporated
5962-8982601YC	BUS-63128II	Op Amp, Wideband, Fast Settling	Hycorp Incorporated
5962-8982602XX	ARX3419	Op Amp, Wideband, Fast Settling	Hycorp Incorporated
5962-8982602YX	ARX3419FP	Op Amp, Wideband, Fast Settling	ILC Data Device Corporation
5962-8982603XX	NHI-1502	1553 Driver/Receiver, Dual Channel	ILC Data Device Corporation
		1553 Driver/Receiver, Dual Channel	Aeroflex Laboratories Incorporated
		1553 Driver/Receiver, Dual Channel	Aeroflex Laboratories Incorporated
		1553 Driver/Receiver, Dual Channel	National Hybrid Incorporated

-106-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER ^{4/}	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-8982603YX	NHI-1502FP	1553 Driver/Receiver, Dual Channel	National Hybrid Incorporated
5962-8982604XX	NHI-1523	1553 Driver/Receiver, Dual Channel	National Hybrid Incorporated
5962-8982604YX	NHI-1523FP	1553 Driver/Receiver, Dual Channel	National Hybrid Incorporated
5962-8982605XX	FC1553721	1553 Driver/Receiver, Dual Channel	CMAC Microcircuits Limited
5962-8982605YX	FC1553721FP	1553 Driver/Receiver, Dual Channel	CMAC Microcircuits Limited
5962-8982606XX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8982606YX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-8985801XX	CLC206A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-8986201XX	-----	D/A Converter, 16-bit, 16-bit linear	NO APPROVED SOURCE
5962-8986202XX	-----	D/A Converter, 16-bit, 15-bit linear	NO APPROVED SOURCE
5962-8990801XX	SDC14565111114	R/D Conv., 400Hz., 11.8V	ILC Data Device Corporation
5962-8990801YX	-----	R/D Conv., 400Hz., 11.8V	NO APPROVED SOURCE
5962-8990802XX	SDC14565111115	R/D Conv., 400Hz., 11.8V	ILC Data Device Corporation
5962-8990802YX	-----	R/D Conv., 400Hz., 11.8V	NO APPROVED SOURCE
5962-8990803XC	SDC145651111616	R/D Conv., 400Hz., 80Hz. BW, 11.8V	ILC Data Device Corporation
5962-8990804XX	SDC14566111115	R/D Conv., 400Hz., 11.8V, trimmed velocity	ILC Data Device Corporation
5962-8990805XC	SDC145651111618	Resolver to Digital Conv., 11.8V	ILC Data Device Corporation
5962-8990806HXX	HRD1066-341H/2	R/D Conv., 400Hz., 11.8V	Natel Engineering Company, Inc.
5962-8990807HXX	HRD1066-341V/2	R/D Conv., 400Hz., 11.8V	Natel Engineering Company, Inc.
5962-8990808HXX	HRD1066-381H/2	R/D Conv., 400Hz., 80Hz. BW, 11.8V	Natel Engineering Company, Inc.
5962-8991001XX	CLC200A8C	Operational Amp, Wideband, High Speed	Comlinear Corporation
5962-8991101XX	CLC220A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-8997901XX	SP1078B	A/D Converter, 8-bit, flash	Sipex Corporation
5962-8998601HXX	-----	Digital to Synchro/Resolver Converter	NO APPROVED SOURCE
5962-8998602HXX	-----	Digital to Synchro/Resolver Converter	NO APPROVED SOURCE
5962-8998603HXX	-----	Digital to Synchro/Resolver Converter	NO APPROVED SOURCE
5962-8998604HXX	-----	Digital to Synchro/Resolver Converter	NO APPROVED SOURCE
5962-9055101XC	SDC14567111111	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	ILC Data Device Corporation
5962-9055102XC	SDC14567111112	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	ILC Data Device Corporation
5962-9055103XC	SDC14567111114	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	ILC Data Device Corporation
5962-9055104XC	SDC14567111115	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	ILC Data Device Corporation
5962-9055105XC	SDC14569111111	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	ILC Data Device Corporation
5962-9055106XC	SDC14569111112	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	ILC Data Device Corporation
5962-9055107XC	SDC14569111114	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	ILC Data Device Corporation
5962-9055108XC	SDC14569111115	R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	ILC Data Device Corporation

-107-

HYBRID MICROCIRCUITS

QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SPD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9055401XC	HSDC-8915A-883B	R/D or S/D Converter, +/-2.6 arcmin acc	ILC Data Device Corporation
5962-9055402XC	HSDC-8915-883B	R/D or S/D Converter, +/-4.0 arcmin acc	ILC Data Device Corporation
5962-9057001HXX	MN3860H/B	D/A Converter, 12-bit, w/ input reg.	Micronetworks Incorporated
5962-9063001HXX	SP9760B	Amplifier, Track and Hold, 16-bit	Sipex Corporation
5962-9063101HXX	SP9588B	A/D Converter, 14-bit	Sipex Corporation
5962-9063401HXX	ADH-03011-12-1	D/A Converter, 12-bit	ILC Data Device Corporation
5962-9063601HXX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063601HYX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063602HXX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063602HYX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9063603HXX	ARX2410	1553 Driver/Receiver, Dual Channel	Aeroflex Laboratories Incorporated
5962-9063604HXX	ARX3410	1553 Driver/Receiver, Dual Channel	Aeroflex Laboratories Incorporated
5962-9063801HXX	PA07M/883	Operational Amplifier, High Power	Apex Microtechnology Corporation
5962-9063801HXX	MIOP42114/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9065901HXX	PA12M/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9065901HXX	MIOP42109/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9066601HXX	-----	Analog to Digital Converter, 12-bit	NO APPROVED SOURCE
5962-9067901HXX	PA02M/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9070701HXC	SDC14500-635	S/D Converter, 400Hz, 11.8V, acc. +/-2.6	ILC Data Device Corporation
5962-9070702HXC	SDC14500-636	S/D Converter, 400Hz, 11.8V, acc. +/-4.0	ILC Data Device Corporation
5962-9070703HXC	SDC14502-605	S/D Converter, 60Hz, 90V, acc. +/-2.6 arcmin	ILC Data Device Corporation
5962-9070704HXC	SDC14502-606	S/D Converter, 60Hz, 90V, acc. +/-4.0 arcmin	ILC Data Device Corporation
5962-9070705HXX	HSD1024-C672H/2	S/D Converter, 400Hz, 11.8V, acc. +/-2.6	Natel Engineering Company, Inc.
5962-9070706HXX	HSD1024-C673H/2	S/D Converter, 400Hz, 11.8V, acc. +/-4.0	Natel Engineering Company, Inc.
5962-9070707HXX	-----	S/D Converter, 60Hz, 90V, acc. +/-2.6 arcmin	NO APPROVED SOURCE
5962-9070708HXX	-----	S/D Converter, 60Hz, 90V, acc. +/-4.0 arcmin	NO APPROVED SOURCE
5962-9072301HXX	PA08M/883	Power operational amplifier	Apex Microtechnology Corporation
5962-9072301HXX	MIOP42116/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9073001HXX	MN376H/B	Amplifier, Track & Hold, High Speed	Micronetworks Incorporated
5962-9073001HYX	HTC-0300AM/883B	Amplifier, Track & Hold, High Speed	Analog Devices Computer Labs Div.
5962-9073601HXX	PA84M/883	Power operational amplifier	Apex Microtechnology Corporation
5962-9079501HXX	HS9576S/B	A/D Converter, 16-bit, High Speed	Sipex Corporation
5962-9079502HXX	HS9576T/B	A/D Converter, 16-bit, High Speed	Sipex Corporation
5962-9079701HXX	MN7140H/B	Data Acquisition system, 12-bit, 8 ch.	Micronetworks Incorporated
5962-9082001HXX	-----	Synchro-Resolver to Digital Converter	NO APPROVED SOURCE

-108-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9082002HXX	-----	Synchro-Resolver to Digital Converter	NO APPROVED SOURCE
5962-9082801HXX	PA10M/883	Operational Amplifier, High Power	Apex Microtechnology Corporation
5962-9082801HXX	MIOP42115/883	Operational Amplifier, High Power	Micropac Industries Incorporated
5962-9082901HXX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082902HXX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082903HUX	ARX3420	1553 Driver/Receiver, Single Channel	Aeroflex Laboratories Incorporated
5962-9082904HUX	ARX3424	1553 Driver/Receiver, Single Channel	Aeroflex Laboratories Incorporated
5962-9082905HTX	NHI-1531FP	1553 Driver/Receiver, Single Channel	National Hybrid Incorporated
5962-9082905HYX	NHI-1531	1553 Driver/Receiver, Single Channel	National Hybrid Incorporated
5962-9082906HTX	NHI-1545FP	1553 Driver/Receiver, Single Channel	National Hybrid Incorporated
5962-9082906HYX	NHI-1545	1553 Driver/Receiver, Single Channel	National Hybrid Incorporated
5962-9082907HTX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082907HXX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082907HYX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082908HXX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9082908HYX	-----	1553 Driver/Receiver, Single Channel	NO APPROVED SOURCE
5962-9083301HXX	CLC201A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-9083501HXX	CLC205A8C	Op Amp, Wideband	Comlinear Corporation
5962-9083601HXX	CLC221A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-9085401HPX	HCPL-5501	Optocoupler, Single Ch., transistr out	Hewlett-Packard Company
5962-9085401HPX	66126-105	Optocoupler, Single Ch., transistr out	Micropac Industries Incorporated
5962-9085501HPX	HCPL-5601	Optocoupler, Dual Channel	Hewlett-Packard Company
5962-9090201HXX	-----	Amplifier, Closed loop buffer, FET in	NO APPROVED SOURCE
5962-9090202HXX	-----	Amplifier, Closed loop buffer, FET in	NO APPROVED SOURCE
5962-9095401HXX	AT02815T/CH	DC/DC Converter, 15W, +5 & +/-15 V out	Advanced Analog
5962-9095402H2X	-----	DC/DC Converter, 15W, +5 & +/-15 V out	NO APPROVED SOURCE
5962-9097701HXX	CLC207A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-9099501HXX	CLC925B8C	A/D Converter, 12-bit	Comlinear Corporation
5962-9157501HXX	AHE2815D/CH	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157501H2X	AHE2815DF/CH	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157502HXX	AHE2815D/CH-SLV	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157502H2X	AHE2815DF/CH-SLV	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157503HXX	AHE2815D/CH-MSTR	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157503H2X	AHE2815DF/CH-MSTR	DC/DC Converter, 15W, +/-15V dual out	Advanced Analog
5962-9157901H2X	ATW280S/CH	DC/DC conv., 5V, 30W out, single ch.	Advanced Analog

-109-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9157902HZX	ATW280S/CH-SLV	DC/DC conv., 5V, 30W out, single ch.	Advanced Analog
5962-9157903HZX	ATW280S/CHMSTR	DC/DC conv., 5V, 30W out, single ch.	Advanced Analog
5962-9158001HXX	AHE2812S/CH	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9158001HXX	AHE2812SF/CH	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9158002HXX	AHE2812S/CH-SLV	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9158002HXX	AHE2812SF/CH-SLV	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9158003HXX	AHE2812S/CH-MSTR	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9158003HXX	AHE2812SF/CH-MSTR	DC/DC Converter, Single Ch., 12V, 20W	Advanced Analog
5962-9160001HXX	AHF2805S	DC/DC Converter, 5V, 12W Output	Advanced Analog
5962-9160101HXX	-----	DC/DC Converter, Single Ch., 15V, 15W	NO APPROVED SOURCE
5962-9160201HXX	ATO2812T/CH	DC/DC Converter, 15W, +5V, +/-12V out	Advanced Analog
5962-9160201HXX	ATO2812TF/CH	DC/DC Converter, 15W, +5V, +/-12V out	Advanced Analog
5962-9161301HXX	ATW2815D/CH	DC/DC Converter, Dual Ch., +/-15 V	Advanced Analog
5962-9161302HXX	ATW2815D/CH-SLV	DC/DC Converter, Dual Ch., +/-15 V	Advanced Analog
5962-9161303HXX	ATW2815D/CH-MSTR	DC/DC Converter, Dual Ch., +/-15 V	Advanced Analog
5962-9161401HXX	-----	DC/DC Converter, +/- 15V, 15W Output	NO APPROVED SOURCE
5962-9161501HXX	-----	S/D Converter, 90V, 60 Hz, 10-bit	NO APPROVED SOURCE
5962-9162101HXX	PA83M/883	Operational Amplifier, Power	Apex Microtechnology Corporation
5962-9162501HXX	AHE2815S/CH	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162501HXX	AHE2815SF/CH	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162502HXX	AHE2815S/CH-SLV	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162502HXX	AHE2815SF/CH-SLV	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162503HXX	AHE2815S/CH-MSTR	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9162503HXX	AHE2815SF/CH-MSTR	DC/DC Converter, Single Ch., 15V, 20W	Advanced Analog
5962-9166401HXX	-----	DC/DC Converter, Single Ch., 12 V, 15W	NO APPROVED SOURCE
5962-9166501HXX	CLC232A8C	Operational Amplifier, Wideband	Comlinear Corporation
5962-9167601HXX	-----	Optocoupler, Single Channel	NO APPROVED SOURCE
5962-9167601HXX	-----	Optocoupler, Single Channel	NO APPROVED SOURCE
5962-9168701HXX	NHI-1553RT	1553 Mux/Bus Remote Trmnl, +5V RAM Sup	National Hybrid Incorporated
5962-9168701HXX	NHI-1553RTFP	1553 Mux/Bus Remote Trmnl, +5V RAM Sup	National Hybrid Incorporated
5962-9168702HXX	NHI-1554RT	1553 Mux/Bus Remote Trmnl Unit, SSF-TF	National Hybrid Incorporated
5962-9168702HXX	NHI-1554RTFP	1553 Mux/Bus Remote Trmnl Unit, SSF-TF	National Hybrid Incorporated
5962-9170001HXX	PA09M/883	Operational amplifier, High power	Apex Microtechnology Corporation
5962-9170001HXX	MIOP42119/883	Operational amplifier, High power	Micropac Industries Incorporated
5962-9171201HXX	-----	A/D Converter, 16-bit	NO APPROVED SOURCE

-110-
HYBRID MICROCIRCUITS
QML-38534-15

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9173401HXX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173401HYX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173402HXX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173402HYX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173403HXX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173403HYX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173404HXX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9173404HYX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9174901HXX	-----	1553, BC/RTU/MT, Multiplexed Terminal	NO APPROVED SOURCE
5962-9174901HYX	-----	Driver/Receiver, Single Ch., 1553 A, B	NO APPROVED SOURCE
5962-9174902HXX	-----	Driver/Receiver, Single Ch., 1553 A, B	NO APPROVED SOURCE
5962-9174902HYX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9174903HXX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9174903HYX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9174904HXX	-----	Driver/Receiver, Single Ch., 1553 A, B	NO APPROVED SOURCE
5962-9174904HYX	-----	Driver/Receiver, Single Ch., 1553 A, B	NO APPROVED SOURCE
5962-9174905HUX	-----	Driver/Receiver, Single Ch., 1553 A, B	NO APPROVED SOURCE
5962-9174905H2X	MR3231MP5	Driver/Receiver, Single Ch., 1553 A, B	Micro-Rel Incorporated
5962-9174906HUX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9174906H2X	MR3232MP2	Driver/Receiver, Single Ch., Universal	Micro-Rel Incorporated
5962-9174907HUX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9174907H2X	MR3232MP5	Driver/Receiver, Single Ch., Universal	Micro-Rel Incorporated
5962-9174908HTX	ARX4407LPFP	Driver/Receiver, Single Ch., 1553 A, B	Aeroflex Laboratories Incorporated
5962-9174908HXX	ARX4407	Driver/Receiver, Single Ch., 1553 A, B	Aeroflex Laboratories Incorporated
5962-9174908HYX	ARX4407FP	Driver/Receiver, Single Ch., 1553 A, B	Aeroflex Laboratories Incorporated
5962-9174909HTX	ARX4404LPFP	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9174909HXX	ARX4404	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9174909HYX	ARX4404FP	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9177001HXX	-----	A/D Converter, 16-bit, sampling	NO APPROVED SOURCE
5962-9204001HXX	AHE2812D/CH	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog
5962-9204001H2X	AHE2812DF/CH	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog
5962-9204002HXX	AHE2812D/CH-SLV	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog
5962-9204002H2X	AHE2812DF/CH-SLV	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog
5962-9204003HXX	AHE2812D/CH-MSTR	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog
5962-9204003HYX	AHE2812DF/CH-MSTR	DC/DC Converter, 15W, +/-12V dual out	Advanced Analog

-111-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE I

STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	PRODUCT TYPE/DESCRIPTION	SOURCE(S)
5962-9205301HXX	-----	R/S to Dig. Conv., 11.8V, 14-bit	NO APPROVED SOURCE
5962-9205302HXX	-----	R/S to Dig. Conv., 11.8V, 14-bit	NO APPROVED SOURCE
5962-9205303HXX	-----	R/S to Dig. Conv., 11.8 V, 14-bit	NO APPROVED SOURCE
5962-9205304HXX	-----	R/S to Dig. Conv., 11.8 V, 14-bit	NO APPROVED SOURCE
5962-9205305HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205306HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205307HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205308HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205309HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205310HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205311HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9205312HXX	-----	R/S to Dig. Conv., 11.8 V, 16-bit	NO APPROVED SOURCE
5962-9206101HXX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9206101HXX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9206101HXX	-----	1553 Driver/Receiver, Dual Channel	NO APPROVED SOURCE
5962-9208501HXX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9208501HXX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9208502XX	ARX4451	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9208502YX	ARX4451FP	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9208503XX	ARX4418	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9208503YX	ARX4418FP	Driver/Receiver, Single Ch., Universal	Aeroflex Laboratories Incorporated
5962-9208504XX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9208504YX	-----	Driver/Receiver, Single Ch., Universal	NO APPROVED SOURCE
5962-9210901HXX	ATW2812D/CH	DC/DC Converter, +/- 12V, 30W	Advanced Analog
5962-9210902HXX	ATW2812D/CH-SLV	DC/DC Converter, +/- 12V, 30W	Advanced Analog
5962-9210903HXX	ATW2812D/CH-MSTR	DC/DC Converter, +/- 12V, 30W	Advanced Analog
5962-9213901HXX	-----	DC/DC Converter, Single Ch., 5V, 12W	NO APPROVED SOURCE
5962-9214401HXX	-----	DC/DC Converter, Dual Ch., +/-12V, 15W	NO APPROVED SOURCE
5962-9235101HXX	AHF2815D/CH	DC/DC Converter, 12W, +/- 15V	Advanced Analog

-112-
HYBRID MICROCIRCUITS
QML-38534-15

CROSS REFERENCE

TABLE II

PRODUCT ELIGIBILITY: The manufacturers listed below have certified that the following Hybrid Microcircuits are built, tested, and shipped using MIL-STD-1772 CERTIFIED FLOW/QUALIFIED MATERIALS and MANUFACTURING TECHNIQUES and are in FULL COMPLIANCE with MIL-H-38534 and MIL-STD-1772 requirements.

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER ^{4/}	SOURCE(S)
1553 BUS CONTROL			
1553 Bus Controller, RTU & Monitor	5962-8858501XX	-----	NO APPROVED SOURCE
1553 Bus Controller, RTU & Monitor	5962-8858501YX	-----	NO APPROVED SOURCE
1553 BUS/MICROPROCESSOR INTERFACE			
1553 to Microprocessor Interface	5962-8858601XX	BUS-66300 II-883B	ILC Data Device Corporation
1553 to Microprocessor Interface	5962-8858601YC	BUS-66301 II-883B	ILC Data Device Corporation
1553 SINGLE CHANNEL DRIVER/RECEIVER			
1553 Single Ch. Drvr/Rec	5962-8604901XX	-----	NO APPROVED SOURCE
1553 Single Ch. Drvr/Rec., Low Power	5962-8604902TX	BUS-83106II	ILC Data Device Corporation
1553 Single Ch. Drvr/Rec., Low Power	5962-8604902ZX	BUS-63105II	ILC Data Device Corporation
1553 Single Ch. Drvr/Rec.	5962-8604903YX	ARX2402	Aeroflex Laboratories Incorporated
1553 Single Ch. Drvr/Rec., Low Power	5962-8604904UX	ARX3402	Aeroflex Laboratories Incorporated
1553 Single Ch. Drvr/Rec.	5962-8604905XX	BUS63100-617	ILC Data Device Corporation
1553 Single Ch. Drvr/Rec.	5962-8604905XX	-----	NO APPROVED SOURCE
1553 Single Ch. Drvr/Rec.	5962-8604906TX	-----	NO APPROVED SOURCE
1553 Single Ch. Drvr/Rec.	5962-8604906YX	NHI-1509	National Hybrid Incorporated
1553 Single Ch. Drvr/Rec.	5962-8604907XX	-----	NO APPROVED SOURCE
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959201XX	ARX3407	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959201YX	ARX3407FP	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959203XX	ARX3407-001	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959203YX	ARX3407-001FP	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959205XX	ARX3467	Aeroflex Laboratories Incorporated

-113-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 SINGLE CHANNEL DRIVER/RECEIVER			
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959205YX	ARX3467FP	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959206XX	ARX3464	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8959206YX	ARX3464FP	Aeroflex Laboratories Incorporated
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979901XX	FCI55391	CMAC Microcircuits Limited
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979901YX	FCI55391FP	CMAC Microcircuits Limited
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979902XX	FCI55392	CMAC Microcircuits Limited
1553 Driver/Rec., Single Ch., Low Pwr.	5962-8979902YX	FCI55392FP	CMAC Microcircuits Limited
1553 Driver/Receiver, Single Channel	5962-9082901HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082902HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082903HUX	ARX3420	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Single Channel	5962-9082904HUX	ARX3424	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Single Channel	5962-9082905HTX	NHI-1531FP	National Hybrid Incorporated
1553 Driver/Receiver, Single Channel	5962-9082905HYX	NHI-1531	National Hybrid Incorporated
1553 Driver/Receiver, Single Channel	5962-9082906HTX	NHI-1545FP	National Hybrid Incorporated
1553 Driver/Receiver, Single Channel	5962-9082906HYX	NHI-1545	National Hybrid Incorporated
1553 Driver/Receiver, Single Channel	5962-9082907HTX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082907HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082907HYX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082908HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Single Channel	5962-9082908HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174901HXX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174901HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9174902HXX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9174902HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9174903HXX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9174903HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174904HXX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174904HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174905HUX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., 1553 A, B	5962-9174905HZX	MR3231MP5	Micro-Rel Incorporated
Driver/Receiver, Single Ch., Universal	5962-9174906HUX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9174906HZX	MR3232MP2	Micro-Rel Incorporated
Driver/Receiver, Single Ch., Universal	5962-9174907HUX	-----	NO APPROVED SOURCE

-114-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER PART NUMBER 4/	SOURCE(S)
1553 SINGLE CHANNEL DRIVER/RECEIVER			
Driver/Receiver, Single Ch., Universal	5962-9174907H2X	MR3232MP5	Micro-Rel Incorporated
Driver/Receiver, Single Ch., 1553 A, B	5962-9174908HTX	ARX4407LPFP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., 1553 A, B	5962-9174908HXX	ARX4407	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., 1553 A, B	5962-9174908HYX	ARX4407FP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9174909HTX	ARX4404LPFP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9174909HXX	ARX4404	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9174909HYX	ARX4404FP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9208501HXX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9208501HYX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9208502XX	ARX4451	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9208502YX	ARX4451FP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9208503XX	ARX4418	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9208503YX	ARX4418FP	Aeroflex Laboratories Incorporated
Driver/Receiver, Single Ch., Universal	5962-9208504XX	-----	NO APPROVED SOURCE
Driver/Receiver, Single Ch., Universal	5962-9208504YX	-----	NO APPROVED SOURCE
1553 DUAL CHANNEL DRIVER/RECEIVER			
1553 Dual Ch. Drvr/Rec., -15V	5962-8757901XX	-----	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., -15V	5962-8757901YX	-----	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757902XX	BUS-631251I	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757902YC	BUS-631261I	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec., -15V	5962-8757903XX	ARX2411	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec., -15V	5962-8757903YX	ARX2411FP	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757904XX	ARX3411	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757904YX	ARX3411FP	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757905XX	NHI-1500	National Hybrid Incorporated
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757905YX	NHI-1500FP	National Hybrid Incorporated
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757906XX	FC1553621	CMAC Microcircuits Limited
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757906YX	FC1553621FP	CMAC Microcircuits Limited
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757907XX	-----	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757907YX	-----	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec., Low Pwr -15V	5962-8757908XC	MR63125MPR	Micro-Rel Incorporated

-115-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 DUAL CHANNEL DRIVER/RECEIVER			
1553 Dual Ch. Drvr/Rec, Low Pwr -15V	5962-8757908YX	-----	NO APPROVED SOURCE
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HUX	ARX3436	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HXX	ARX3416	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HYX	ARX3416FP	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944701HZX	ARX3436FP	Aeroflex Laboratories Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944702HXX	NHI-1501	National Hybrid Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944702HYX	NHI-1501FP	National Hybrid Incorporated
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944703HXX	FC1553622	CMAC Microcircuits Limited
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944703HYX	FC1553622FP	CMAC Microcircuits Limited
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HXC	BUS63135II	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec, Idle High	5962-8944704HYC	BUS63136II	ILC Data Device Corporation
1553 Dual Ch. Drvr/Rec, Idle High	5962-8982601XC	BUS-63127II	ILC Data Device Corporation
1553 Driver/Receiver, Dual Channel	5962-8982601YC	BUS-63128II	ILC Data Device Corporation
1553 Driver/Receiver, Dual Channel	5962-8982602XX	ARX3419	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982602YX	ARX3419FP	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982603XX	NHI-1502	National Hybrid Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982603YX	NHI-1502FP	National Hybrid Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982604XX	NHI-1523	National Hybrid Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982604YX	NHI-1523FP	National Hybrid Incorporated
1553 Driver/Receiver, Dual Channel	5962-8982605XX	FC1553721	CMAC Microcircuits Limited
1553 Driver/Receiver, Dual Channel	5962-8982605YX	FC1553721FP	CMAC Microcircuits Limited
1553 Driver/Receiver, Dual Channel	5962-8982606XX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-8982606YX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9063601HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9063601HYX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9063602HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9063602HYX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9063603HXX	ARX2410	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Dual Channel	5962-9063604HXX	ARX3410	Aeroflex Laboratories Incorporated
1553 Driver/Receiver, Dual Channel	5962-9206101HXX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9206101HYX	-----	NO APPROVED SOURCE
1553 Driver/Receiver, Dual Channel	5962-9206101HZX	-----	NO APPROVED SOURCE

-116-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 MULTIPLEXER			
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869201XX	BUS61553-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869201YX	BUS61563-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869202XX	BUS61554-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869202YC	BUS61564-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869203XC	BUS61555-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869203YC	BUS61565-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-8869204XC	BUS61556-883B	ILC Data Device Corporation
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173401HXX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173401HYX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173402HXX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173402HYX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173403HXX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173403HYX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173404HXX	-----	NO APPROVED SOURCE
1553, BC/RTU/MT, Multiplexed Terminal	5962-9173404HYX	-----	NO APPROVED SOURCE
1553 REMOTE TERMINAL UNIT			
1553 Remote Terminal Unit, Dual Red.	5962-8753501XA	BUS-65112	ILC Data Device Corporation
1553 Remote Terminal Unit, Dual Red.	5962-8753501YC	BUS-65117	ILC Data Device Corporation
1553 Remote Terminal Unit, Dual Red.	5962-8753502XX	ARX2452	Aeroflex Laboratories Incorporated
1553 Remote Terminal Unit, Dual Red.	5962-8753502YX	ARX2452FP	Aeroflex Laboratories Incorporated
1553 Remote Term., Dual Red., Low Pwr. Remote terminal unit, dual redundant	5962-8763201XX	-----	NO APPROVED SOURCE
Remote terminal unit, dual redundant	5962-8979801XX	BUS-65142	ILC Data Device Corporation
Remote terminal unit, dual redundant	5962-8979801YX	BUS-65144	ILC Data Device Corporation
Remote terminal unit, dual redundant	5962-8979802XX	BUS65143-883B	ILC Data Device Corporation
Remote terminal unit, dual redundant	5962-8979802YX	BUS65145-883B	ILC Data Device Corporation
1553 Mux/Bus Remote Trmnl, +5V RAM Sup	5962-9168701HXX	NHI-1553RT	National Hybrid Incorporated
1553 Mux/Bus Remote Trmnl, +5V RAM Sup	5962-9168701HYX	NHI-1553RTFP	National Hybrid Incorporated
1553 Mux/Bus Remote Trmnl Unit, SSF-TF	5962-9168702HXX	NHI-1554RT	National Hybrid Incorporated
1553 Mux/Bus Remote Trmnl Unit, SSF-TF	5962-9168702HYX	NHI-1554RTFP	National Hybrid Incorporated

-117-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
1553 TRANSCEIVER			
1553 Transceiver, Dual Channel, 5V	5962-8952201XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952202XX	ARX-2453	Aeroflex Laboratories Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952202YX	ARX-2453FP	Aeroflex Laboratories Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952203XX	NHI-1529	National Hybrid Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952203YX	NHI-1529FP	National Hybrid Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952204XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952205XX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952205YX	-----	NO APPROVED SOURCE
1553 Transceiver, Dual Channel, 5V	5962-8952206XX	FCI553921	CMAC Microcircuits Limited
1553 Dual Transceiver, 5V	5962-8952206YX	FCI553921FP	CMAC Microcircuits Limited
1553 Transceiver, Dual Channel, 5V	5962-8952207XX	FCI553923	CMAC Microcircuits Limited
1553 Dual Transceiver, 5V	5962-8952207YX	FCI553923FP	CMAC Microcircuits Limited
1553 Transceiver, Dual Channel, 5V	5962-8952208XX	ARX-3453	Aeroflex Laboratories Incorporated
1553 Transceiver, Dual Channel, 5V	5962-8952208YX	ARX-3453FP	Aeroflex Laboratories Incorporated
AMPLIFIER, CURRENT			
Amplifier, current, thick/thin film	7801301GX	CTS0002	CTS Corporation
Amplifier, current, thick/thin film	7801301XX	CTS0002XB	CTS Corporation
Amplifier, current, thick film	7801301XX	ELH002H/883B	Elantec Incorporated
Amplifier, current, thick film	7801301XX	LH002H/883B	National Semiconductor Corporation
AMPLIFIER, TRACK AND HOLD			
Amplifier, Track and Hold, 16-bit	5962-9063001HXX	SP9760B	Sipex Corporation
Amplifier, Track & Hold, High Speed	5962-9073001HXX	MN376H/B	Micronetworks Incorporated
Amplifier, Track & Hold, High Speed	5962-9073001HYX	HTC-0300AM/883B	Analog Devices Computer Labs Div.
ANALOG/DIGITAL CONVERTER			
A/D Conv., 12-bit, 20 microseconds	5962-8850801XX	ADC-HX/883B	Datel Incorporated
A/D Conv., 12-bit, 8 microseconds	5962-8850802XX	ADC-HZ/883B	Datel Incorporated
A/D Conv., 12-bit, 8 microseconds	5962-8850802XX	MNADC8H/B	Micronetworks Incorporated

-118-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
ANALOG/DIGITAL CONVERTER			
A/D Conv., 12-bit, High Speed	5962-8865801XX	AD578SD/883B	Analog Devices MED
A/D Conv., 12-bit, High Speed	5962-8865802XX	AD578TD/883B	Analog Devices MED
A/D Conv., 12-bit, High Speed	5962-8865803XX	AD578ZSD/883B	Analog Devices MED
A/D Conv., 12-bit, High Speed	5962-8865804XX	AD578ZTD/883B	Analog Devices MED
A/D Conv., 8-bit, Flash	5962-8877601XX	HS1068B	Sipex Corporation
A/D Conv., 16-bit, shrt.cycle 14-bit	5962-8956301HXX	MN5290H/B	Micronetworks Incorporated
A/D Conv., 16-bit, shrt.cycle 13-bit	5962-8956302HXX	MN5291H/B	Micronetworks Incorporated
A/D Conv., 16-bit, High Speed	5962-8956901HXX	MN5295H/B	Micronetworks Incorporated
A/D Conv., 12-bit, 0 to -10V Int. Ref.	5962-8958301YX	MN5200H/B	Micronetworks Incorporated
A/D Conv., 12-bit, 0 to -10V Ext. Ref.	5962-8958302YX	MN5203H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -5 to +5V Int. Ref.	5962-8958303YX	MN5201H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -5 to +5V Ext. Ref.	5962-8958304YX	MN5204H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -10 to -10V Int. Ref.	5962-8958305YX	MN5202H/B	Micronetworks Incorporated
A/D Conv., 12-bit, -10 to -10V Ext. Ref.	5962-8958306YX	MN5205H/B	Micronetworks Incorporated
A/D Conv., 12-bit, 0 to 10V Int. Ref.	5962-8958307YX	MN5206H/B	Micronetworks Incorporated
ADC, Hi Sp, 12-bit, 0 to -10V Int. Ref.	5962-8958401YX	MN5210H/B	Micronetworks Incorporated
ADC, Hi Sp, 12-bit, 0 to -10V Ext. Ref.	5962-8958402YX	MN5213H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -5 to 5V Int. Ref.	5962-8958403YX	MN5211H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -5 to 5V Ext. Ref.	5962-8958404YX	MN5214H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -10 to 10V Int. Ref.	5962-8958405YX	MN5212H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, -10 to 10V Ext. Ref.	5962-8958406YX	MN5215H/B	Micronetworks Incorporated
ADC, Hi Spd, 12-bit, 0 to 10V Int. Ref.	5962-8958407YX	MN5216H/B	Micronetworks Incorporated
A/D Conv, 12-bit, 0 to 5V	5962-8959501XX	5245H/B	Micronetworks Incorporated
A/D Conv, 12-bit, 0 to 5V	5962-8959501YX	5245AH/B	NO APPROVED SOURCE
A/D Conv, 12-bit, 0 to 5V, 3-state inp.	5962-8959502XX	5246H/B	NO APPROVED SOURCE
A/D Conv, 12-bit, 0 to 5V, 3-state inp.	5962-8959502YX	5246H/B	Micronetworks Incorporated
A/D Conv, 12-bit, +/-2.5V	5962-8959503XX	5246AH/B	NO APPROVED SOURCE
A/D Conv, 12-bit, +/-2.5V	5962-8959503YX	5246AH/B	Micronetworks Incorporated
A/D Conv, 12-bit, +/-2.5V, 3-state inp.	5962-8959504XX	SP1078B	NO APPROVED SOURCE
A/D Conv, 12-bit, +/-2.5V, 3-state inp.	5962-8959504YX	SP9588B	Sipex Corporation
A/D Converter, 8-bit, flash	5962-8997901XX	-----	Sipex Corporation
A/D Converter, 14-bit	5962-9063101HXX	-----	NO APPROVED SOURCE
Analog to Digital Converter, 12-bit	5962-9066601HXX	-----	NO APPROVED SOURCE

-119-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
ANALOG/DIGITAL CONVERTER			
A/D Converter, 16-bit, High Speed	5962-9079501HXX	HS9576S/B	Sipex Corporation
A/D Converter, 16-bit, High Speed	5962-9079502HXX	HS9576T/B	Sipex Corporation
A/D Converter, 12-bit	5962-9099501HXX	CLC925B8C	Comlinear Corporation
A/D Converter, 16-bit	5962-9171201HXX	-----	NO APPROVED SOURCE
A/D Converter, 16-bit, sampling	5962-9177001HXX	-----	NO APPROVED SOURCE
DATA ACQUISITION SYSTEM			
12-bit data acq. sys., 8-ch. diff. inp.	5962-8851401XX	HS9403B-8	Sipex Corporation
12-bit data acq. sys., 16ch. sng-ended	5962-8851402XX	HS9403B-16	Sipex Corporation
12-bit data acq. sys., 16ch. sng-ended	5962-8851402YX	-----	NO APPROVED SOURCE
Data Acquisition system, 12-bit, 8 ch.	5962-9079701HXX	MN7140H/B	Micronetworks Incorporated
DC/DC CONVERTERS			
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968301HXX	AHE2805S/CH	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968301HZX	AHE2805SF/CH	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968302HXX	AHE2805S/CH-SLV	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968302HZX	AHE2805SF/CH-SLV	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968303HXX	AHE2805S/CH-MSTR	Advanced Analog
DC/DC Conv., 5V, 15W Out, Single Ch.	5962-8968303HZX	AHE2805SF/CH-MSTR	Advanced Analog
DC/DC Converter, 15W, +5 & +/-15 V out	5962-9095401HXX	ATO2815T/CH	Advanced Analog
DC/DC Converter, 15W, +5 & +/-15 V out	5962-9095402HZX	-----	NO APPROVED SOURCE
DC/DC Converter, 15W, +/-15V dual out	5962-9157501HXX	AHE2815D/CH	Advanced Analog
DC/DC Converter, 15W, +/-15V dual out	5962-9157501HZX	AHE2815DF/CH	Advanced Analog
DC/DC Converter, 15W, +/-15V dual out	5962-9157502HXX	AHE2815D/CH-SLV	Advanced Analog
DC/DC Converter, 15W, +/-15V dual out	5962-9157502HZX	AHE2815DF/CH-SLV	Advanced Analog
DC/DC Converter, 15W, +/-15V dual out	5962-9157503HXX	AHE2815D/CH-MSTR	Advanced Analog
DC/DC Converter, 15W, +/-15V dual out	5962-9157503HZX	AHE2815DF/CH-MSTR	Advanced Analog
DC/DC conv., 5V, 30W out, single ch.	5962-9157901HZX	ATW280S/CH	Advanced Analog
DC/DC conv., 5V, 30W out, single ch.	5962-9157902HZX	ATW280S/CH-SLV	Advanced Analog
DC/DC conv., 5V, 30W out, single ch.	5962-9157903HZX	ATW280S/CHMSTR	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158001HXX	AHE2812S/CH	Advanced Analog

-120-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
DC/DC CONVERTERS			
DC/DC Converter, Single Ch., 12V, 20W	5962-9158001H2X	AHE2812SF/CH	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158002HXX	AHE2812S/CH-SLV	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158002H2X	AHE2812SF/CH-SLV	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158003HXX	AHE2812S/CH-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 12V, 20W	5962-9158003H2X	AHE2812SF/CH-MSTR	Advanced Analog
DC/DC Converter, 5V, 12W Output	5962-9160001HXX	AHF2805S	Advanced Analog
DC/DC Converter, Single Ch., 15V, 15W	5962-9160101HXX	-----	NO APPROVED SOURCE
DC/DC Converter, 15W, +/-12V out	5962-9160201HXX	ATO2812T/CH	Advanced Analog
DC/DC Converter, 15W, +/-12V out	5962-9160201H2X	ATO2812TF/CH	Advanced Analog
DC/DC Converter, Dual Ch., +/-15 V	5962-9161301H2X	ATW2815D/CH	Advanced Analog
DC/DC Converter, Dual Ch., +/-15 V	5962-9161302H2X	ATW2815D/CH-SLV	Advanced Analog
DC/DC Converter, Dual Ch., +/-15 V	5962-9161303H2X	ATW2815D/CH-MSTR	Advanced Analog
DC/DC Converter, +/-15V, 15W Output	5962-9161401HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 15V, 20W	5962-9162501HXX	AHE2815S/CH	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162501H2X	AHE2815SF/CH	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162502HXX	AHE2815S/CH-SLV	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162502H2X	AHE2815SF/CH-SLV	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162503HXX	AHE2815S/CH-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9162503H2X	AHE2815SF/CH-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 15V, 20W	5962-9166401HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Single Ch., 12 V, 15W	5962-9204001HXX	AHE2812D/CH	Advanced Analog
DC/DC Converter, 15W, +/-12V dual out	5962-9204001H2X	AHE2812DF/CH	Advanced Analog
DC/DC Converter, 15W, +/-12V dual out	5962-9204002HXX	AHE2812D/CH-SLV	Advanced Analog
DC/DC Converter, 15W, +/-12V dual out	5962-9204002H2X	AHE2812DF/CH-SLV	Advanced Analog
DC/DC Converter, 15W, +/-12V dual out	5962-9204003HXX	AHE2812D/CH-MSTR	Advanced Analog
DC/DC Converter, 15W, +/-12V dual out	5962-9204003H2X	AHE2812DF/CH-MSTR	Advanced Analog
DC/DC Converter, +/-12V, 30W	5962-9210901H2X	ATW2812D/CH	Advanced Analog
DC/DC Converter, +/-12V, 30W	5962-9210902H2X	ATW2812D/CH-SLV	Advanced Analog
DC/DC Converter, +/-12V, 30W	5962-9210903H2X	ATW2812D/CH-MSTR	Advanced Analog
DC/DC Converter, Single Ch., 5V, 12W	5962-9213901HXX	-----	NO APPROVED SOURCE
DC/DC Converter, Dual Ch., +/-12V, 15W	5962-9214401HXX	-----	NO APPROVED SOURCE
DC/DC Converter, 12W, +/-15V	5962-9235101HXX	AHF2815D/CH	Advanced Analog

-121-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
DIGITAL/ANALOG CONVERTER			
D/A Conv., 12-bit, Programmable	8300201JX	DAC87CBI	Analog Devices MED
D/A Conv., 12-bit, Programmable	8300201XX	-----	NO APPROVED SOURCE
D/A Conv., 8-bit, 0 to 4V Output	5962-8768801XX	MN3008H/B	Micronetworks Incorporated
D/A Conv., 8-bit, 0 to 4V Output	5962-8768801YX	-----	NO APPROVED SOURCE
D/A Conv., 8-bit, -2 to +2V Output	5962-8768802XX	MN3009H/B	Micronetworks Incorporated
D/A Conv., 8-bit, -2 to +2V Output	5962-8768802YX	-----	NO APPROVED SOURCE
D/A Conv., 12-bit, bipolar, linear, quad	5962-8850901XX	AD390SD/883B	Analog Devices MED
D/A Conv., 12-bit, bipolar, linear, quad	5962-8850902XX	AD390TD/883B	Analog Devices MED
D/A Conv., 12-bit, quad, bipolar	5962-8851001XX	AD394SD/883B	Analog Devices MED
D/A Conv., 12-bit, quad, bipolar	5962-8851002XX	AD394TD/883B	Analog Devices MED
D/A Conv., 12-bit, quad	5962-8851003XX	AD395SD/883B	Analog Devices MED
D/A Conv., 12-bit, quad	5962-8851004XX	AD395TD/883B	Analog Devices MED
D/A Conv., 14-bit, deglitched	5962-8851701XX	DAC-02310-112	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851701YX	DAC-02311-112	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851702XX	DAC-02310-113	ILC Data Device Corporation
D/A Conv., 14-bit, deglitched	5962-8851702YX	DAC-02311-113	ILC Data Device Corporation
D/A Conv., 12-bit, track/hold	5962-8854201XX	ADC00300-112	ILC Data Device Corporation
D/A Conv., 12-bit, track/hold	5962-8854201YX	ADC00302-112	ILC Data Device Corporation
D/A Conv., 12-bit, Quad	5962-8862901XX	-----	NO APPROVED SOURCE
D/A Conv., Triple, 8-bit, Video RAM	5962-8950901XX	RGBDAC3808H/B	Advanced Analog
D/A Conv., 12-bit, binary input	5962-8952801XX	DAC-HBK/883B	Datel Incorporated
D/A Conv., 12-bit, two's complement.	5962-8952802XX	DAC-HBK-2/883B	Datel Incorporated
D/A Conv., 16-bit, 0 to 10V & +/-5V Out	5962-8953101HXX	DAC-HPB/883B	Datel Incorporated
D/A Conv., 16-bit, +/- 10V Output	5962-8953102HXX	DAC-HPB-1/883B	Datel Incorporated
D/A Conv., 16-bit, +/- 10V Output	5962-8953102HYX	MN3292T/B-V	Micronetworks Incorporated
D/A Conv., 16-bit, 0 to +10V Output	5962-8953103HYX	MN3290T/B-V	Micronetworks Incorporated
D/A Conv., 16-bit, +/- 5V Output	5962-8953104HYX	MN3291T/B-V	Micronetworks Incorporated
D/A Conv., 8-bit, w/ input register	5962-8971801XX	MN3020H/B	Micronetworks Incorporated
D/A Conv., 8-bit, w/ input register	5962-8971801YX	HS3020B/B	Sipex Corporation
D/A Converter, 16-bit, 16-bit linear	5962-8986201XX	-----	NO APPROVED SOURCE
D/A Converter, 16-bit, 15-bit linear	5962-8986202XX	-----	NO APPROVED SOURCE
D/A Converter, 12-bit, w/ input reg.	5962-9057001HXX	MN3860H/B	Micronetworks Incorporated
D/A Converter, 12-bit	5962-9063401HXX	ADH-03011-12-1	ILC Data Device Corporation

-122-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
DIGITAL TO SYNCHRO/RESOLVER CONVERTER			
Digital to Synchro/Resolver Converter	5962-8998601HXX	-----	NO APPROVED SOURCE
Digital to Synchro/Resolver Converter	5962-8998602HXX	-----	NO APPROVED SOURCE
Digital to Synchro/Resolver Converter	5962-8998603HXX	-----	NO APPROVED SOURCE
Digital to Synchro/Resolver Converter	5962-8998604HXX	-----	NO APPROVED SOURCE
DRIVER, HIGH VOLTAGE			
Driver, High Voltage, 1.5 Amp.	5962-8761701XX	-----	NO APPROVED SOURCE
Driver, High Voltage, 3.0 Amp.	5962-8761702XX	-----	NO APPROVED SOURCE
DRIVER/RECEIVER, UNIVERSAL			
Unv1 Driver/Rec., Single Ch., Low Pwr.	5962-8959202XX	ARX3404	Aeroflex Laboratories Incorporated
Unv1 Driver/Rec., Single Ch., Low Pwr.	5962-8959202YX	ARX3404FP	Aeroflex Laboratories Incorporated
Unv1 Driver/Rec., Single Ch., Low Pwr.	5962-8959204XX	ARX3404-001	Aeroflex Laboratories Incorporated
Unv1 Driver/Rec., Single Ch., Low Pwr.	5962-8959204YX	ARX3404-001FP	Aeroflex Laboratories Incorporated
FILTER, EMI			
Filter, EMI, 4.0A	5915-9102001HXX	AFC-461/CH	Advanced Analog
Filter, EMI, 4.0A	5915-9102001HZX	AFC-461F/CH	Advanced Analog
OPERATIONAL AMPLIFIER			
Op amp, thick film	8001301ZX	ADLH0032G/883B	Analog Devices Computer Labs Div.
Op amp, thick film	8001301ZX	ELH0032G/883E10003	Elantec Incorporated
Op amp, thick film	8001301ZX	LH0032G	National Semiconductor Corporation
OPERATIONAL AMPLIFIER, POWER			
Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	8508701ZX	ELH0041G/883B	Elantec Incorporated
Hi Pwr. Op Amp, Ext. Comp., 0.2A Out.	8508701ZX	LH0041G/883	National Semiconductor Corporation
Hi. Pwr. Op Amp, Ext. Comp.	8508801XX	LH0021	National Semiconductor Corporation

-123-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
OPERATIONAL AMPLIFIER, POWER			
Hi Pwr. Op Amp, Ext. Comp., 1.0A Out.	8508801YX	ELH0021K/E10036	Elantec Incorporated
Op Amp, High Power	5962-8762001XX	42106	Micropac Industries Incorporated
Op Amp, High Power	5962-8762002HXX	PA51M/883	Apex Microtechnology Corporation
Power Op Amp, High Current	5962-8870101XX	-----	NO APPROVED SOURCE
Operational Amplifier, High Power	5962-9063801HXX	PA07M/883	Apex Microtechnology Corporation
Operational Amplifier, High Power	5962-9063801HXX	MIOP42114/883	Micropac Industries Incorporated
Operational Amplifier, Power	5962-9065901HXX	PA12M/883	Apex Microtechnology Corporation
Operational Amplifier, Power	5962-9065901HXX	MIOP42109/883	Micropac Industries Incorporated
Operational Amplifier, Power	5962-9067901HXX	PA02M/883	Apex Microtechnology Corporation
Power operational amplifier	5962-9072301HXX	PA08M/883	Apex Microtechnology Corporation
Operational Amplifier, High Power	5962-9072301HXX	MIOP42116/883	Micropac Industries Incorporated
Power operational amplifier	5962-9073601HXX	PA84M/883	Apex Microtechnology Corporation
Operational Amplifier, High Power	5962-9082801HXX	PA10M/883	Apex Microtechnology Corporation
Operational Amplifier, High Power	5962-9082801HXX	MIOP42115/883	Micropac Industries Incorporated
Operational Amplifier, Power	5962-9162101HXX	PA83M/883	Apex Microtechnology Corporation
Operational amplifier, High power	5962-9170001HXX	PA09M/883	Apex Microtechnology Corporation
Operational amplifier, High power	5962-9170001HXX	MIOP42119/883	Micropac Industries Incorporated
OPERATIONAL AMPLIFIER, VIDEO			
Video Op Amp, Fast Settling	5962-8857901XC	H0S-050A/883B	Analog Devices Computer Labs Div.
Video Op Amp, Fast Settling	5962-8857902XC	H0S-060SH/883B	Analog Devices Computer Labs Div.
OPERATIONAL AMPLIFIER, WIDEBAND			
Power Op amp., Wideband, Thick Film	8508901YX	ELH0101AK/E10039	Elantec Incorporated
Power Op Amp., Wideband, Thick Film	8508902YX	ELH0101K/E10038	Elantec Incorporated
Op Amp, Wideband, High Speed	5962-8959401XX	CLC231A8C	Comlinear Corporation
Op Amp, Wideband, Fast Settling	5962-89813013X	HC1437L/883	Hycomp Incorporated
Op Amp, Wideband, Fast Settling	5962-8981301GX	HC1437/883	Hycomp Incorporated
Operational Amplifier, Wideband	5962-8985801XX	CLC206A8C	Comlinear Corporation

-124-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
OPERATIONAL AMPLIFIER, WIDEBAND			
Operational Amp, Wideband, High Speed	5962-8991001XX	CLC200A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-8991101XX	CLC220A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-9083301HXX	CLC201A8C	Comlinear Corporation
Op Amp, Wideband	5962-9083501HXX	CLC205A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-9083601HXX	CLC221A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-9097701HXX	CLC207A8C	Comlinear Corporation
Operational Amplifier, Wideband	5962-9166501HXX	CLC232A8C	Comlinear Corporation
OPTOCOUPLER			
Optocoupler, Dual Channel	8102801EX	6N134/883B	Hewlett-Packard Company
Optocoupler, Dual Channel	8102801EX	6N134/883B	Micropac Industries Incorporated
Optocoupler, Dual Channel	8102801XX	66072-001/883	Micropac Industries Incorporated
Optocoupler, Dual Channel	8102802PX	HCPL-5631	Hewlett-Packard Company
Optocoupler, Dual Channel	8102802PX	66056-103	Micropac Industries Incorporated
Optocoupler, Dual Channel	81028032X	HCPL-6631	Hewlett-Packard Company
Optocoupler, Dual Channel	81028032X	66123-001	Micropac Industries Incorporated
Optocoupler, Quad	8302401EX	6N140A/883B	Hewlett-Packard Company
Optocoupler, Quad	8302401EX	6N140A/883B	Micropac Industries Incorporated
Optocoupler, Dual Channel	5962-8767901EX	4N55/883B	Hewlett-Packard Company
Optocoupler, Dual Channel	5962-8767901EX	66024-001	Micropac Industries Incorporated
Optocoupler, Dual Channel	5962-8767902PX	HCPL-5531	Hewlett-Packard Company
Optocoupler, Dual Channel	5962-8767902PX	66126-103	Micropac Industries Incorporated
Optocoupler, Dual Channel	5962-87679032A	HCPL-6531	Hewlett-Packard Company
Optocoupler, Dual Channel	5962-87679032X	-----	NO APPROVED SOURCE
Optocoupler, Single Channel, Hi Speed	5962-8876801PX	HCPL-5201	Hewlett-Packard Company
Optocoupler, Dual Channel, Hi Speed	5962-8876901PX	HCPL-5231	Hewlett-Packard Company
Optocoupler, Dual Channel, High Speed	5962-88769022X	HCPL-6231	Hewlett-Packard Company
Optocoupler, AC/DC Logic Interface	5962-8947701PX	HCPL-5761	Hewlett-Packard Company
Optocoupler, Single Ch., High Speed	5962-8957001PX	HCPL-5401	Hewlett-Packard Company
Optocoupler, Dual Ch., Hi Spd, Com Sup	5962-8957101PX	HCPL-5431	Hewlett-Packard Company
Optocoupler, Dual Ch., Hi Spd, Sep Sup	5962-89571022X	HCPL-6431	Hewlett-Packard Company
Optocoupler, Dual Ch., Line Receiver	5962-8957201EX	HCPL-1931	Hewlett-Packard Company

-125-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
OPTOCOUPLER			
Optocoupler, Dual Ch., Common supplies	5962-8978501PX	HCPL-5731	Hewlett-Packard Company
Optocoupler, Dual Ch., Common supplies	5962-8978501PX	66058-003	Micropac Industries Incorporated
Optocoupler, Dual Ch., Common supplies	5962-8978501XX	66071-001	Micropac Industries Incorporated
Optocoupler, Dual Ch., Separate spples	5962-89785022X	HCPL-6731	Hewlett-Packard Company
Optocoupler, Dual Ch., Separate spples	5962-89785022X	66124-001	Micropac Industries Incorporated
Optocoupler, Sngl Ch., Low Cur., Hi Gn.	5962-8981001PX	HCPL-5701	Hewlett-Packard Company
Optocoupler, Sngl Ch., Low Cur., Hi Gn.	5962-8981001PX	66058-105	Micropac Industries Incorporated
Optocoupler, Single Ch., transistr out	5962-9085401HPX	HCPL-5501	Hewlett-Packard Company
Optocoupler, Single Ch., transistr out	5962-9085401HPX	66126-105	Micropac Industries Incorporated
Optocoupler, Dual Channel	5962-9085501HPX	HCPL-5601	Hewlett-Packard Company
Optocoupler, Single Channel	5962-9167601HXX	-----	NO APPROVED SOURCE
Optocoupler, Single Channel	5962-9167601HXX	-----	NO APPROVED SOURCE
R/D CONVERTERS			
R/D Conv., 400Hz., 11.8V	5962-8990801XX	SDC14565111114	ILC Data Device Corporation
R/D Conv., 400Hz., 11.8V	5962-8990801YX	-----	NO APPROVED SOURCE
R/D Conv., 400Hz., 11.8V	5962-8990802XX	SDC14565111115	ILC Data Device Corporation
R/D Conv., 400Hz., 11.8V	5962-8990802YX	-----	NO APPROVED SOURCE
R/D Conv., 400Hz., 80Hz. BW, 11.8V	5962-8990803XC	SDC145651111616	ILC Data Device Corporation
R/D Conv., 400Hz., 11.8V, trimmed velocity	5962-8990804XX	SDC14566111115	ILC Data Device Corporation
Resolver to Digital Conv., 11.8V	5962-8990805XC	SDC145651111618	ILC Data Device Corporation
R/D Conv., 400Hz., 11.8V	5962-8990806HXX	HRD1066-341H/2	Natel Engineering Company, Inc.
R/D Conv., 400Hz., 11.8V	5962-8990807HXX	HRD1066-341V/2	Natel Engineering Company, Inc.
R/D Conv., 400Hz., 80Hz. BW, 11.8V	5962-8990808HXX	HRD1066-381H/2	Natel Engineering Company, Inc.
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	5962-9055101XC	SDC14567111111	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	5962-9055102XC	SDC14567111112	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	5962-9055103XC	SDC14567111114	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	5962-9055104XC	SDC14567111115	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 6 min.	5962-9055105XC	SDC14569111111	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 4 min.	5962-9055106XC	SDC14569111112	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 2 min.	5962-9055107XC	SDC14569111114	ILC Data Device Corporation
R/D Conv., 1.0V, 400 Hz., LSB Acc.: 1 min.	5962-9055108XC	SDC14569111115	ILC Data Device Corporation

-126-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
R/S TO DIGITAL CONVERTERS			
R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	5962-8768701XC	HSDC-8920A-883B	ILC Data Device Corporation
R/S to Dig. Conv., 400Hz, +/-4.0 arcmin.	5962-8768702XC	HSDC-8920-883B	ILC Data Device Corporation
R/S to Dig. Conv., 400Hz, +/-2.6 arcmin.	5962-8768703XC	RDC14505-641	ILC Data Device Corporation
R/D or S/D Converter, +/-2.6 arcmin acc	5962-9055401XC	HSDC-8915A-883B	ILC Data Device Corporation
R/D or S/D Converter, +/-4.0 arcmin acc	5962-9055402XC	HSDC-8915-883B	ILC Data Device Corporation
Synchro-Resolver to Digital Converter	5962-9082001HXX	-----	NO APPROVED SOURCE
Synchro-Resolver to Digital Converter	5962-9082002HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8V, 14-bit	5962-9205301HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8V, 14-bit	5962-9205302HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 14-bit	5962-9205303HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 14-bit	5962-9205304HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205305HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205306HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205307HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205308HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205309HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205310HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205311HXX	-----	NO APPROVED SOURCE
R/S to Dig. Conv., 11.8 V, 16-bit	5962-9205312HXX	-----	NO APPROVED SOURCE
REFERENCE, PRECISION VOLTAGE			
Reference, Precision Voltage, +10V	85030013X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503001CX	HS2700SD/883B	Sipex Corporation
Reference, Precision Voltage, +10V	8503001XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503001YX	2700SD/883B	Analog Devices MED
Reference, Precision Voltage, +10V	8503001YX	HC2700SD/883B	Hycomp Incorporated
Reference, Precision Voltage, +10V	85030023X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002CX	HS2700UD/883B	Sipex Corporation
Reference, Precision Voltage, +10V	8503002XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +10V	8503002YX	2700UD/883B	Analog Devices MED
Reference, Precision Voltage, +10V	8503002YX	HC2700UD/883B	Hycomp Incorporated
Reference, Precision Voltage, -10V	85030033X	-----	NO APPROVED SOURCE

-127-
HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
REFERENCE, PRECISION VOLTAGE			
Reference, Precision Voltage, -10V	8503003CX	HS2702SD/883B	Sipex Corporation
Reference, Precision Voltage, -10V	8503003XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503003YX	2702SD/883B	Analog Devices MED
Reference, Precision Voltage, -10V	8503003YX	HC2702SD/883B	Hycomp Incorporated
Reference, Precision Voltage, -10V	85030043X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004CX	HS2702UD/883B	Sipex Corporation
Reference, Precision Voltage, +/-10V	8503004XX	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503004YX	2702UD/883B	Analog Devices MED
Reference, Precision Voltage, +/-10V	8503004YX	HC2702UD/883B	Hycomp Incorporated
Reference, Precision Voltage, +/-10V	85030053X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, +/-10V	8503005CX	HS2701SD/883B	Sipex Corporation
Reference, Precision Voltage, +/-10V	8503005YX	2701SD/883B	Analog Devices MED
Reference, Precision Voltage, +/-10V	8503005YX	HC2701SD/883B	Hycomp Incorporated
Reference, Precision Voltage, +/-10V	85030063X	-----	NO APPROVED SOURCE
Reference, Precision Voltage, -10V	8503006CX	HS2701UD/883B	Sipex Corporation
Reference, Precision Voltage, -10V	8503006YX	2701UD/883B	Analog Devices MED
Reference, Precision Voltage, -10V	8503006YX	HC2701UD/883B	Hycomp Incorporated
S/D CONVERTERS			
S/D Conv., 90V, 400Hz, 2 min. accuracy	5962-8949801XX	SDC14561111603	ILC Data Device Corporation
S/D Conv., 90V, 400Hz, 1 min. accuracy	5962-8949802XX	SDC14561111604	ILC Data Device Corporation
S/D Conv., 11.8V, 400Hz., 2 min. accrcy	5962-8949901XX	SDC14560111607	ILC Data Device Corporation
S/D Conv., 11.8V, 400Hz., 1 min. accrcy	5962-8949902XX	SDC14560111608	ILC Data Device Corporation
S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	5962-8949903XC	SDC14560-605	ILC Data Device Corporation
S/D Conv., 11.8V, 400Hz., 2 min. accrcy	5962-8949904HXX	HSD1066-341H/2	Natel Engineering Company, Inc.
S/D Conv., 11.8V, 400Hz., 1 min. accrcy	5962-8949905HXX	HSD1066-341V/2	Natel Engineering Company, Inc.
S/D Conv., 11.8V, 400Hz., 80 HzBW, 2 min	5962-8949906HXX	HSD1066-381H/2	Natel Engineering Company, Inc.
S/D Converter, 400Hz, 11.8V, acc. +/-2.6	5962-9070701HXC	SDC14500-635	ILC Data Device Corporation
S/D Converter, 400Hz, 11.8V, acc. +/-4.0	5962-9070702HXC	SDC14500-636	ILC Data Device Corporation
S/D Converter, 60Hz, 90V, acc. +/-2.6 arcm	5962-9070703HXC	SDC14502-605	ILC Data Device Corporation
S/D Converter, 60Hz, 90V, acc. +/-4.0 arcm	5962-9070704HXC	SDC14502-606	ILC Data Device Corporation
S/D Converter, 400Hz, 11.8V, acc. +/-2.6	5962-9070705HXX	HSD1024-C672H/2	Natel Engineering Company, Inc.

-128-

HYBRID MICROCIRCUITS
QML-38534-15

TABLE II

PRODUCT TYPE/DESCRIPTION	STANDARDIZED MILITARY DRAWING (SMD)	MANUFACTURER SIMILAR PART NUMBER 4/	SOURCE(S)
S/D CONVERTERS			
S/D Converter, 400Hz, 11.8V, acc. +/-4.0	5962-9070706HXX	HSD1024-C673H/2	Natel Engineering Company, Inc.
S/D Converter, 60Hz, 90V, acc. +/-2.6 arcmin	5962-9070707HXX	-----	NO APPROVED SOURCE
S/D Converter, 60Hz, 90V, acc. +/-4.0 arcmin	5962-9070708HXX	-----	NO APPROVED SOURCE
S/D Converter, 90V, 60 Hz, 10-bit	5962-9161501HXX	-----	NO APPROVED SOURCE
SAMPLE/HOLD			
Sample/Hold Multiplexer, Dual 8-ch.	5962-8956501XX	HS362SB	Sipex Corporation
Sample/Hold Amp., 16-bit	5962-8956601HCX	HS9716TB	Sipex Corporation
VOLTAGE FOLLOWER			
Hi Speed Buffer Amp., Volt. Follower	80014012X	0033	Analog Devices Computer Labs Div.
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	-----	NO APPROVED SOURCE
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	ELH0033G/883B	Elantec Incorporated
Hi Spd. Buffr. Amp., Vol. Fol., FET in	80014012X	LH0033G	National Semiconductor Corporation
Hi Speed Buff. Amp., Volt.Foll.,FET in	80014012X	0033	Teledyne Components
Buffer Amp, FET in.	5962-8965901XX	EL2004G/883B	Elantec Incorporated
Buffer Amp, FET in.	5962-8965901YX	-----	NO APPROVED SOURCE
Amplifier, Closed loop buffer, FET in	5962-9090201HXX	-----	NO APPROVED SOURCE
Amplifier, Closed loop buffer, FET in	5962-9090202HXX	-----	NO APPROVED SOURCE
VOLTAGE REGULATOR			
Voltage Regulator, Dual, +15 & -15V	5962-8949001XX	OM7509SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +5 & -5 V	5962-8949002XX	OM7501SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +5 & -12 V	5962-8949003XX	OM7502SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +5 & -15 V	5962-8949004XX	OM7503SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +12 & -5 V	5962-8949005XX	OM7504SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +12 & -12 V	5962-8949006XX	OM7505SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +12 & -15 V	5962-8949007XX	OM7506SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +15 & -5 V	5962-8949008XX	OM7507SC/883B	Omnirel Corporation
Voltage Regulator, Dual, +15 & -12 V	5962-8949009XX	OM7508SC/883B	Omnirel Corporation

-129-
HYBRID MICROCIRCUITS
QML-38534-15