REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Add device type 02 tested at low dose rate. Make change to paragraphs 1.2.2, and 1.5. Make changes to footnotes 2/ and 3/ as specified under Table I. Make change to Table IIB and paragraph 4.4.4.1. - rrp	11-08-09	C. SAFFLE
B	Make correction to case outline letter F descriptive designator as specified under paragraph 1.2.4. Add case outline X, descriptive designator CDFP4-F16. - ro	11-10-04	C. SAFFLE
C	Update drawing to current MIL-PRF-38535 requirements. Remove class M references. -rrp	17-03-07	C. SAFFLE
D	Delete paragraph 3.1.1. Update document paragraphs to current requirements. - ro	25-01-08	L. LEEPER BRANHAM

Revision Status of Sheets

REV	D	D	D	D	D																	
SHEET	23	24	25	26	27																	
REV	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

PMIC N/A

STANDARD MICROCIRCUIT DRAWING

THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

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DRAWING APPROVAL DATE
10-04-27

DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990
https://www.dla.mil/LandandMaritime

MICROCIRCUIT, LINEAR, 0.8 GHz TO 2.5 GHz QUADRATURE MODULATOR, MONOLITHIC SILICON

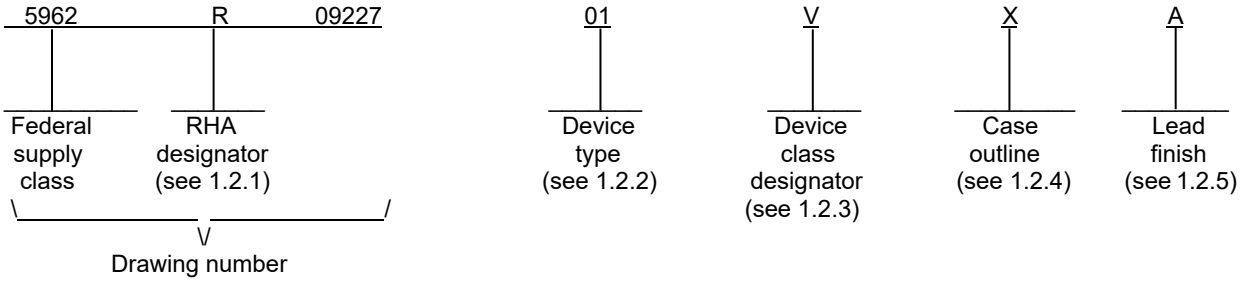
AMSC N/A	REVISION LEVEL D	SIZE A	CAGE CODE **67268**	**5962-09227**
		SHEET 1 OF 27		

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.

1. SCOPE

1.1 Scope. This drawing documents two product assurance class levels consisting of high reliability (device class Q) and space application (device class V). A choice of case outlines and lead finishes are available and are reflected in the Part or Identifying Number (PIN). When available, a choice of Radiation Hardness Assurance (RHA) levels is reflected in the PIN.

1.2 PIN. The PIN is as shown in the following example:



1.2.1 RHA designator. Device classes Q and V RHA marked devices meet the MIL-PRF-38535 specified RHA levels and are marked with the appropriate RHA designator. A dash (-) indicates a non-RHA device.

1.2.2 Device types. The device types identify the circuit function as follows:

Device type	Generic number	Circuit function
01	AD8346	Radiation hardened, 0.8 GHz to 2.5 GHz quadrature modulator
02	AD8346	Radiation hardened, 0.8 GHz to 2.5 GHz quadrature modulator

1.2.3 Device class designator. The device class designator is a single letter identifying the product assurance level as follows:

Device class	Device requirements documentation
Q or V	Certification and qualification to MIL-PRF-38535

1.2.4 Case outlines. The case outlines are as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	Terminals	Package style
F	GDFP2-F16	16	Flat pack
X	CDFP4-F16	16	Flat pack

1.2.5 Lead finish. The lead finish is as specified in MIL-PRF-38535 for device classes Q and V.

1.3 Absolute maximum ratings. 1/

Supply voltage (VPS1, VPS2)	5.5 V
Input power LOIP, LOIN (relative to 50 Ω)	10 dBm
Input voltage IBBP, IBBN, QBBP, QBBN	0 V to 2.5 V
Power dissipation (P_D)	340 mW
Maximum junction temperature (T_J)	+150°C
Storage temperature range	-65°C to +150°C
Lead temperature (soldering 60 seconds)	+300°C
Thermal resistance, junction to case (θ_{JC})	38°C/W
Thermal resistance, junction to ambient (θ_{JA})	64°C/W 2/

1.4 Recommended operating conditions.

Supply voltage (VPS1, VPS2)	2.7 to 5.25 V
Ambient operating temperature range (T_A)	-55°C to +125°C

1.5 Radiation features:

Device type 01:	
Maximum total dose available (dose rate = 50 – 300 rad(Si)/s)	100 krad(Si) 3/
Device type 02:	
Maximum total dose available (dose rate ≤ 10 mrad(Si)/s)	50 krad(Si) 4/

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and handbooks. The following specification, standards, and handbooks form a part of this drawing to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-PRF-38535 - Integrated Circuits, Manufacturing, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-883 - Test Method Standard Microcircuits.
MIL-STD-1835 - Interface Standard Electronic Component Case Outlines.

DEPARTMENT OF DEFENSE HANDBOOKS

MIL-HDBK-103 - List of Standard Microcircuit Drawings.
MIL-HDBK-780 - Standard Microcircuit Drawings.

(Copies of these documents are available online at https://quicksearch.dla.mil/.)

1/ Stresses above the absolute maximum rating may cause permanent damage to the device. Extended operation at the maximum levels may degrade performance and affect reliability.
2/ Measurement taken under absolute worst case conditions of still air.
3/ These parts may be dose rate sensitive in a space environment and may demonstrate enhanced low dose rate effects. Radiation end point limits for the noted parameters are guaranteed only for the conditions as specified in MIL-STD-883, method 1019, condition A.
4/ For device type 02, radiation end point limits for the noted parameters are guaranteed for the conditions specified in MIL-STD-883, method 1019, condition D.

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements for device classes Q and V shall be in accordance with MIL-PRF-38535 as specified herein, or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein for device classes Q and V.

3.2.1 Case outlines. The case outlines shall be in accordance with 1.2.4 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 1.

3.2.3 Block diagram. The block diagram shall be as specified on figure 2.

3.2.4 Radiation exposure circuit. The radiation exposure circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing and acquiring activity upon request.

3.3 Electrical performance characteristics and postirradiation parameter limits. Unless otherwise specified herein, the electrical performance characteristics and postirradiation parameter limits are as specified in table I and shall apply over the full ambient operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table IIA. The electrical tests for each subgroup are defined in table I.

3.5 Marking. The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked. For packages where marking of the entire SMD PIN number is not feasible due to space limitations, the manufacturer has the option of not marking the "5962-" on the device. For RHA product using this option, the RHA designator shall still be marked. Marking for device classes Q and V shall be in accordance with MIL-PRF-38535.

3.5.1 Certification/compliance mark. The certification mark for device classes Q and V shall be a "QML" or "Q" as required in MIL-PRF-38535.

3.6 Certificate of compliance. For device classes Q and V, a certificate of compliance shall be required from a QML-38535 listed manufacturer in order to supply to the requirements of this drawing (see 6.6.1 herein). The certificate of compliance submitted to DLA Land and Maritime-VA prior to listing as an approved source of supply for this drawing shall affirm that the manufacturer's product meets, for device classes Q and V, the requirements of MIL-PRF-38535 and herein.

3.7 Certificate of conformance. A certificate of conformance as required for device classes Q and V in MIL-PRF-38535 shall be provided with each lot of microcircuits delivered to this drawing.

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 800 MHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-11	-4	dBm
				5		-11	-4	
				6		-11	-4	
			M, D, P, L, R	4	01	-11	4	
			M, D, P, L	4	02	-11	4	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-28	dBc
				5			-28	
				6			-30	
			M, D, P, L, R	4	01		-28	
			M, D, P, L	4	02		-28	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-46	dBc
				5			-49	
				6			-45	
			M, D, P, L, R	4	01		-46	
			M, D, P, L	4	02		-46	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-49	dBc
				5			-48	
				6			-48	
			M, D, P, L, R	4	01		-49	
			M, D, P, L	4	02		-49	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued. V_{PS} = 5 V; f_{LO} = LO frequency = 800 MHz, LO input level = -6 dBm 4/								
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-45	dBc
				5			-47	
				6			-42	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband,		4	01, 02	-13	-6	dBm
		$f_{LO} - f_{BB}$		5		-18	-8	
				6		-13	-6	
			M, D, P, L, R	4	01	-13	-6	
			M, D, P, L	4	02	-13	-6	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section - continued.		V_{PS} = 5 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -6 dBm 4/						
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-46	
				6			-46	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-46	dBc
				5			-50	
				6			-41	
			M, D, P, L, R	4	01		-46	
			M, D, P, L	4	02		-46	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-16	-7	dBm
				5		-23	-10	
				6		-14	-7	
			M, D, P, L, R	4	01	-16	-7	
			M, D, P, L	4	02	-16	-7	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-34	dBm
				5			-35	
				6			-34	
			M, D, P, L, R	4	01		-34	
			M, D, P, L	4	02		-34	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section - continued.		V_{PS} = 5 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -6 dBm 4/						
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-45	dBc
				5			-42	
				6			-42	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-48	dBc
				5			-47	
				6			-43	
			M, D, P, L, R	4	01		-48	
			M, D, P, L	4	02		-48	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 800 MHz, LO input level = -12 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-11	-4	dBm
				5		-11	-4	
				6		-11	-4	
			M, D, P, L, R	4	01	-11	4	
			M, D, P, L	4	02	-11	4	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 5 V; f_{LO} = LO frequency = 800 MHz, LO input level = -12 dBm 4/						
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-28	dBc
				5			-28	
				6			-30	
			M, D, P, L, R	4	01		-28	
			M, D, P, L	4	02		-28	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-42	dBc
				5			-45	
				6			-45	
			M, D, P, L, R	4	01		-42	
			M, D, P, L	4	02		-42	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-45	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-45	dBc
				5			-48	
				6			-43	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -12 dBm 4/ 5/						
Output power	P_{OUT}	Single (lower) sideband,		4	01, 02	-13	-6	dBm
		$f_{LO} - f_{BB}$		5		-26	-10	
				6		-13	-6	
			M, D, P, L, R	4	01	-13	-6	
			M, D, P, L	4	02	-13	-6	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section - continued.		V_{PS} = 5 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -12 dBm 4/ 5/						
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-38	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-42	dBc
				5			-41	
				6			-42	
			M, D, P, L, R	4	01		-42	
			M, D, P, L	4	02		-42	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-49	dBc
				5			-49	
				6			-43	
			M, D, P, L, R	4	01		-49	
			M, D, P, L	4	02		-49	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section.		V_{PS} = 5 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -12 dBm 4/ 5/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-17	-8	dBm
				5		-32	-15	
				6		-15	-8	
			M, D, P, L, R	4	01	-17	-8	
			M, D, P, L	4	02	-17	-8	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-40	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-43	dBc
				5			-40	
				6			-40	
			M, D, P, L, R	4	01		-43	
			M, D, P, L	4	02		-43	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-42	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 5 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -12 dBm 4/ 5/						
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-47	dBc
				5			-43	
				6			-45	
			M, D, P, L, R	4	01		-47	
			M, D, P, L	4	02		-47	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 800 MHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-11	-4	dBm
				5		-11	-4	
				6		-11	-4	
			M, D, P, L, R	4	01	-11	4	
			M, D, P, L	4	02	-11	4	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-28	dBc
				5			-28	
				6			-30	
			M, D, P, L, R	4	01		-28	
			M, D, P, L	4	02		-28	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-46	dBc
				5			-49	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 800 MHz, LO input level = -6 dBm 4/						
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-49	dBc
				5			-48	
				6			-48	
			M, D, P, L, R	4	01		-49	
			M, D, P, L	4	02		-49	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-40	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband,		4	01, 02	-13	-6	dBm
		$f_{LO} - f_{BB}$		5		-18	-8	
				6		-13	-6	
			M, D, P, L, R	4	01	-13	-6	
			M, D, P, L	4	02	-13	-6	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -6 dBm 4/						
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-45	
				6			-46	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-45	dBc
				5			-47	
				6			-41	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -6 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-17	-8	dBm
				5		-24	-11	
				6		-15	-8	
			M, D, P, L, R	4	01	-17	-8	
			M, D, P, L	4	02	-17	-8	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-34	dBm
				5			-36	
				6			-34	
			M, D, P, L, R	4	01		-34	
			M, D, P, L	4	02		-34	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section - continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -6 dBm 4/						
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-45	dBc
				5			-42	
				6			-42	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-43	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-47	dBc
				5			-47	
				6			-43	
			M, D, P, L, R	4	01		-47	
			M, D, P, L	4	02		-47	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 800 MHz, LO input level = -12 dBm 4/						
Output power	P_{OUT}	Single (lower) sideband,		4	01, 02	-11	-4	dBm
		$f_{LO} - f_{BB}$		5		-11	-4	
				6		-11	-4	
			M, D, P, L, R	4	01	-11	4	
			M, D, P, L	4	02	-11	4	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 800 MHz, LO input level = -12 dBm 4/						
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-35	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-28	dBc
				5			-28	
				6			-30	
			M, D, P, L, R	4	01		-28	
			M, D, P, L	4	02		-28	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-42	dBc
				5			-45	
				6			-45	
			M, D, P, L, R	4	01		-42	
			M, D, P, L	4	02		-42	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-45	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-45	dBc
				5			-44	
				6			-41	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -12 dBm 4/ 5/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-14	-7	dBm
				5		-26	-10	
				6		-14	-7	
			M, D, P, L, R	4	01	-14	-7	
			M, D, P, L	4	02	-14	-7	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-38	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-42	dBc
				5			-41	
				6			-42	
			M, D, P, L, R	4	01		-42	
			M, D, P, L	4	02		-42	
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-43	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section - continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 1.9 GHz, LO input level = -12 dBm 4/ 5/						
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-48	dBc
				5			-49	
				6			-43	
			M, D, P, L, R	4	01		-48	
			M, D, P, L	4	02		-48	
RF OUTPUT section.		V_{PS} = 3 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -12 dBm 4/ 5/						
Output power	P_{OUT}	Single (lower) sideband, $f_{LO} - f_{BB}$		4	01, 02	-18	-9	dBm
				5		-32	-15	
				6		-17	-9	
			M, D, P, L, R	4	01	-18	-9	
			M, D, P, L	4	02	-18	-9	
Carrier feedthrough	P_{FDTH}	f_{LO}		4	01, 02		-35	dBm
				5			-41	
				6			-35	
			M, D, P, L, R	4	01		-35	
			M, D, P, L	4	02		-35	
Sideband suppression	P_{SUPP}	$f_{LO} + f_{BB}$		4	01, 02		-25	dBc
				5			-25	
				6			-26	
			M, D, P, L, R	4	01		-25	
			M, D, P, L	4	02		-25	
Second lower harmonic	P_{2ndL}	$f_{LO} - 2f_{BB}$		4	01, 02		-43	dBc
				5			-40	
				6			-40	
			M, D, P, L, R	4	01		-43	
			M, D, P, L	4	02		-43	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
RF OUTPUT section – continued.		V_{PS} = 3 V; f_{LO} = LO frequency = 2.3 GHz, LO input level = -12 dBm 4/ 5/						
Second upper harmonic	P_{2ndU}	$f_{LO} + 2f_{BB}$		4	01, 02		-45	dBc
				5			-41	
				6			-45	
			M, D, P, L, R	4	01		-45	
			M, D, P, L	4	02		-45	
Third upper harmonic	P_{3rdU}	$f_{LO} + 3f_{BB}$		4	01, 02		-47	dBc
				5			-44	
				6			-44	
			M, D, P, L, R	4	01		-47	
			M, D, P, L	4	02		-47	
ENABLE input section.		V_{PS} = 3 V; V_{PS} = 5 V						
ENABLE high threshold voltage	V_{IH}			1, 2, 3	01, 02	2.0		V
			M, D, P, L, R	1	01	2.0		
			M, D, P, L	1	02	2.0		
ENBLE low threshold voltage	V_{IL}			1, 2, 3	01, 02		0.5	V
			M, D, P, L, R	1	01		0.5	
			M, D, P, L	1	02		0.5	
ENABLE low threshold current	I_{IL0V}	V_{IL} = 0 V		1, 2, 3	01, 02		1	µA
			M, D, P, L, R	1	01		1	
			M, D, P, L	1	02		1	
ENABLE low threshold current	$I_{IL0.5V}$	V_{IL} = 0.5 V		1, 2, 3	01, 02		10	µA
			M, D, P, L, R	1	01		10	
			M, D, P, L	1	02		10	
ENABLE high threshold current	I_{IH2V}	V_{IH} = 2 V		1, 2, 3	01, 02		60	µA
			M, D, P, L, R	1	01		60	
			M, D, P, L	1	02		60	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits Min	Limits Max	Unit
ENABLE input section – continued.		V_{PS} = 3 V; V_{PS} = 5 V						
ENABLE high threshold current	I_{IH3V}	$V_{IH} = V_{PS}$ = 3 V		1, 2, 3	01, 02		100	µA
			M, D, P, L, R	1	01		100	
			M, D, P, L	1	02		100	
ENABLE high threshold current	I_{IH5V}	$V_{IH} = V_{PS}$ = 5 V		1, 2, 3	01, 02		180	µA
			M, D, P, L, R	1	01		180	
			M, D, P, L	1	02		180	
ENABLE turn on time 6/ 7/	t_{ON}	See 4.4.1c		9, 11	01, 02		3	µs
				10			8	
ENABLE turn off time 6/ 7/	t_{OFF}	See 4.4.1c		9, 11	01, 02		15	µs
				10			20	
Modulation input section		V_{PS} = 3 V; V_{PS} = 5 V						
Input resistance 6/ 7/	R_{IN}	See 4.4.1d		1, 2, 3	01, 02	12	15	kΩ
Modulation bandwidth 6/ 7/	BW	-3 dB, see 4.4.1d		4, 5, 6	01, 02	30		MHz
Power supply section								
3 V positive supply current	I_{PS3V}	VPS = 3 V, ENABLE = 2 V		1	01, 02	33	53	mA
				2		40	60	
				3		24	44	
			M, D, P, L, R	1	01	33	53	
			M, D, P, L	1	02	33	53	
5 V positive supply current	I_{PS5V}	V_{PS} = 5 V, ENABLE = 2 V		1	01, 02	35	55	mA
				2		42	62	
				3		25	45	
			M, D, P, L, R	1	01	35	55	
			M, D, P, L	1	02	35	55	

See footnotes at end of table.

TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions 1/ 2/ 3/ $-55°C \le T_A \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits		Unit
						Min	Max	
Power supply section – continued.								
Maximum positive supply current	I_{PSmax}	V_{PS} = 5.25 V, ENABLE = 2 V		1	01, 02	35	55	mA
				2		42	62	
				3		25	45	
			M, D, P, L, R	1	01	35	55	
			M, D, P, L	1	02	35	55	
Standby positive supply current	$I_{Standby}$	V_{PS} = 3 V; V_{PS} = 5 V; ENABLE = 0.5 V		1, 2, 3	01, 02		20	µA
			M, D, P, L, R	1	01		20	
			M, D, P, L	1	02		20	

1/ Unless otherwise specified, f_{LO} = local oscillator (LO) frequency = 1.9 GHz, LO input level = -10 dBm; BB frequency = 1MHz; BB inputs are dc-biased to 1.2 V; BB input level = 1 V_{p-p} each pin for 2 V_{p-p} differential drive; VPS1 = VPS2 = V_{PS}, LO source and RF output load impedances are 50 Ω, dBm units are referenced to 50 Ω unless otherwise noted.

2/ Device type 01 supplied to this drawing has been characterized through all levels M, D, P, L, R of irradiation. Device type 02 supplied to this drawing has been characterized through all levels M, D, P, L of irradiation. However, device type 01 is only tested at the "R" level and device type 02 is only tested at the "L" level. Pre and Post irradiation values are identical unless otherwise specified in Table I. When performing post irradiation electrical measurements for any RHA level, T_A = +25°C.

3/ For device type 01, this part may be dose rate sensitive in a space environment and may demonstrate enhanced low dose rate effects. Radiation end point limits for the noted parameters are guaranteed only for the conditions specified in MIL-STD-883, method 1019, condition A for device type 01 and condition D for device type 02. Device type 02, has been tested at low dose rate.

4/ f_{LO} = 2.5 GHz operation is achievable but not production tested. Contact manufacturer for more information.

5/ For increased subgroup 5 output power at f_{LO} = 1.9 GHz and f_{LO} = 2.3 GHz, use LO input level of -6 dBm.

6/ Not tested post irradiation.

7/ Parameter tested as part of device initial characterization and after design and process changes. BB input level = 0.9 Vp-p each input for 1.8 Vp-p differential drive.

Device types	01 and 02
Case outlines	F and X
Terminal number	Test symbol
1	IBBP
2	IBBN
3	COM1
4	COM1
5	LOIN
6	LOIP
7	VPS1
8	ENBL
9	COM2
10	COM3
11	VOUT
12	VPS2
13	COM4
14	COM4
15	QBBN
16	QBBP

FIGURE 1. Terminal connections.

Terminal symbol	Type	Description
COM4	Ground	Ground pin for the baseband input voltage to current converters and mixer core.
IBBP	Analog input	I channel baseband positive input pin. Input should be DC-biased to 1.2 V. Nominal characterized AC swing is 1 V_{p-p} (0.7 V to 1.7 V). This makes the differential input 2 V_{p-p} when IBBN is 180 degrees out of phase from IBBP.
IBBN	Analog input	I channel baseband negative input pin. Input should be DC-biased to 1.2 V. Nominal characterized AC swing is 1 V_{p-p} (0.7 V to 1.7 V). This makes the differential input 2 V_{p-p} when IBBN is 180 degrees out of phase from IBBP.
COM1	Ground	Ground pin for the local oscillator (LO) phase splitter and LO buffers.
LOIN	Analog input	LO negative input pin. Internal dc bias (approximately VPS1 to 800 mV) is supplied. This pin must be AC-coupled.
LOIP	Analog input	LO positive input pin. Internal dc bias (approximately VPS1 to 800 mV) is supplied. This pin must be AC-coupled.
VPS1	Power	Power supply pin for the bias cell and LO buffers. This pin should be decoupled using local 100 pF and 0.01μF capacitors. Must be externally connected to VPS2.
ENBL	Digital input	Enable pin. A high level enables the device; a low level puts the device in sleep mode.
COM2	Ground	Ground pin for the input stage of the output amplifier.
COM3	Ground	Ground pin for the output stage of the output amplifier.
VOUT	Analog output	50 Ω DC-coupled RF output. User must provide AC coupling on this pin.
VPS2	Power	Power supply pin for baseband input voltage to current converters and mixer core. This pin should be decoupled using local 100 pF and 0.01 μF capacitors. Must be externally connected to VPS1.
QBBP	Analog input	Q channel baseband positive input pin. Input should be DC-biased to 1.2 V. Nominal characterized AC swing is 1 V_{p-p} (0.7 V to 1.7 V). This makes the differential input 2 V_{p-p} when QBBN is 180 degrees out of phase from QBBP.
QBBN	Analog input	Q channel baseband negative input pin. Input should be DC-biased to 1.2 V. Nominal characterized AC swing is 1 V_{p-p} (0.7 V to 1.7 V). This makes the differential input 2 V_{p-p} when QBBN is 180 degrees out of phase from QBBP.

FIGURE 1. Terminal connections – continued.

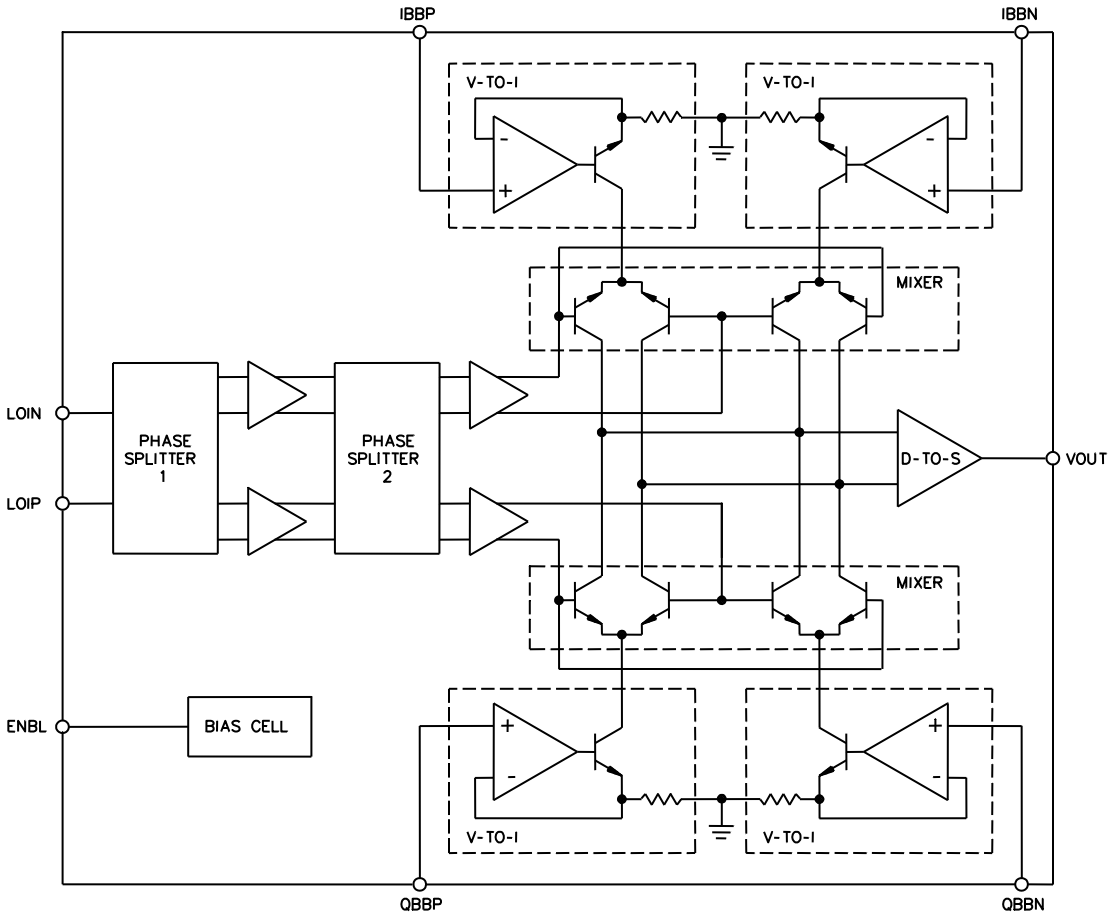


FIGURE 2. Block diagram.

4. VERIFICATION

4.1 Sampling and inspection. For device classes Q and V, sampling and inspection procedures shall be in accordance with MIL-PRF-38535 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

4.2 Screening. For device classes Q and V, screening shall be in accordance with MIL-PRF-38535, and shall be conducted on all devices prior to qualification and technology conformance inspection.

4.2.1 Additional criteria for device classes Q and V.

a. The burn-in test duration, test condition and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document revision level control of the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1015 of MIL-STD-883.

b. Interim and final electrical test parameters shall be as specified in table IIA herein.

c. Additional screening for device class V beyond the requirements of device class Q shall be as specified in MIL-PRF-38535, appendix B.

4.3 Qualification inspection for device classes Q and V. Qualification inspection for device classes Q and V shall be in accordance with MIL-PRF-38535. Inspections to be performed shall be those specified in MIL-PRF-38535 and herein for groups A, B, C, D, and E inspections (see 4.4.1 through 4.4.4).

4.4 Conformance inspection. Technology conformance inspection for classes Q and V shall be in accordance with MIL-PRF-38535 including groups A, B, C, D, and E inspections, and as specified herein.

4.4.1 Group A inspection.

a. Tests shall be as specified in table IIA herein.

b. Subgroups 7 and 8 in table I, method 5005 of MIL-STD-883 shall be omitted.

c. Subgroups 9, 10, and 11 are tested as part of device initial characterization and after design and process changes.

d. R_{IN} and BW are tested as part of device initial characterization and after design and process changes.

4.4.2 Group C inspection. The group C inspection end-point electrical parameters shall be as specified in table IIA herein.

4.4.2.1 Additional criteria for device classes Q and V. The steady-state life test duration, test condition and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The test circuit shall be maintained under document revision level control by the device manufacturer's TRB in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1005 of MIL-STD-883.

4.4.3 Group D inspection. The group D inspection end-point electrical parameters shall be as specified in table IIA herein.

TABLE IIA Electrical test requirements.

Test requirements	Subgroups (in accordance with MIL-PRF-38535, table III)	
	Device class Q	Device class V
Interim electrical parameters (see 4.2)	1	1
Final electrical parameters (see 4.2)	1, 2, 3, 1/ 4, 5, 6	1, 2, 3, 1/ 2/ 4, 5, 6
Group A test requirements (see 4.4)	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6
Group C end-point electrical parameters (see 4.4)	1, 2, 3, 4, 5, 6	1, 2, 3, 2/ 4, 5, 6
Group D end-point electrical parameters (see 4.4)	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6
Group E end-point electrical parameters (see 4.4)	1, 4	1, 4

1/ PDA applies to subgroup 1.
2/ Delta limits as specified in table IIB shall be required where specified, and the delta limits shall be completed with reference to the zero hour electrical parameters (see table I).

TABLE IIB. Burn-in and operating life test delta parameters. 1/ 2/

Parameters	Device type	Symbol	Test limits		Delta limits		Units
			Min	Max	Min	Max	
ENABLE low threshold current	01, 02	I_{IL0V}		1	-1	+1	µA
ENABLE low threshold current	01, 02	$I_{IL0.5V}$		10	-2	+2	µA
ENABLE high threshold current	01, 02	I_{IH2V}		60	-4	+4	µA
ENABLE high threshold current	01, 02	I_{IH3V}		100	-7	+7	µA
ENABLE high threshold current	01, 02	I_{IH5V}		180	-9	+9	µA
3 V positive supply current	01, 02	I_{PS3V}	33	53	-4	+4	mA
5 V positive supply current	01, 02	I_{PS5V}	35	55	-4	+4	mA
Maximum positive supply ENABLE high	01, 02	I_{PSmax}	35	55	-4	+4	mA
Positive supply current ENABLE low	01, 02	$I_{Standby}$		20	-4	+4	µA

1/ Deltas are performed at room temperature.
2/ 240 hour burn-in and 1,000 hour operating group C life test.

4.4.4 Group E inspection. Group E inspection is required only for parts intended to be marked as radiation hardness assured (see 3.5 herein).

a. End-point electrical parameters shall be as specified in table IIA herein.

b. For device classes Q and V, the devices or test vehicle shall be subjected to radiation hardness assured tests as specified in MIL-PRF-38535 for the RHA level being tested. All device classes must meet the postirradiation end-point electrical parameter limits as defined in table I at T_A = +25°C ±5°C, after exposure, to the subgroups specified in table IIA herein.

4.4.4.1 Total dose irradiation testing. Total dose irradiation testing shall be performed in accordance with MIL-STD-883 method 1019, condition A for device type 01, condition D for device type 02, and as specified herein.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38535 for device classes Q and V.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.

6.1.1 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor prepared specification or drawing.

6.2 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished using DD Form 1692, Engineering Change Proposal, or email communication.

6.3 Record of users. Military and industrial users should inform DLA Land and Maritime when a system application requires configuration control and which SMD's are applicable to that system. DLA Land and Maritime will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronic devices (FSC 5962) should contact DLA Land and Maritime-VA, telephone (614) 692-8108.

6.4 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-0591.

6.5 Abbreviations, symbols, and definitions. The abbreviations, symbols, and definitions used herein are defined in MIL-PRF-38535 and MIL-HDBK-1331.

6.6 Sources of supply.

6.6.1 Sources of supply for device classes Q and V. Sources of supply for device classes Q and V are listed in MIL-HDBK-103 and QML-38535. The vendors listed in MIL-HDBK-103 and QML-38535 have submitted a certificate of compliance (see 3.6 herein) to DLA Land and Maritime-VA and have agreed to this drawing.

STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 25-01-08

Approved sources of supply for SMD 5962-09227 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38535 during the next revision. MIL-HDBK-103 and QML-38535 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DLA Land and Maritime-VA. This information bulletin is superseded by the next dated revision of MIL-HDBK-103 and QML-38535. DLA Land and Maritime maintains an online database of all current sources of supply at https://landandmaritimeapps.dla.mil/programs/smcr/.

Standard microcircuit drawing PIN 1/	Vendor CAGE number	Vendor similar PIN 2/
5962R0922701VFA	3/	AD8346AF/QMLR
5962R0922701VXA	24355	AD8346AF/QMLR
5962L0922702VFA	3/	AD8346AF/QMLL
5962L0922702VXA	24355	AD8346AF/QMLL

1/ The lead finish shown for each PIN representing a hermetic package is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the vendor to determine its availability.
2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.
3/ Not available from an approved source of supply.

Vendor CAGE number	Vendor name and address
24355	Analog Devices Route 1 Industrial Park P.O. Box 9106 Norwood, MA 02062

The information contained herein is disseminated for convenience only and the Government assumes no liability whatsoever for any inaccuracies in the information bulletin.