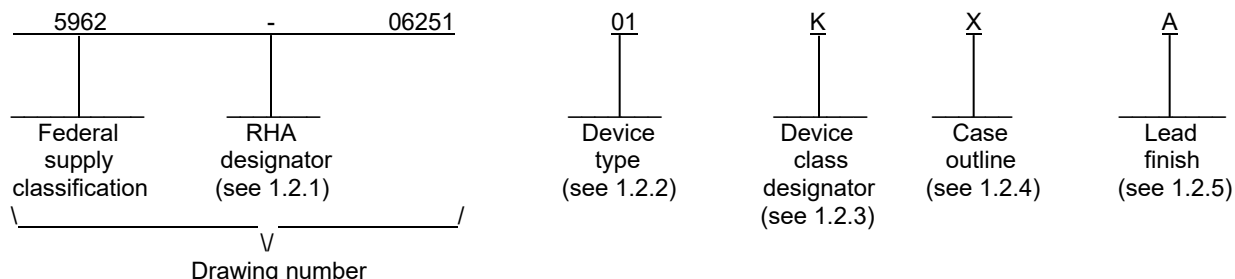


REVISIONS																						
LTR	DESCRIPTION										DATE (YR-MO-DA)				APPROVED							
C	Paragraph 1.3, added digital inputs limit. Table I under oscillator characteristics for the initial accuracy range for device type 02 change the min and max from 190 and 230 kHz to 201 and 217 kHz. For the frequency stability test for device type 02 change the max limit from $\pm 2.5\%$ to $\pm 3.8\%$. Added note 2 to figure 1 for case outline X and Y. Added note 3 to bulletin page. -sld										10-05-05				Charles F. Saffle							
D	Table I; under the Auxiliary amp characteristics change the test name "Output offset voltage" to "Input offset voltage". Figure 1; corrected case outline Y dimensions. Updated drawing paragraphs. -sld										10-11-09				Charles F. Saffle							
E	Updated drawing to the latest requirements of MIL-PRF-38534. -sld										16-12-13				Charles F. Saffle							
F	In figure 1, correct case outline Y lead thickness dimension c min and max from 0.0078 and 0.0090 inches to 0.0068 and 0.0092 inches. -rdc										19-04-03				Charles F. Saffle							
G	Make corrections to paragraph 1.3, 1.4 and Table I. Corrections throughout. -gc										22-08-18				James R. Eschmeyer							
																						
Revision Status of Sheets																						
REV																						
SHEET																						
REV	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G					
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				
PMIC N/A																						
STANDARD MICROCIRCUIT DRAWING THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE					PREPARED BY Steve Duncan					DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990 https://www.dla.mil/LandandMaritime												
					CHECKED BY Greg Cecil																	
					APPROVED BY Raymond Monnin					MICROCIRCUIT, HYBRID, PULSE WIDTH MODULATOR CONTROLLER, HIGH SPEED												
					DRAWING APPROVAL DATE 06-10-11																	
AMSC N/A					REVISION LEVEL G					SIZE A		CAGE CODE 67268			5962-06251							
										SHEET		1 OF 18										

1. SCOPE

1.1 Scope. This drawing documents five product assurance classes as defined in paragraph 1.2.3 and MIL-PRF-38534. 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 levels is reflected in the PIN.

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



1.2.1 Radiation hardness assurance (RHA) designator. RHA marked devices meet the MIL-PRF-38534 specified RHA levels and are marked with the appropriate RHA designator. A dash (-) indicates a non-RHA device.

1.2.2 Device type(s). The device type(s) identify the circuit function as follows:

Device type	Generic number	Circuit function
01	PWM5031	Pulse Width Modulator Controller, High Speed
02	PWM5032, PWM5034	Pulse Width Modulator Controller, High Speed

1.2.3 Device class designator. This device class designator is a single letter identifying the product assurance level. All levels are defined by the requirements of MIL-PRF-38534 and require QML Certification as well as qualification (Class H, K, and E) or QML Listing (Class G and D). The product assurance levels are as follows:

Device class	Device performance documentation
K	Highest reliability class available. This level is intended for use in space applications.
H	Standard military quality class level. This level is intended for use in applications where non-space high reliability devices are required.
G	Reduced testing version of the standard military quality class. This level uses the Class H screening and In-Process Inspections with a possible limited temperature range, manufacturer specified incoming flow, and the manufacturer guarantees (but may not test) periodic and conformance inspections (Group A, B, C and D).
E	Designates devices which are based upon one of the other classes (K, H, or G) with exception(s) taken to the requirements of that class. These exception(s) must be specified in the device acquisition document; therefore the acquisition document should be reviewed to ensure that the exception(s) taken will not adversely affect system performance.
D	Manufacturer specified quality class. Quality level is defined by the manufacturers internal, QML certified flow. This product may have a limited temperature range.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **2**

1.2.4 Case outline(s). The case outline(s) are as designated in MIL-STD-1835 and as follows:

<u>Outline letter</u>	<u>Descriptive designator</u>	<u>Terminals</u>	<u>Package style</u>
X	See figure 1	24	Flat package
Y	See figure 1	24	Flat package (straight leads)

1.2.5 Lead finish. The lead finish is as specified in MIL-PRF-38534.

1.3 Absolute maximum ratings. ^{1/}

Supply voltage (V_{CC})	+7.0 V dc
DRV P supply voltage:	
Device type 01	+7.0 V dc
Device type 02	+14.0 V dc
Power dissipation (P_D) $T_A = +25^\circ\text{C}$	500 mW
Junction temperature	+135°C
Steady state output current	± 50 mA
Peak output current (internally limited)	± 1.0 A
Analog input voltage range pins 5, 6, 13, and 14	$V_{EE} - 0.5$ V to $V_{CC} + 0.5$ V
Digital inputs	-0.5 V to $V_{CC} + 0.5$ V
Storage temperature range	-65°C to +150°C
Lead temperature (soldering, 10 seconds)	+300°C

1.4 Recommended operating conditions.

Supply voltage range (V_{CC})	+4.5 V dc to +5.5 V dc
Output drive voltage:	
Device type 01	+5.0 V maximum
Device type 02	+12.0 V maximum
Quiescent current:	
Device type 01	+5.8 mA maximum
Device type 02	+7.8 mA maximum
Thermal resistance (T_{JC})	6.0°C/W
Output duty cycle maximum:	
50% pin, pin 2 = logic 0	97% at 100% duty cycle
50% pin, pin 2 = logic 1	50% at 50% duty cycle
Sleep mode	20 μ A maximum
Case operating temperature range (T_C)	-55°C to +125°C

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 SPECIFICATIONS

MIL-PRF-38534 - Hybrid Microcircuits, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-883 - Test Method Standard Microcircuits.

MIL-STD-1835 - Interface Standard for Electronic Component Case Outlines.

^{1/} Stresses above the absolute maximum ratings may cause permanent damage to the device. Extended operation at maximum levels may degrade performance and affect reliability.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-06251
		REVISION LEVEL G	SHEET 3

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/>.)

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 performance requirements for device classes D, E, G, H, and K shall be in accordance with MIL-PRF-38534. Compliance with MIL-PRF-38534 shall include the performance of all tests herein or as designated in the device manufacturer's Quality Management (QM) plan or as designated for the applicable device class. The manufacturer may eliminate, modify or optimize the tests and inspections herein, however the performance requirements as defined in MIL-PRF-38534 shall be met for the applicable device class. In addition, the modification in the QM plan shall not affect the form, fit, or function of the device for the applicable device class.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38534 and herein.

3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.4 herein and figure 1.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 2.

3.2.3 Truth table(s). The truth table(s) shall be as specified on figure 3.

3.2.4 Block diagram(s). The block diagram(s) shall be as specified on figure 4.

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

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

3.5 Marking of device(s). Marking of device(s) shall be in accordance with MIL-PRF-38534. The device shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's vendor similar PIN may also be marked.

3.6 Data. In addition to the general performance requirements of MIL-PRF-38534, the manufacturer of the device described herein shall maintain the electrical test data (variables format) from the initial quality conformance inspection group A lot sample, for each device type listed herein. Also, the data should include a summary of all parameters manually tested, and for those which, if any, are guaranteed. This data shall be maintained under document revision level control by the manufacturer and be made available to the preparing activity (DLA Land and Maritime -VA) upon request.

3.7 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to supply to this drawing. The certificate of compliance (original copy) submitted to DLA Land and Maritime -VA shall affirm that the manufacturer's product meets the performance requirements of MIL-PRF-38534 and herein.

3.8 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38534 shall be provided with each lot of microcircuits delivered to this drawing.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38534 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.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-06251
		REVISION LEVEL G	SHEET 4

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _A ≤ +125°C +4.5 V ≤ V _{CC} ≤ +5.5 V unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Reference characteristics							
Reference voltage		I _O = -1 mA, T _A = +25°C	1	01,02	2.993	3.13	V
Line regulation			1,2,3	01,02		±0.12	%
Load regulation <u>2/</u>		0 ≤ I/O ≤ 3 mA	1,2,3	01,02		±0.075	%
Thermal regulation			1,2,3	01,02		±1.6	%
Output short circuit <u>2/</u>			1,2,3	01,02		-40	mA
Oscillator characteristics							
Initial accuracy range			1,2,3	01	208.5	219	KHz
				02	197	214	
Frequency range <u>2/</u>			1,2,3	01,02	20	1,000	KHz
Frequency stability (part to part) <u>2/</u>			1,2,3	01		±2.5	%
				02		±3.8	
Temperature stability <u>2/</u>		T _{MIN} ≤ T _A ≤ T _{MAX}	1,2,3	01,02	-2	+5	%
RSET range <u>2/</u>			1,2,3	01,02	50		KΩ
CSET range <u>2/</u>			1,2,3	01,02		600	pF
Error amp characteristics							
Input offset voltage <u>2/</u>			1,2,3	01,02	-3.3	3.3	mV
Input common mode voltage range <u>2/</u>			1,2,3	01,02	V _{EE} +0.2	V _{CC} -0.2	V
Input bias current <u>2/</u>			1,2,3	01,02		-1.0	μA

See footnotes at end of table.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251SHEET **5**

TABLE I. Electrical performance characteristics -Continued .

Test	Symbol	Conditions <u>1/</u> -55°C ≤ TA ≤+125°C +4.5 V ≤ VCC ≤ +5.5 V unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Error amp characteristics - Continued							
Open loop voltage gain <u>2/</u>	AVOL		1,2,3	01,02	100		dB
Unity gain bandwidth <u>2/</u>			1,2,3	01,02	1.0		MHz
Power supply rejection <u>2/</u> ratio	PSRR		1,2,3	01,02	60		dB
Output sink current <u>2/</u>		VFB = 3.0 V, VSOFT = 1.1 V	1,2,3	01,02		+10	mA
Output source current <u>2/</u>		VFB = 2.0 V, VSOFT = 5 V	1,2,3	01,02		-28	mA
VOUT high (limited by <u>2/</u> VSOFT)		VFB = 2.0 V, RL = 15K to GND	1,2,3	01,02	VSOFT - 0.2		V
VOUT low <u>2/</u>		VFB = 3.0 V, RL = 15K to +5 V	1,2,3	01,02		VEE +0.2	V
Gain (VCOMP/VISENSE) <u>2/</u>			1,2,3	01,02	2.85	3.15	V
Current sense characteristics							
Input offset voltage <u>2/</u>			1,2,3	01,02		3.3	mV
Common mode input <u>2/3/</u> voltage		VSOFT = +5 V	1,2,3	01,02		1.0	V
Input bias current <u>2/</u>			1,2,3	01,02		1.0	μA
ISENSE to output delay <u>2/</u>			9,10,11	01,02		100	ns
Output characteristics							
Output low level		ISINK = 1.0 mA, DRVP = +5 V	1,2,3	01		0.1	V
		ISINK = 50 mA, DRVP = +5 V		01		.6	V
Output high level		ISOURCE = 1.0 mA, DRVP = +5 V	1,2,3	01	4.9		V
		ISOURCE = 50 mA, DRVP = +5 V		01	4.6		V

See footnotes at end of table.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251SHEET **6**

TABLE I. Electrical performance characteristics -Continued .

Test	Symbol	Conditions <u>1/</u> -55°C ≤ T _A ≤ +125°C +4.5 V ≤ V _{CC} ≤ +5.5 V unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Output characteristics - Continued							
Output low level		I _{SINK} = 1.0 mA, DRVP = +12 V	1,2,3	02		0.16	V
		I _{SINK} = 50 mA, DRVP = +12 V		02		.63	
Output high level		I _{SOURCE} = 1.0 mA, DRVP = +12 V	1,2,3	02	11.8		V
		I _{SOURCE} = 50 mA, DRVP = +12 V		02	11.2		V
Peak output current <u>2/</u>			1,2,3	01,02	±1		A
Steady state output current		DRVP = +5 V, V _{OUT} = 4.25 V	1,2,3	01,02		±50	mA
Rise time <u>2/</u>	t _R	T _A = +25°C, C _L = 20 pF, DRVP = +5 V	9	01,02		18	ns
Fall time <u>2/</u>	t _F	T _A = +25°C, C _L = 20 pF, DRVP = +5 V	9	01,02		28	ns
Enable output off delay <u>2/</u>			9	01,02		100	ns
Sleep output off delay <u>2/</u>			9	01,02		100	ns
Under voltage output off delay <u>2/</u>			9	01,02		100	ns
Auxiliary amp characteristics							
Input offset voltage			1,2,3	01,02	-3.5	3.5	mV
Input common mode <u>2/</u> voltage range		Off V _{EE} or V _{CC} rail	1,2,3	01,02	V _{EE} +0.2	V _{CC} -0.2	V
Input bias current <u>2/</u>			1,2,3	01,02		1.0	μA
Open loop voltage gain <u>2/</u>	AVOL	f = 40 KHz, 2 V ≤ V _O ≤ 4 V	1,2,3	01,02	100		dB
Unity gain bandwidth <u>2/</u>			1,2,3	01,02	1.0		MHz

See footnotes at end of table.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251SHEET **7**

TABLE I. Electrical performance characteristics -Continued .

Test	Symbol	Conditions <u>1/</u> -55°C ≤ TA ≤ +125°C +4.5 V ≤ V _{CC} ≤ +5.5 V unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Auxiliary amp characteristics - Continued.							
Power supply rejection <u>2/</u> ratio	PSRR		1,2,3	01,02	60		dB
Output sink current <u>2/</u>		V _{PIN} < V _{NIN} , ENAUX = HI	1,2,3	01,02		+45	mA
Output source current <u>2/</u>		V _{PIN} > V _{NIN} , ENAUX = HI	1,2,3	01,02		-28	mA
V _{OUT} High		V _{PIN} > V _{NIN} , ENAUX = HI, I _O = 2 mA	1,2,3	01,02	V _{CC} -0.32		
V _{OUT} Low		V _{PIN} < V _{NIN} , ENAUX = LO, I _O = 2 mA	1,2,3	01,02		V _{EE} +0.2	
Under-voltage lockout characteristics							
Start threshold			1,2,3	01,02	3.9	4.6	V
Operating voltage after turn-on			1,2,3	01,02	3.35	4.0	V
Digital inputs characteristics							
Voltage input low <u>2/</u>	V _{IL}		1,2,3	01,02		0.8	V
Voltage input high <u>2/</u>	V _{IH}		1,2,3	01,02	2.0		V
Input leakage current <u>2/</u>	I _{LI}		1,2,3	01,02		100	nA
Digital output (PWROK) characteristics							
Voltage output low	V _{OL}	I _{OL} = 1.6 mA	1,2,3	01,02		V _{EE} + 0.3	V
Voltage output high	V _{OH}	I _{OH} = -1.6 mA	1,2,3	01,02	V _{CC} - 0.6		V
Functional testing							
Functional testing		See 4.3.1c	7,8A,8B	01,02			

1/ All voltages are with respect to pin 12. All currents are positive into the specified pin.2/ Parameters are guaranteed by design, but not tested.3/ Parameter measured at trip point of latch with V_{FB} = 0.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **8**

Case outline X.

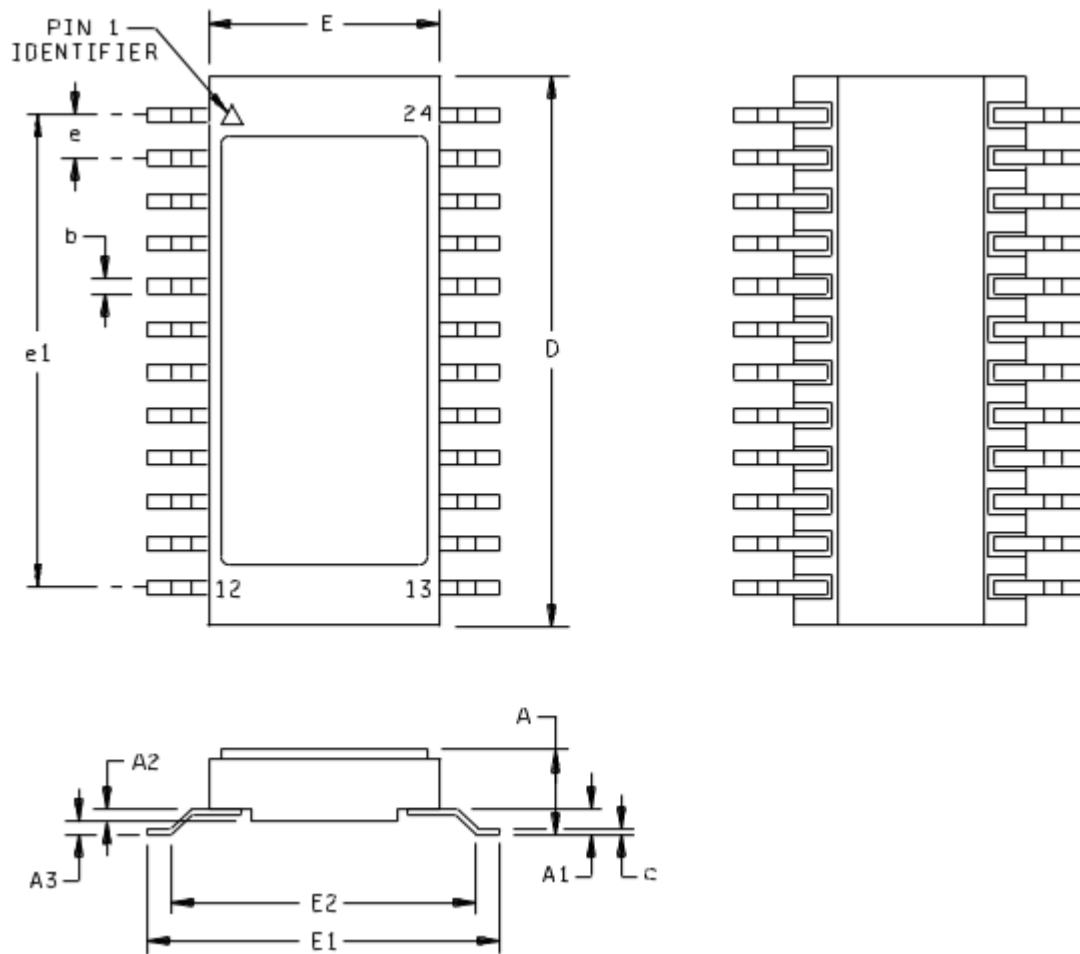


FIGURE 1. Case outline

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **9**

Case outline X - Continued.

Symbol	Millimeters		Inches	
	Minimum	Maximum	Minimum	Maximum
A		3.30		.130
A1	.76 REF		.030 REF	
A2	.43	.69	.017	.027
A3		.30		.012
b	.38	.48	.015	.019
c	.173	.234	.0068	.0092
D		15.60		.614
e	1.27 BSC		.050 BSC	
e1	13.82	14.12	.544	.556
E		7.62		.300
E1	10.01	10.64	.394	.419
E2	8.99 REF		.354 REF	

NOTES:

1. The U.S. preferred system of measurement is the metric SI. This item was designed using inch-pound units of measurement. In case of problems involving conflicts between the metric and inch-pound units, the inch-pound units shall rule.
2. The lid is electrically connected to pin 12.

FIGURE 1. Case outline - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-06251
		REVISION LEVEL G	SHEET 10

Case outline Y

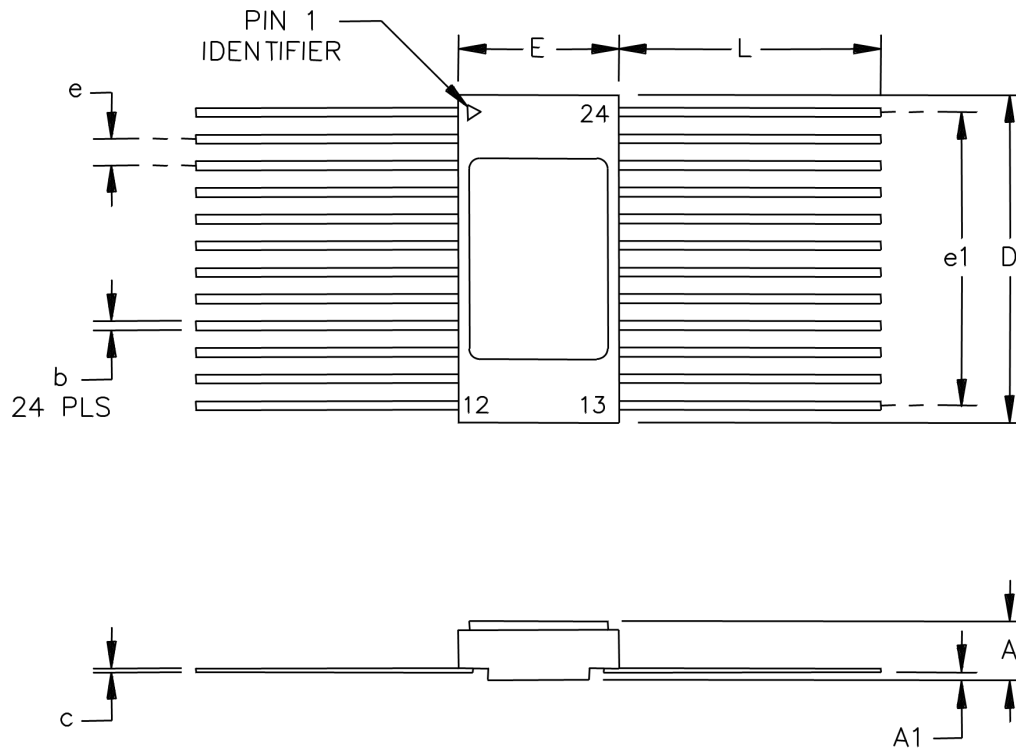


FIGURE 1. Case outline - Continued.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **11**

Case outline Y - Continued.

Symbol	Millimeters		Inches	
	Minimum	Maximum	Minimum	Maximum
A		2.79		.110
A1	.30	.40	.012	.016
b	.38	.48	.015	.019
c	.173	.234	.0068	.0092
D		15.59		.614
e	1.27 BSC		.050 BSC	
e1	13.84	14.09	.545	.555
E		7.62		.300
L	12.06	12.82	.475	.505

NOTES:

1. The U.S. preferred system of measurement is the metric SI. This item was designed using inch-pound units of measurement. In case of problems involving conflicts between the metric and inch-pound units, the inch-pound units shall rule.
2. The lid is electrically connected to pin 12.

FIGURE 1. Case outline - Continued.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-06251
		REVISION LEVEL G	SHEET 12

Device types	01and 02
Case outlines	X and Y
Terminal number	Terminal symbol
1	V _{CC}
2	50%
3	SLEEP
4	COMP
5	V _{FB}
6	ISENSE
7	SOFT
8	CSET
9	RSET
10	PWROK
11	V _{REF}
12	V _{EE}
13	NIN
14	PIN
15	A OUT
16	EN AUX
17	EN
18	DRV N
19	DRV N
20	OUT B
21	OUT A
22	DRV P
23	DRV P
24	V _{CC}

NOTE: The pin functions shall be as specified in Table III herein.

FIGURE 2. Terminal connections.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **13**

INPUTS			OUTPUTS				
Sleep	EN	ENAUx	OUT A and B	AOUT	COMP	PWROK	V _{REF}
0	0	0	0	0	0	Active	3 V dc
0	0	1	0	Active	0	Active	3 V dc
0	1	0	Active	0	Active	Active	3 V dc
0	1	1	Active	Active	Active	Active	3 V dc
1	X	X	0	0	0	0	0

Note: X = Don't care.

FIGURE 3. Truth table.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **14**

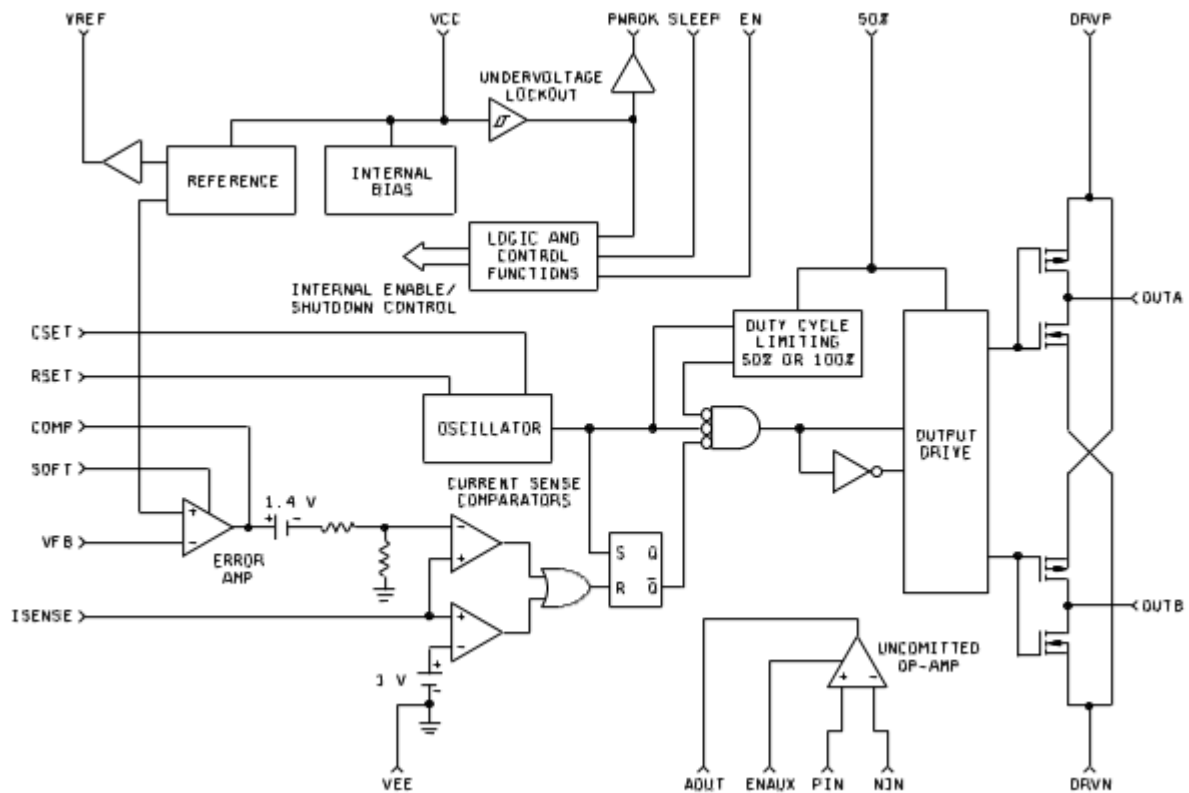


FIGURE 4. Block diagram.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **15**

TABLE II. Electrical test requirements.

MIL-PRF-38534 test requirements	Subgroups (in accordance with MIL-PRF-38534, group A test table)
Interim electrical parameters	1,2,3,7,8,9,10,11
Final electrical parameters	1*,2,3,7,8,9,10,11
Group A test requirements	1,2,3,7,8,9,10,11
Group C end-point electrical parameters	1,2,3,7,8,9,10,11
End-point electrical parameters for Radiation Hardness Assurance (RHA) devices	Not applicable

* PDA applies to subgroup 1.

4.2 Screening. Screening shall be in accordance with MIL-PRF-38534. The following additional criteria shall apply:

- a. Burn-in test, method 1015 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DLA Land and Maritime -VA or the acquiring activity upon request. Also, 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.
 - (2) TA as specified in accordance with table I of method 1015 of MIL-STD-883.
- b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 Conformance and periodic inspections. Conformance inspection (CI) and periodic inspection (PI) shall be in accordance with MIL-PRF-38534 and as specified herein.

4.3.1 Group A inspection (CI). Group A inspection shall be in accordance with MIL-PRF-38534 and as follows:

- a. Tests shall be as specified in table II herein.
- b. Subgroups 4, 5, and 6 shall be omitted.
- c. Subgroups 7 and 8 shall include verification of the truth table in figure 3.

4.3.2 Group B inspection (PI). Group B inspection shall be in accordance with MIL-PRF-38534.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **16**

4.3.3 Group C inspection (PI). Group C inspection shall be in accordance with MIL-PRF-38534 and as follows:

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Steady-state life test, method 1005 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to either DLA Land and Maritime -VA or the acquiring activity upon request. Also, 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.
 - (2) TA as specified in accordance with table I of method 1005 of MIL-STD-883.
 - (3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

4.3.4 Group D inspection (PI). Group D inspection shall be in accordance with MIL-PRF-38534.

4.3.5 Radiation Hardness Assurance (RHA) inspection. RHA inspection is not currently applicable to this drawing

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38534.

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.

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

6.3 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.

6.4 Record of users. Military and industrial users should inform DLA Land and Maritime when a system application requires configuration control and the applicable SMD 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.

6.5 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-1081.

6.6 Sources of supply. Sources of supply are listed in MIL-HDBK-103 and QML-38534. The vendors, listed in MIL-HDBK-103 and QML-38534, have submitted a certificate of compliance (see 3.7 herein) to DLA Land and Maritime-VA and have agreed to this drawing.

STANDARD MICROCIRCUIT DRAWING DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990	SIZE A		5962-06251
		REVISION LEVEL G	SHEET 17

Table III. Pin Functions.

PIN	SIGNAL NAME	FUNCTION DESCRIPTION
1,24	V _{CC}	Logic Power.
2	50%	Input selects maximum duty cycle (50% or 100%). Logic "1" selects 50% maximum duty and Output B is the complement of Output A. Logic "0" selects 100% and Output A is in-phase with Output B.
3	SLEEP	This input shuts down all functions on chip when asserted (Active Hi).
4	COMP	Output of the error amplifier. Place compensation network from this pin to V _{FB} to stabilize converter.
5	V _{FB}	Negative input to the error amplifier.
6	ISENSE	Input current sense pin used for current mode control.
7	SOFT	This high impedance input is used to limit the error amplifier output voltage. Applying an RC circuit to this pin provides the standard soft start function. Pull the pin to ground to force zero duty cycle. This input is internally shorted to ground when ENABLE (pin 17) is low or SLEEP (pin 3) is high or an undervoltage is detected.
8	CSET	Works with RSET to establish oscillator free running frequency. Place capacitor from this input pin to ground. Can synchronize oscillator by overdriving this pin with an external frequency source.
9	RSET	Works with CSET to establish oscillator free running frequency. Place resistor from this input pin to ground.
10	PWROK	Logical output of UV lockout circuit, logic "1" indicates chip has valid V _{CC} .
11	VREF	Buffered 3 V output reference voltage.
12	V _{EE}	Logic Ground.
13	NIN	Auxiliary operational amplifier inverting input.
14	PIN	Auxiliary operational amplifier non-inverting input.
15	AOUT	Auxiliary operational amplifier output (Short circuit protected).
16	ENAUx	Input enable of auxiliary operational amplifier (Active Hi).
17	EN	Logic input that enables the oscillator and output drivers. Reference voltage remains valid (Active Hi).
18,19	DRVN	Output stage negative rail.
20	OUT B	Totem pole output B.
21	OUT A	Totem pole output A.
22,23	DRVP	Output stage positive rail.

**STANDARD
MICROCIRCUIT DRAWING**
DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

SIZE
A

REVISION LEVEL
G

5962-06251

SHEET **18**

STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 22-08-18

Approved sources of supply for SMD 5962-06251 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38534 during the next revision. MIL-HDBK-103 and QML-38534 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-38534. 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 <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>
5962-0625101KXA 5962-0625101KXC	<u>3/</u> <u>3/</u>	PWM5031-001-2S PWM5031-001-1S
5962-0625102KXA 5962-0625102KXC 5962-0625102KYC	88379 88379 88379	PWM5032-001-2S PWM5032-001-1S PWM5034-001-1S

- 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/ No longer available from approved source of supply.

Vendor CAGE
number

88379

Vendor name
and address

Cobham Advanced Electronic Solutions Inc.
35 South Service Road
Plainview, NY 11803-4193

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