REVISIONS			
LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED

REV																				
SHEET																				
REV																				
SHEET	15																			

REV STATUS OF SHEETS	REV													
	SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14

PMIC N/A

STANDARD MICROCIRCUIT DRAWING

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

AMSC N/A

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DRAWING APPROVAL DATE
95-11-15

REVISION LEVEL

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

MICROCIRCUIT, LINEAR, DUAL, 12-BIT MULTIPLYING DIGITAL-TO-ANALOG CONVERTER, MONOLITHIC SILICON

SIZE	CAGE CODE	
A	67268	5962-94518

SHEET 1 OF 15

DESC FORM 193
JUL 94

9004708 0015121 671

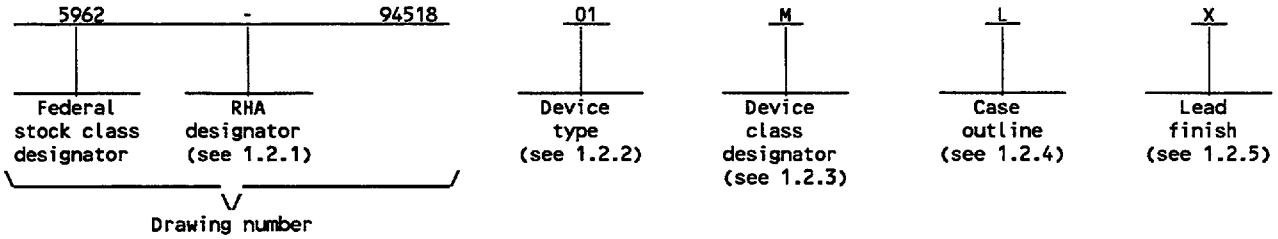
5962-E129-96

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

1. SCOPE

1.1 Scope. This drawing forms a part of a one part - one part number documentation system (see 6.6 herein). Two product assurance classes consisting of military high reliability (device classes Q and M) and space application (device class V), and a choice of case outlines and lead finishes are available and are reflected in the Part or Identifying Number (PIN). Device class M microcircuits represent non-JAN class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices". When available, a choice of Radiation Hardness Assurance (RHA) levels are reflected in the PIN.

1.2 PIN. The PIN shall be as shown in the following example:



1.2.1 RHA designator. Device class M RHA marked devices shall meet the MIL-I-38535 appendix A specified RHA levels and shall be marked with the appropriate RHA designator. Device classes Q and V RHA marked devices shall meet the MIL-I-38535 specified RHA levels and shall be marked with the appropriate RHA designator. A dash (-) indicates a non-RHA device.

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

Device type	Generic number	Circuit function
01	AD7837	Dual, 12-bit multiplying digital-to-analog converter
02	AD7847	Dual, 12-bit multiplying digital-to-analog converter

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

Device class	Device requirements documentation
M	Vendor self-certification to the requirements for non-JAN class B microcircuits in accordance with 1.2.1 of MIL-STD-883
Q or V	Certification and qualification to MIL-I-38535

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

Outline letter	Descriptive designator	Terminals	Package style
L	GDIP3-T24 or CDIP4-T24	24	Dual-in-line

1.2.5 Lead finish. The lead finish shall be as specified in MIL-STD-883 (see 3.1 herein) for class M or MIL-I-38535 for classes Q and V. Finish letter "X" shall not be marked on the microcircuit or its packaging. The "X" designation is for use in specifications when lead finishes A, B, and C are considered acceptable and interchangeable without preference.

1.3 Absolute maximum ratings. 1/

V_{DD} to DGND, AGNDA, AGNDB	-0.3 V to +17 V
V_{SS} to DGND, AGNDA, AGNDB	-0.3 V to -17 V 2/
V_{REFA}, V_{REFB} to AGNDA, AGNDB	V_{SS} -0.3 V to V_{DD} +0.3 V
AGNDA, AGNDB to DGND	-0.3 V to V_{DD} +0.3 V
V_{OUTA}, V_{OUTB} to AGNDA, AGNDB	V_{SS} -0.3 V to V_{DD} +0.3 V 3/
R_{FBA}, R_{FBB} to AGNDA, AGNDB	V_{SS} -0.3 V to V_{DD} +0.3 V 4/
Digital inputs to DGND	-0.3 V to V_{DD} +0.3 V
Storage temperature range	-65°C to +150°C
Lead temperature (soldering, 10 seconds)	+300°C
Power dissipation to +75°C	1000 mW 5/
Thermal resistance, junction-to-case (Θ_{JC})	See MIL-STD-1835

1.4 Recommended operating conditions.

Positive supply voltage (V_{DD})	+15 V
Negative supply voltage (V_{SS})	-15 V
Ambient temperature range (T_A)	-55°C to +125°C

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, bulletin, and handbook. Unless otherwise specified, the following specification, standards, bulletin, and handbook of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

MILITARY

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

STANDARDS

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.
MIL-STD-973 - Configuration Management.
MIL-STD-1835 - Microcircuit Case Outlines.

BULLETIN

MILITARY

MIL-BUL-103 - List of Standard Microcircuit Drawings (SMD's).

HANDBOOK

MILITARY

MIL-HDBK-780 - Standardized Military Drawings.

(Copies of the specification, standards, bulletin, and handbook required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

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/ If V_{SS} is open circuited with V_{DD} and either AGND applied, the V_{SS} pin will float positive, exceeding the absolute maximum ratings. If the possibilty exists, Schottky diode connected between V_{SS} and AGND (cathode to AGND) ensures the maximum rating will be observed.
3/ The outputs may be shorted to voltages in this range provided the power dissipation of the package is not exceeded.
4/ Device type 01 only.
5/ Derates above T_A = +75°C at 10 mW/°C.

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 shall take precedence.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements for device class M shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein. The individual item requirements for device classes Q and V shall be in accordance with MIL-I-38535 and as specified herein or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not effect 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-STD-883 (see 3.1 herein) for device class M and MIL-I-38535 for device classes Q and V and herein.

3.2.1 Case outline(s). The case outline(s) 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 Truth table(s). The truth table(s) shall be as specified on figure 2.

3.2.4 Block diagram(s). The block diagram(s) shall be as specified on figure 3.

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 II. 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. Marking for device class M shall be in accordance with MIL-STD-883 (see 3.1 herein). In addition, the manufacturer's PIN may also be marked as listed in MIL-BUL-103. Marking for device classes Q and V shall be in accordance with MIL-I-38535.

3.5.1 Certification/compliance mark. The compliance mark for device class M shall be a "C" as required in MIL-STD-883 (see 3.1 herein). The certification mark for device classes Q and V shall be a "QML" or "Q" as required in MIL-I-38535.

3.6 Certificate of compliance. For device class M, a certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.7.2 herein). 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 6.7.1 herein). The certificate of compliance submitted to DESC-EC prior to listing as an approved source of supply for this drawing shall affirm that the manufacturer's product meets, for device class M, the requirements of MIL-STD-883 (see 3.1 herein), or for device classes Q and V, the requirements of MIL-I-38535 and the requirements herein.

3.7 Certificate of conformance. A certificate of conformance as required for device class M in MIL-STD-883 (see 3.1 herein) or for device classes Q and V in MIL-I-38535 shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change for device class M. For device class M, notification to DESC-EC of change of product (see 6.2 herein) involving devices acquired to this drawing is required for any change as defined in MIL-STD-973.

3.9 Verification and review for device class M. For device class M, DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

3.10 Microcircuit group assignment for device class M. Device class M devices covered by this drawing shall be in microcircuit group number 81 (see MIL-I-38535, appendix A).

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Resolution	RES		1,2,3	All		12	Bits
Relative accuracy	RA		1,2,3	All		±1	LSB
Differential nonlinearity	DNL		1,2,3	All		±1	LSB
Zero code offset error	ZCOE	DAC latch loaded with all 0's	1	All		±2	mV
		t_{COE} = ±5 µV/°C	2,3			±5	
Gain error	GE	DAC latch loaded with all 1's	1	All		±5	LSB
		t_{COE} = ±2 ppm of FSR/°C	2,3			±7	
Input high voltage	V_{INH}		1,2,3	All	2.4		V
Input low voltage	V_{INL}		1,2,3	All		0.8	V
Input current	I_{IN}	Digital inputs at 0 V and V_{DD}	1,2,3	All		±1	µA
Positive supply voltage range	V_{DD}		1,2,3	All	14.75	15.75	V
Negative supply voltage range	V_{SS}		1,2,3	All	-14.75	-15.75	V
Power supply rejection ratio	+PSRR	V_{DD} = +14.25 to +15.75 V, V_{REF} = -10 V	1,2,3	All		±0.1	%
	-PSRR	V_{SS} = -14.25 to -15.75 V, V_{REF} = +10 V				±0.1	

See footnote at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Positive supply current	I_{DD}	Output unloaded	1,2,3	All		10	mA
Negative supply current	I_{SS}	Output unloaded	1,2,3	All		6	mA
V_{REF} input resistance	R_{VIN}		1,2,3	All	8	13	kΩ
V_{REFA}, V_{REFB} resistance matching	RM		1,2,3	All		±3	%
Input capacitance	C_{IN}	T_A = +25°C 2/	4	All		8	pF
Functional test		See 4.4.1b	7,8	All			
$\overline{CS}$ to $\overline{WR}$ setup time	t_1	3/ 4/	9,10,11	All	0		ns
$\overline{CS}$ to $\overline{WR}$ hold time	t_2	3/ 4/	9,10,11	All	0		ns
$\overline{WR}$ pulse width	t_3	3/ 4/	9 10,11	All	80 100		ns
Data valid to $\overline{WR}$ setup time	t_4	3/ 4/	9,10,11	All	80		ns
Data valid to $\overline{WR}$ hold time	t_5	3/ 4/	9,10,11	All	10		ns
Address to $\overline{WR}$ setup time	t_6	3/ 4/	9,10,11	01	15		ns
Address to $\overline{WR}$ hold time	t_7	3/ 4/	9,10,11	01	15		ns
$\overline{LDAC}$ pulse width	t_8	3/ 4/	9 10,11	01	80 100		ns

1/ Unless otherwise specified, V_{DD} = +15 V, V_{SS} = -15 V, AGNDA = AGNDB = DGND = 0 V, V_{REFA} = V_{REFB} = +10 V, R_L = 2 kΩ, and C_L = 100 pF. For device type 01, V_{OUT} is connected to R_{FB}.

2/ If not tested, shall be guaranteed to the limits specified in table I herein.

3/ All input signals are specified with t_R = t_F = 5 ns (10% to 90% of 5 V) and timed from a voltage level of 1.6 V.

4/ See figure 4.

Device types	01	02
Case outline	L	
Terminal number	Terminal symbol	
1	$\overline{CS}$	$\overline{CSA}$
2	R_{FBA}	$\overline{CSB}$
3	V_{REFA}	V_{REFA}
4	V_{OUTA}	V_{OUTA}
5	AGNDA	AGNDA
6	V_{DD}	V_{DD}
7	V_{SS}	V_{SS}
8	AGNDB	AGNDB
9	V_{OUTB}	V_{OUTB}
10	V_{REFB}	V_{REFB}
11	DGND	DGND
12	R_{FBB}	DB11
13	$\overline{WR}$	$\overline{WR}$
14	LDAC	DB10
15	A1	DB9
16	A2	DB8
17	DB7	DB7
18	DB6	DB6
19	DB5	DB5
20	DB4	DB4
21	DB3	DB3
22	DB2	DB2
23	DB1	DB1
24	DB0	DB0

FIGURE 1. Terminal connections.

Device type 01

$\overline{CS}$	$\overline{WR}$	A1	A0	$\overline{LDAC}$	Function
1	X	X	X	1	No data transfer
X	1	X	X	1	No data transfer
0	0	0	0	1	DAC A LS input latch transparent
0	0	0	1	1	DAC A MS input latch transparent
0	0	1	0	1	DAC B LS input latch transparent
0	0	1	1	1	DAC A MS input latch transparent
1	1	X	X	0	DAC A and DAC B latches updated simultaneously from the respective input latches

Device type 02

$\overline{CSA}$	$\overline{CSB}$	$\overline{WR}$	Function
X	X	1	No data transfer
1	1	X	No data transfer
0	1	↑	Data latched to DAC A
1	0	↑	Data latched to DAC B
0	0	↑	Data latched to both DAC's
↑	1	0	Data latched to DAC A
1	↑	0	Data latched to DAC B
↑	↑	0	Data latched to both DAC's

FIGURE 2. Truth tables.

DEVICE TYPE 01

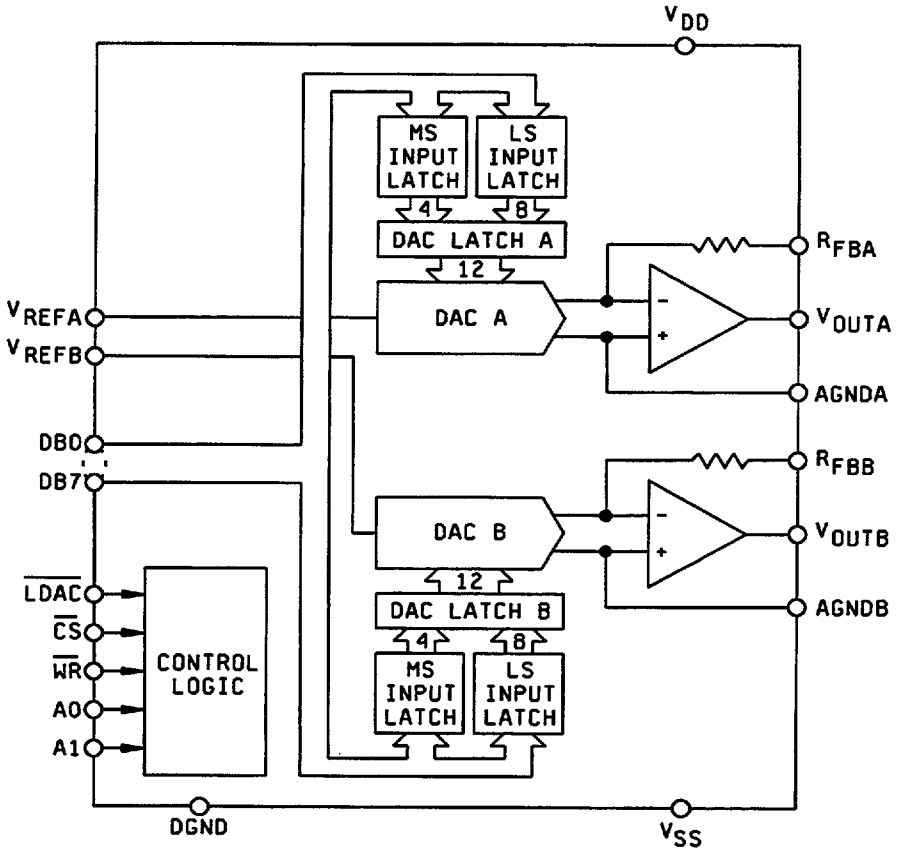


FIGURE 3. Block diagrams.

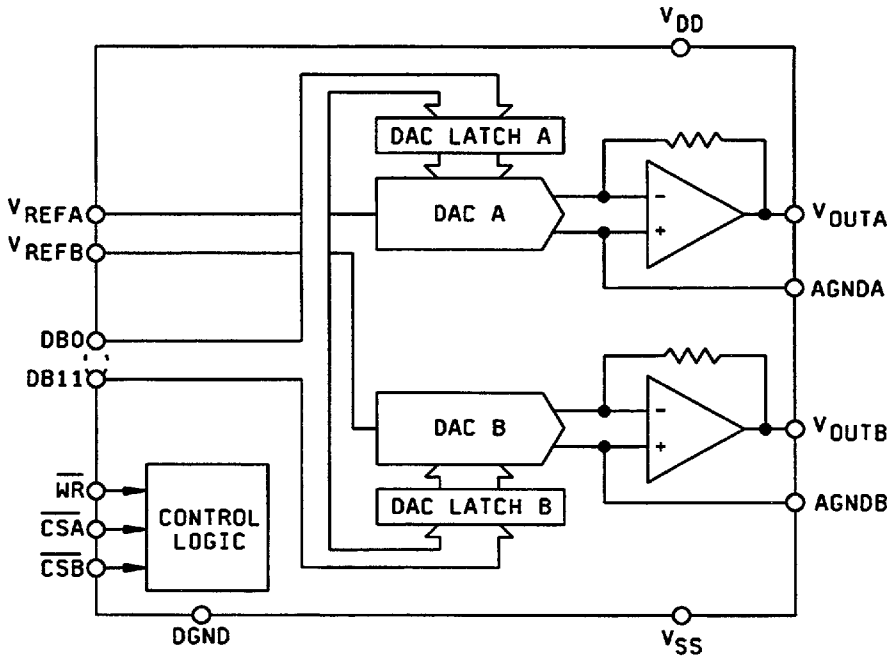
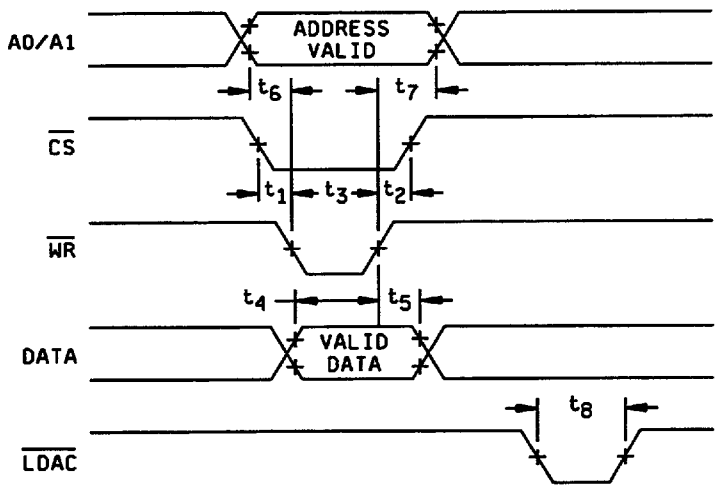


FIGURE 3. Block diagrams - Continued.

DEVICE TYPE 01



DEVICE TYPE 02

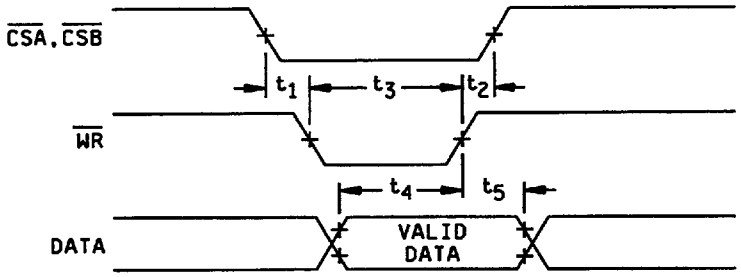


FIGURE 4. Timing diagrams.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. For device class M, sampling and inspection procedures shall be in accordance with MIL-STD-883 (see 3.1 herein). For device classes Q and V, sampling and inspection procedures shall be in accordance with MIL-I-38535 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not effect the form, fit, or function as described herein.

4.2 Screening. For device class M, screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. For device classes Q and V, screening shall be in accordance with MIL-I-38535, and shall be conducted on all devices prior to qualification and technology conformance inspection.

4.2.1 Additional criteria for device class M.

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A or B. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015.

(2) T_A = +125°C, minimum.

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

4.2.2 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-I-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-I-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 test method 1015.

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

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

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

4.4 Conformance inspection. Quality conformance inspection for device class M shall be in accordance with MIL-STD-883 (see 3.1 herein) and as specified herein. Inspections to be performed for device class M shall be those specified in method 5005 of MIL-STD-883 and herein for groups A, B, C, D, and E inspections (see 4.4.1 through 4.4.4). Technology conformance inspection for classes Q and V shall be in accordance with MIL-I-38535 including groups A, B, C, D, and E inspections and as specified herein except where option 2 of MIL-I-38535 permits alternate in-line control testing.

4.4.1 Group A inspection.

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

b. For device class M, subgroups 7 and 8 tests shall be sufficient to verify the truth tables. For device classes Q and V, subgroups 7 and 8 shall include verifying the functionality of the device; these tests shall have been fault graded in accordance with MIL-STD-883, test method 5012 (see 1.5 herein).

c. Subgroups 5 and 6 in table I, method 5005 of MIL-STD-883 shall be omitted.

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

TABLE II. Electrical test requirements.

Test requirements	Subgroups (in accordance with MIL-STD-883, TM 5005, table I)	Subgroups (in accordance with MIL-I-38535, table III)	
	Device class M	Device class Q	Device class V
Interim electrical parameters (see 4.2)	1	1	1
Final electrical parameters (see 4.2)	1,2,3,9, 1/ 10,11	1,2,3,9 1/ 10,11	1,2,3,9, 1/ 10,11
Group A test requirements (see 4.4)	1,2,3,4,7, 8,9,10,11	1,2,3,4,7, 8,9,10,11	1,2,3,4,7, 8,9,10,11
Group C end-point electrical parameters (see 4.4)	1	1	1
Group D end-point electrical parameters (see 4.4)	1	1	1
Group E end-point electrical parameters (see 4.4)	---	---	---

1/ PDA applies to subgroup 1.

4.4.2.1 Additional criteria for device class M. Steady-state life test conditions, method 1005 of MIL-STD-883:

a. Test condition A or B. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005.

b. T_A = +125°C, minimum.

c. Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

4.4.2.2 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-I-38535. The test circuit shall be maintained under document revision level control by the device manufacturer's TRB, in accordance with MIL-I-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 test method 1005.

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

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). RHA levels for device classes Q and V shall be M, D, L, R, F, G, and H and for device class M shall be M and D.

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

b. For device class M, the devices shall be subjected to radiation hardness assured tests as specified in MIL-I-38535, appendix A, for the RHA level being tested. For device classes Q and V, the devices or test vehicle shall be subjected to radiation hardness assured tests as specified in MIL-I-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 II herein.

c. When specified in the purchase order or contract, a copy of the RHA delta limits shall be supplied.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-STD-883 (see 3.1 herein) for device class M and MIL-I-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.

6.1.2 Substitutability. Device class Q devices will replace device class M devices.

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 in accordance with MIL-STD-973 using DD Form 1692, Engineering Change Proposal.

6.3 Record of users. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and which SMD's are applicable to that system. DESC 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 DESC-EC, telephone (513) 296-6047.

6.4 Comments. Comments on this drawing should be directed to DESC-EC, Dayton, Ohio 45444-5270, or telephone (513) 296-5377.

6.5 Abbreviations, symbols, and definitions.

Device types 01 and 02.

V_{REFA}	Reference input voltage for DAC A. This may be an ac or dc signal.
V_{OUTA}	Analog output voltage from DAC A.
AGNDA	Analog ground for DAC A.
V_{DD}	Positive power supply.
V_{SS}	Negative power supply.
AGNDB	Analog ground for DAC B.
V_{OUTB}	Analog output voltage from DAC B.
V_{REFB}	Reference input voltage for DAC B. This may be an ac or dc signal.
DGND	Digital ground. Ground reference for digital circuitry.

Device type 01 only.

$\overline{CS}$ Chip select. Active low logic input. The device is selected when this input is active.

R_{FBA} Amplifier feedback resistor for DAC A.

R_{FBB} Amplifier feedback resistor for DAC B.

$\overline{WR}$ Write input. $\overline{WR}$ is an active low logic input which is used in conjunction with $\overline{CS}$, A0 and A1 to write data to the input latches.

$\overline{LDAC}$ DAC update logic input. Data is transferred from the input latches to the DAC latches when $\overline{LDAC}$ is taken low.

A1 Address input. Most significant address input for input latches.

A0 Address input. Least significant address input for input latches.

DB7-DB4 Data bit 7 to data bit 4.

DB3-DB0 Data bit 3 to data bit 0 (LSB) or data bit 11 (MSB) to data bit 8.

Device type 02 only.

$\overline{CSA}$ Chip select input for DAC A. Active low logic input. DAC A is selected when this input is low.

$\overline{CSB}$ Chip select input for DAC B. Active low logic input. DAC B is selected when this input is low.

DB11 Data bit 11 (MSB).

$\overline{WR}$ Write input. $\overline{WR}$ is a positive edge triggered input which is used in conjunction with $\overline{CSA}$ and $\overline{CSB}$ to write data to the DAC latches.

DB10-DB0 Data bit 10 to data bit 0 (LSB).

6.6 One part - one part number system. The one part - one part number system described below has been developed to allow for transitions between identical generic devices covered by the three major microcircuit requirements documents (MIL-H-38534, MIL-I-38535, and 1.2.1 of MIL-STD-883) without the necessity for the generation of unique PIN's. The three military requirements documents represent different class levels, and previously when a device manufacturer upgraded military product from one class level to another, the benefits of the upgraded product were unavailable to the Original Equipment Manufacturer (OEM), that was contractually locked into the original unique PIN. By establishing a one part number system covering all three documents, the OEM can acquire to the highest class level available for a given generic device to meet system needs without modifying the original contract parts selection criteria.

Military documentation format	Example PIN under new system	Manufacturing source listing	Document listing
New MIL-H-38534 Standard Microcircuit Drawings	5962-XXXXXZZ(H or K)YY	QML-38534	MIL-BUL-103
New MIL-I-38535 Standard Microcircuit Drawings	5962-XXXXXZZ(Q or V)YY	QML-38535	MIL-BUL-103
New 1.2.1 of MIL-STD-883 Standard Microcircuit Drawings	5962-XXXXXZZ(M)YY	MIL-BUL-103	MIL-BUL-103

6.7 Sources of supply.

6.7.1 Sources of supply for device classes Q and V. Sources of supply for device classes Q and V are listed in QML-38535. The vendors listed in QML-38535 have submitted a certificate of compliance (see 3.6 herein) to DESC-EC and have agreed to this drawing.

6.7.2 Approved sources of supply for device class M. Approved sources of supply for class M are listed in MIL-BUL-103. The vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-EC.