REVISIONS			
LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Add device type 02. Add case outline Y. Make changes to 1.2.2, 1.2.4, 1.3, 1.4, table I, figure 1, and figure 2.	95-06-16	M. A. FRYE

THE ORIGINAL FIRST SHEET OF THIS DRAWING HAS BEEN REPLACED.

REV																			
SHEET																			
REV																			
SHEET	15	16																	

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

PREPARED BY
RICK OFFICER

CHECKED BY
RAJESH PITHADIA

APPROVED BY
MICHAEL FRYE

DRAWING APPROVAL DATE
93-03-30

REVISION LEVEL A

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

MICROCIRCUIT, LINEAR, POSITIVE, ADJUSTABLE, STEP-DOWN SWITCHING VOLTAGE REGULATOR, MONOLITHIC SILICON

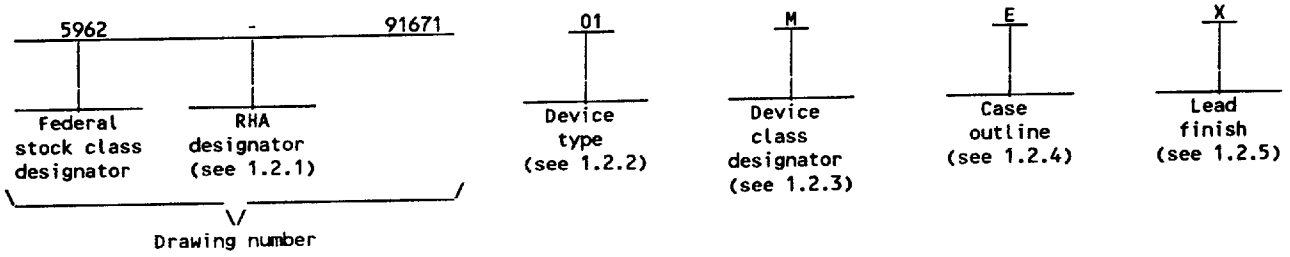
SIZE	CAGE CODE	5962-91671
A	67268	

SHEET 1 OF 16

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	LM1575-ADJ	Positive, adjustable, step-down switching voltage regulator
02	LM1575HVADJ	Positive, adjustable, step-down switching voltage regulator, high voltage

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
E	GDIP1-T16 or CDIP2-T16	16	Dual-in-line
X	See figure 1	4	Can
Y	See figure 1	5	Flange mount

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/

Input voltage (V_{IN}):	
Device type 01	45 V
Device type 02	63 V
ON/OFF pin input voltage	-0.3 V to +V_{IN}
Output voltage to ground (steady state)	-1 V
Power dissipation (P_D)	Internally limited
Storage temperature range	-65°C to +150°C
Junction temperature (T_J)	+150°C
Lead temperature (soldering, 10 seconds)	+260°C
Thermal resistance, junction-to-case (Θ_{JC}):	
Case E	1.7°C/W at 1 W
Case X	3.3°C/W at 1 W
Case Y	3.8°C/W at 1 W
Thermal resistance, junction-to-ambient (Θ_{JA}):	
Case E	67°C/W at 0.5 W, no air flow
	28°C/W at 0.5 W, 500 LFPM
Case X	45°C/W at 0.5 W, no air flow
	10°C/W at 0.5 W, 500 LFPM
Case Y	68°C/W at 0.5 W, no air flow
	16°C/W at 0.5 W, 500 LFPM

1.4 Recommended operating conditions.

Input voltage (V_{IN}):	
Device type 01	8 V to 40 V
Device type 02	8 V to 60 V
Output voltage range (V_{OUT})	1.23 V to 37 V
Ambient operating 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).

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.

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.)

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 and figure 1.

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

3.2.3 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.

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	
SYSTEM PARAMETERS							
Feedback voltage	V_{FB}	$V_{OUT} = V_{FB}$, $T_A = +25°C$	1	All	1.217	1.243	V
		$0.2\ V \le I_{LOAD} \le 1A$, 2/ $8\ V \le +V_{IN} \le 40\ V$, $V_{OUT} = V_{FB}$	1		1.205	1.255	
			2,3		1.193	1.267	
		$0.2\ V \le I_{LOAD} \le 1A$, 2/ $8\ V \le +V_{IN} \le 60\ V$, $V_{OUT} = V_{FB}$	1	02	1.205	1.261	
			2,3		1.193	1.273	
DEVICE PARAMETERS							
Feedback bias current	I_B	$V_{OUT} = V_{FB}$	1	All		100	nA
			2,3			500	
Saturation voltage	V_{SAT}	$I_{OUT} = 1\ A$ 3/	1	All		1.2	V
			2,3			1.4	
Current limit	I_{CL}	Peak current, 3/ $t_{ON} \le 3\ \mu s$	1	All	1.7	3.0	A
			2,3		1.3	3.2	
Output leakage current	I_{LEAK}	$+V_{IN} = 35\ V$, 4/ $T_A = +25°C$, output = 0 V	1	All		2	mA
		$+V_{IN} = 35\ V$, 4/ $T_A = +25°C$, output = -1 V				30	
Quiescent current	I_Q	4/	1	All		10	mA
			2,3			12	
Standby quiescent current	I_{STBY}	ON/OFF pin = 5 V "OFF"	1	All		200	μA
			2,3			500	

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	
DEVICE PARAMETERS - Continued.							
Oscillator frequency	f_O		4	All	47	58	kHz
			5,6		43	62	
Maximum duty cycle	DC	T_A = +25°C 5/	9	All	93		%
$\overline{ON}$/OFF CONTROL							
$\overline{ON}$/OFF pin logic input level	V_{IH}	V_{OUT} = 0 V	1	All	2.2		V
			2,3		2.4		
	V_{IL}	V_{OUT} = 5 V	1			1.0	
			2,3			0.8	
$\overline{ON}$/OFF pin input current	I_{IH}	ON/OFF pin = 5 V "OFF", T_A = +25°C	1	All		30	µA
	I_{IL}	ON/OFF pin = 5 V "OFF", T_A = +25°C				10	

1/ Unless otherwise specified, $+V_{IN}$ = 12 V and I_{LOAD} = 200 mA.

2/ System parameters: External components such as the catch diode, inductor, input and output capacitors affect switching regulator system performance.

3/ OUTPUT pin sourcing current. No diode, inductor or capacitor connected to output.

4/ FEEDBACK pin removed from output and connected to 12 V to force the output tranistor OFF.

5/ FEEDBACK pin removed from output and connected to 0 V.

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 52 (see MIL-I-38535, appendix A).

Case outline X

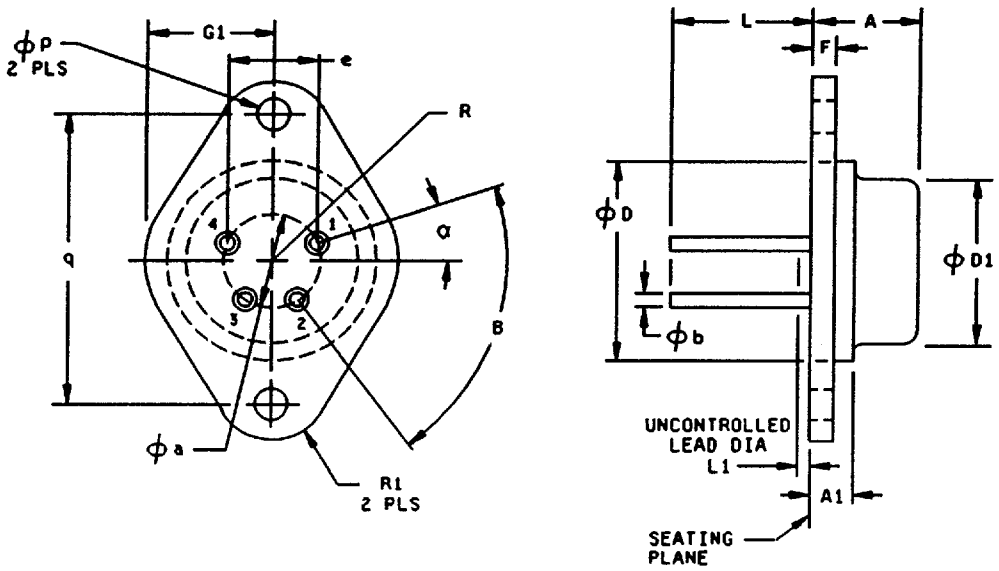


FIGURE 1. Case outline.

STANDARD MICROCIRCUIT DRAWING DEFENSE ELECTRONICS SUPPLY CENTER DAYTON, OHIO 45444	SIZE A		5962-91671
		REVISION LEVEL A	SHEET 7

Case outline X - continued.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
A	.285	.305	7.24	7.75	
A1	---	.085	---	2.16	
ϕa	.460	.480	11.68	12.19	
ϕb	.038	.043	.97	1.09	3,5
ϕD	.880	.915	22.35	23.24	
ϕD1	.760	.775	19.30	19.69	
e	.460	.480	11.68	12.19	2
F	.060	.070	1.52	1.78	
G1	.490	.510	12.45	12.95	
L	.420	.500	10.67	12.70	
L1	---	.025	---	.64	5
ϕp	.151	.161	3.84	4.09	3
q	1.177	1.197	29.90	30.40	
R	.490	.510	12.45	12.95	3
R1	.168	.178	4.27	4.52	3
α	18°		18°		
ß	72°		72°		
N	4		4		
Note	1,4				

NOTES:

1. The U.S. government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound units, the inch-pound units shall take precedence.
2. These dimensions should be measured at points .050 inch (1.27 mm) +.005 inch (0.13 mm) -.000 inch (0.00 mm) below seating plane. When guage is not used, measurement will be made at the seating plane.
3. Two places.
4. The seating plane of the header shall be flat within .001 inch (0.03 mm) concave to .004 inch (0.10 mm) convex inside a .930 inch (23.62 mm) diameter circle on the center of the header and flat within .001 inch (0.03 mm) concave to .006 inch (0.15 mm) convex overall.
5. Lead diameter and glass meniscus shall not exceed twice ϕb within L1.

FIGURE 1. Case outline - continued.

Case outline Y

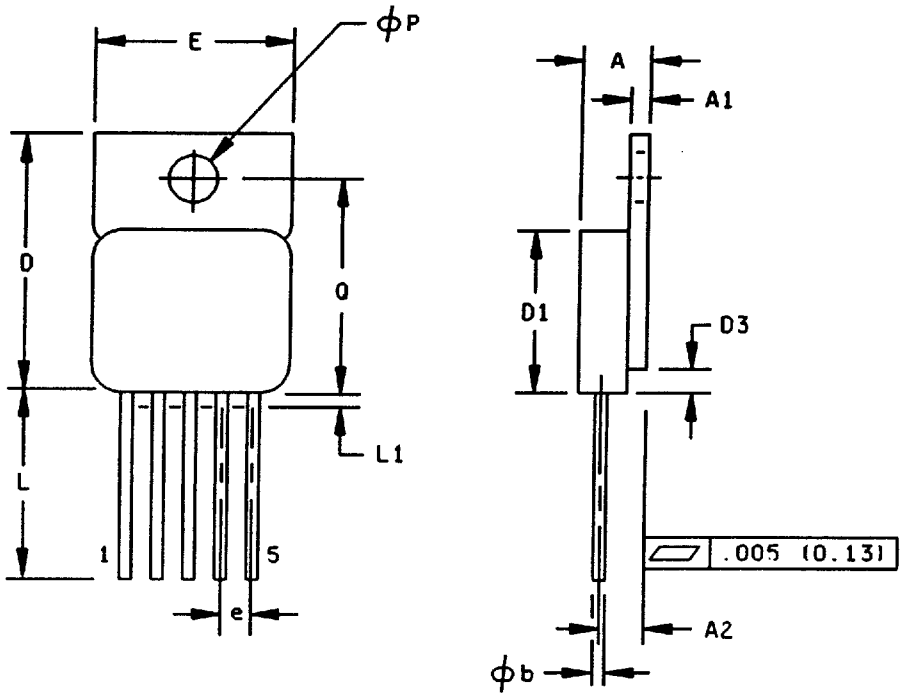


FIGURE 1. Case outline - continued.

Case outline Y - continued

Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
A	.240	.270	6.10	6.86
A1	.035	.045	.89	1.14
A2	.135	.155	3.43	3.94
ϕb	.025	.035	.64	.89
D	.815	.835	20.70	21.21
D1	.530	.550	13.46	13.97
D3	---	.092	---	2.34
E	.685	.695	17.40	17.65
e	.095	.105	2.41	2.67
L	.500	.750	12.70	19.05
L1	.045	.055	1.14	1.40
ϕp	.155	.165	3.94	4.19
Q	.697	.707	17.70	17.96
N	5		5	
Note	1,2,3			

NOTES:

1. The U.S. government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound units, the inch-pound units shall take precedence.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tin dip leads below .051 inch (1.27 mm) clearance from the case body.

FIGURE 1. Case outline - continued.

Device types	01 and 02		
Case outlines	E	X	Y
Terminal number	Terminal symbol		
1	NC	ON/OFF	V_{IN}
2	NC	V_{IN}	OUTPUT
3	OUTPUT	OUTPUT	GND
4	NC	FEEDBACK	FEEDBACK
5	GND	---	ON/OFF
6	NC	---	---
7	FEEDBACK	---	---
8	NC	---	---
9	$\overline{ON}$/OFF	---	---
10	NC	---	---
11	GND	---	---
12	GND	---	---
13	GND	---	---
14	GND	---	---
15	NC	---	---
16	$+V_{IN}$	---	---

NOTE: For case outline X only, case is ground.

FIGURE 2. Terminal connections.

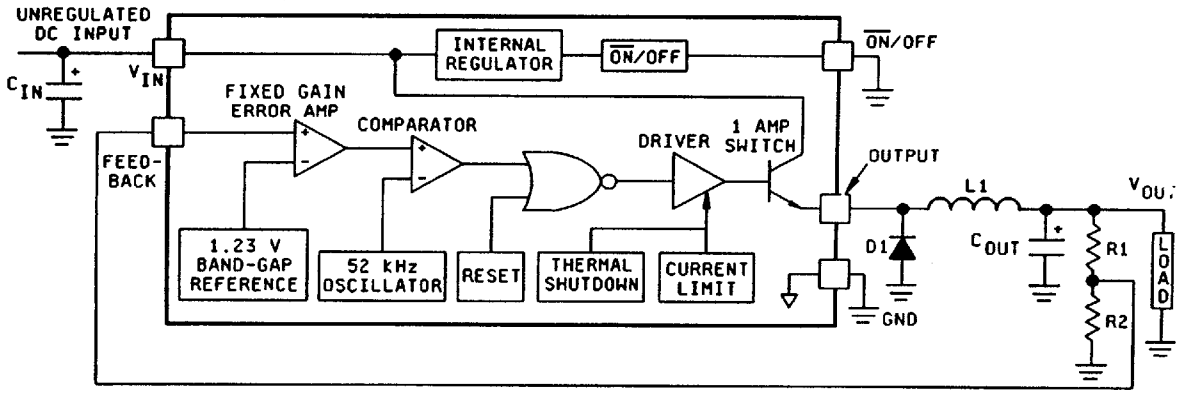


FIGURE 3. Block diagram.

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, B, C, or D. 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. Subgroups 7, 8, 10, and 11 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, 1/ 4,5,6,9	1,2,3, 1/ 4,5,6,9	1,2,3, 1/ 4,5,6,9
Group A test requirements (see 4.4)	1,2,3, 4,5,6,9	1,2,3, 4,5,6,9	1,2,3, 4,5,6,9
Group C end-point electrical parameters (see 4.4)	1,2,3	1,2,3	1,2,3
Group D end-point electrical parameters (see 4.4)	1,2,3	1,2,3	1,2,3
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, B, C, or D. 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. The abbreviations, symbols, and definitions used herein are defined in MIL-I-38535 and MIL-STD-1331.

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.