MILITARY SPECIFICATION

MICROCIRCUITS, LINEAR, 8 BIT, DIGITAL-TO-ANALOG CONVERTERS, MONOLITHIC SILICON

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the detail requirements for monolithic silicon, 8 bit, digital-to-analog converters. Three product assurance classes are provided for each type and are reflected in the complete part number.

1.2 Part number. The complete part number shall be in accordance with MIL-M-38510.

1.2.1 Device type. The device types shall be as follows:

Device type	Circuit
01	D/A Converter, 8 bit, 0.19% linearity
02	D/A Converter, 8 bit, 0.10% linearity

1.2.2 Device class. The device class shall be the product assurance level as defined in MIL-M-38510.

1.2.3 Case outline. The case outline shall be designated as follows:

Outline letter	MIL-M-38510, appendix C, case outline
E	D-2 (16 lead, 1/4" x 7/8", dual-in-line)

1.3 Absolute maximum ratings.

Supply voltage $[+V_{CC}-(-V_{CC})]$	36 Vdc
Voltage, digital input to negative supply $[V_{logic}-(-V_{CC})]$	0 to 36 Vdc
Voltage, logic control (V_{LC})	$-V_{CC}$ to $+V_{CC}$
Reference voltage input (V_{14}, V_{15})	$-V_{CC}$ to $+V_{CC}$
Reference input current (I_{14})	5.0 mA
Reference input differential voltage $[(V_{14}-V_{15})]$	±18 Vdc
Lead temperature (soldering, 60 sec.)	300°C
Junction temperature	175°C
Storage temperature	-65°C to +150°C

1.4 Recommended operating conditions.

Supply voltage range	±5 Vdc to ±15 Vdc 1/
Ambient temperature range	-55°C to +125°C

1/ A slight degradation in linearity can occur when the supply voltage is near the ±5 V end of the recommended operating range.

1.5 Power and thermal characteristics.

Package	Case outline	Maximum allowable power dissipation	Maximum $\theta J-C$	Maximum $\theta J-A$
Dual-in-line	E	400 mW @ T_A = 125°C	35°C/W	120°C/W

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATION

MILITARY

MIL-M-38510 - Microcircuits, General Specification for.

STANDARD

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Detail specifications. The individual item requirements shall be in accordance with MIL-M-38510, and as specified herein.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-M-38510 and herein.

3.2.1 Terminal connections. The terminal connections and block diagram shall be as specified on figure 1.

3.2.2 Schematic circuit. The schematic circuit shall be as specified on figure 2.

3.2.3 Case outline. Case outline shall be as specified in 1.2.3.

3.3 Lead material and finish. Lead material and finish shall be in accordance with MIL-M-38510.

3.4 Electrical performance characteristics. The following electrical performance characteristics apply unless otherwise stated in table I:

$\pm V_{CC}$ = ±15 Vdc   Source resistance = 50 ohms I_{REF} = 2.0 mA
Ambient temperature range = -55°C to +125°C

3.5 Rebonding. Rebonding shall be in accordance with MIL-M-38510.

TABLE I. Electrical performance characteristics.

Characteristics	Symbol	Conditions: 3.4, table III and figures 6, 7, and 8	Device 01 limits Min	Device 01 limits Max	Device 02 limits Min	Device 02 limits Max	Units
Supply current from $+V_{CC}$	I_{CC}^{+}	All input bits high	0.4	3.8	0.4	3.8	mA
Supply current from $-V_{CC}$	I_{CC}^{-}	All input bits high	-7.8	-0.8	-7.8	-0.8	mA
Full scale current	I_{FS}	All input bits high, T_A = 25°C Measure I_O	1.94	2.04	1.984	2.000	mA
	$\overline{I_{FS}}$	All input bits low, T_A = 25°C Measure $\overline{I_O}$	1.94	2.04	1.984	2.000	mA
Zero scale current	I_{ZS}	All input bits low, Measure I_O	-2.0	2.0	-1.0	1.0	µA
	$\overline{I_{ZS}}$	All input bits high, Measure $\overline{I_O}$	-2.0	2.0	-1.0	1.0	µA
Power supply sensitivity from $+V_{CC}$	$P_{SS}I_{FS}+1$	All input bits high, Measure I_O, $+V_{CC}$ = 4.5 V to +5.5 V, $-V_{CC}$ = -18 V	-4.0	4.0	-4.0	4.0	µA
	$\overline{P_{SS}I_{FS}+1}$	All input bits low, Measure $\overline{I_O}$, $+V_{CC}$ = 4.5 V to +5.5 V, $-V_{CC}$ = -18 V	-4.0	4.0	-4.0	4.0	µA
Power supply sensitivity from $+V_{CC}$	$P_{SS}I_{FS}+2$	All input bits high, Measure I_O $+V_{CC}$ = 12 V to 18 V, $-V_{CC}$ = -18 V	-8.0	8.0	-8.0	8.0	µA
	$\overline{P_{SS}I_{FS}+2}$	All input bits low, Measure $\overline{I_O}$, $+V_{CC}$ = 12 V to 18 V, $-V_{CC}$ = -18 V	-8.0	8.0	-8.0	8.0	µA
Power supply sensitivity from $-V_{CC}$	$P_{SS}I_{FS}-1$	All input bits high, Measure I_O $+V_{CC}$ = 18 V, $-V_{CC}$ = -12 V to -18 V	-8.0	8.0	-8.0	8.0	µA
	$\overline{P_{SS}I_{FS}-1}$	All input bits low, Measure $\overline{I_O}$, $+V_{CC}$ = 18 V, $-V_{CC}$ = -12 V to -18 V	-8.0	8.0	-8.0	8.0	µA
Power supply sensitivity from $-V_{CC}$	$P_{SS}I_{FS}-2$	All input bits high, Measure I_O $+V_{CC}$ = 18 V, $-V_{CC}$ = -4.5 V to -5.5 V	-2.0	2.0	-2.0	2.0	µA
	$\overline{P_{SS}I_{FS}-2}$	All input bits low, Measure $\overline{I_O}$, $+V_{CC}$ = 18 V, $-V_{CC}$ = -4.5 V to -5.5 V	-2.0	2.0	-2.0	2.0	µA
Output current range	$I_{FS}R_1$	All input bits high, Measure I_O, $-V_{CC}$ = -10 V, V_{REF} = 15 V	2.1	---	2.1	---	mA
	$\overline{I_{FS}R_1}$	All input bits low, Measure $\overline{I_O}$, $-V_{CC}$ = -10 V, V_{REF} = 15 V	2.1	---	2.1	---	mA
Output current range	$I_{FS}R_2$	All input bits high, Measure I_O $-V_{CC}$ = -12 V, V_{REF} = 25 V	4.2	---	4.2	---	mA
	$\overline{I_{FS}R_2}$	All input bits low, Measure $\overline{I_O}$, $-V_{CC}$ = -12 V, V_{REF} = 25 V	4.2	---	4.2	---	mA

TABLE I. Electrical performance characteristics - Continued.

Characteristics	Symbol	Conditions: 3.4, table III and figures 6, 7, and 8		Device 01 limits Min	Device 01 limits Max	Device 02 limits Min	Device 02 limits Max	Units
Reference bias current	I_{REF}^{-}	All input bits low		-3.0	0	-3.0	0	µA
High level input current	I_{IH}	All input bits V_{IN} = 18 V, each input measured separately		-0.01	10.0	-0.01	10.0	µA
Low level input current	I_{IL}	All input bits V_{IN} = -10 V, each input measured separately		-10.0	---	-10.0	---	µA
Full scale current at +18 V compliance	I_{FS}^{+}	All input bits high, Measure I_0, V_{IO} = 18 V		1.90	2.08	1.90	2.08	mA
	$\overline{I_{FS}}^{+}$	All input bits low, Measure $\overline{I_0}$, $V_{\overline{IO}}$ = 18 V		1.90	2.08	1.90	2.08	mA
Full scale current at -10 V compliance	I_{FS}^{-}	All input bits high, Measure I_0, V_{IO} = -10 V		1.90	2.08	1.90	2.08	mA
	$\overline{I_{FS}}^{-}$	All input bits low, Measure $\overline{I_0}$, $V_{\overline{IO}}$ = -10 V		1.90	2.08	1.90	2.08	mA
Change in full scale current due to voltage compliance	ΔI_{FSC}	All input bits high, Measure I_0, V_{IO} = 18 V to -10 V	$25°C \leq T_A \leq 125°C$	-4.0	4.0	-4.0	4.0	µA
			T_A = -55°C	-8.0	8.0	-8.0	8.0	µA
	$\Delta \overline{I_{FSC}}$	All input bits low, Measure $\overline{I_0}$, $V_{\overline{IO}}$ = 18 V to -10 V	$25°C \leq T_A \leq 125°C$	-4.0	4.0	-4.0	4.0	µA
			T_A = -55°C	-8.0	8.0	-8.0	8.0	µA
Positive bit errors	ΣNL^{+}	Measure I_0 (ΣPositive bit errors)/IFS		0	0.19	0	0.10	%
	$\Sigma \overline{NL}^{+}$	Measure $\overline{I_0}$ (ΣPositive bit errors)/$\overline{IFS}$		0	0.19	0	0.10	%
Negative bit errors	ΣNL^{-}	Measure I_0 (ΣNegative bit errors)/IFS		-0.19	0	-0.10	0	%
	$\Sigma \overline{NL}^{-}$	Measure $\overline{I_0}$ (ΣNegative bit errors)/$\overline{IFS}$		-0.19	0	-0.10	0	%
Positive and negative bit error difference	$\Delta \Sigma NL$	Measure I_0 $\lvert \Sigma NL^{+} \rvert - \lvert \Sigma NL^{-} \rvert$		-0.05	0.05	-0.03	0.03	%
	$\Delta \Sigma \overline{NL}$	Measure $\overline{I_0}$ $\lvert \Sigma \overline{NL}^{+} \rvert - \lvert \Sigma \overline{NL}^{-} \rvert$		-0.05	0.05	-0.03	0.03	%
Positive relative accuracy	NL^{+}	Measure I_0 $\lvert \Sigma NL^{+} \rvert + \lvert \Delta \Sigma NL \rvert$		0	0.19	0	0.10	%
	$\overline{NL}^{+}$	Measure $\overline{I_0}$ $\lvert \Sigma \overline{NL}^{+} \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$		0	0.19	0	0.10	%
Negative relative accuracy	NL^{-}	Measure I_0 $\lvert \Sigma NL^{-} \rvert + \lvert \Delta \Sigma NL \rvert$		0	0.19	0	0.10	%
	$\overline{NL}^{-}$	Measure $\overline{I_0}$ $\lvert \Sigma \overline{NL}^{-} \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$		0	0.19	0	0.10	%

TABLE I. Electrical performance characteristics - Continued.

Characteristics	Symbol	Conditions: 3.4, table III and figures 6, 7, and 8	Device 01 limits Min	Device 01 limits Max	Device 02 limits Min	Device 02 limits Max	Units
Monotonicity	$\Delta(i)$	Measure I_0, $(I_{ON}-I_{ON-1}) \geq 0$ at each major carry point	0	16.0	0	16.0	µA
	$\overline{\Delta(i)}$	Measure $\overline{I_0}$, $(\overline{I_{ON}}-\overline{I_{ON-1}}) \geq 0$ at each major carry point	0	16.0	0	16.0	µA
Output symmetry	ΔI_{FS}	$I_{FS}-\overline{I_{FS}}$	-8.0	8.0	-4.0	4.0	µA
Full scale current temperature coefficient	$T_C(I_{FS})$	All input bits high, Measure I_0	-50.0	50.0	-50.0	50.0	ppm/°C
	$\overline{T_C(I_{FS})}$	All input bits low, Measure $\overline{I_0}$	-50.0	50.0	-50.0	50.0	ppm/°C
Propagation delay time, high-to-low level	t_{PHL}	Figure 7, Measure V_0	6.0	60.0	6.0	60.0	ns
Propagation delay time, low-to-high level	t_{PLH}	Figure 7, Measure V_0	6.0	60.0	6.0	60.0	ns
Reference amplifier input slew rate	dI_0/dt	Figure 8, Measure V_0	1.5	---	1.5	---	mA/µs
Settling time high-to-low level	t_{SHL}	Figure 7, Output within 1/2 LSB of final value of I_0	10	135	10	135	ns
Settling time low-to-high level	t_{SLH}	Figure 7, Output within 1/2 LSB of final value of I_0	10	135	10	135	ns

3.6 Electrical test requirements. Electrical test requirements shall be as specified in table III for the applicable device type and device class. The subgroups of table III and limits of table IV which constitute the minimum electrical test requirements for screening, qualification and quality conformance, by device class are specified in table II.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirement	Subgroups (see table III)		
	Class S devices	Class B devices	Class C devices
Interim electrical parameters (Pre burn-in) (method 5004)	1	1	None
Final electrical test parameters (method 5004)	1*, 2, 3	1*, 2, 3	1
Group A test requirements (method 5005)	1, 2, 3, 9, 10, 11	1, 2, 3, 9, 10, 11	1, 2, 3, 9
Group C end point and group B, class S, electrical parameters (method 5005)	1, 2, 3, and table IV delta limits	1 and table IV delta limits	1 and table IV delta limits
Additional electrical subgroups for group C periodic inspections	Not applicable	12	10, 11, 12
Group D end point electrical parameters (method 5005)	1, 2, 3	1	1

* PDA applies to subgroup 1 (see 4.3d).

3.7 Marking. Marking shall be in accordance with MIL-M-38510 and 1.2. At the option of the manufacturer, the following marking may be omitted from the body of the microcircuit, but shall be retained on the initial container.

a. Country of origin.

3.8 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 56 (see MIL-M-38510, appendix E).

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-M-38510 and method 5005 of MIL-STD-883, except as modified herein.

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-M-38510. Inspections to be performed shall be those specified herein for groups A, B, C, and D inspections (see 4.4.1, 4.4.2, 4.4.3, and 4.4.4).

4.3 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to qualification and quality conformance inspection. The following additional criteria shall apply:

a. Burn-in (method 1015 of MIL-STD-883).
   1. For class S devices: Test condition D using the circuit shown in figure 3.
   2. For class B devices: Test condition D using the circuit shown in figure 3, test condition C using the circuit shown in figure 4, or test condition F using the circuit shown in figure 5.

   NOTE: If accelerated high-temperature test conditions are used, the device manufacturer shall ensure that at least 85 percent of the applied voltage is dropped across the device at temperature. The device is not considered functional under accelerated test conditions.

b. Reverse bias burn-in (method 1015 of MIL-STD-883). For class S devices only using the circuit shown on figure 4.
c. Interim electrical parameters shall be performed for class S and B devices and shall be as specified in table II herein.
d. Percent defective allowable (PDA) - The PDA for class S devices shall be as specified in MIL-M-38510. The PDA is specified as 10 percent for class B devices based on failures from group A, subgroup 1 test after cooldown as final electrical test in accordance with method 5004 of MIL-STD-883 and with no intervening electrical measurements. If interim electrical parameter tests are performed prior to burn-in, failures resulting from pre burn-in screening may be excluded from the PDA. If interim electrical parameter tests prior to burn-in are omitted, then all screening failures shall be included in the PDA. The verified failures of group A, subgroup 1 after burn-in in that lot shall be used to determine the percent defective for that lot, and the lot shall be accepted or rejected based on the PDA for the applicable device class.

4.4 Quality conformance inspection. Quality conformance inspection shall be in accordance with MIL-M-38510. Inspections to be performed shall be those specified in method 5005 of MIL-STD-883 and herein for groups A, B, C, and D inspections (see 4.4.1, 4.4.2, 4.4.3, and 4.4.4).

4.4.1 Group A inspection. Group A inspection shall be in accordance with table I of method 5005 of MIL-STD-883 and as follows:

a. Subgroups 4, 5, 6, 7, and 8 shall be omitted.
b. Tests shall be as specified in table II herein.

4.4.2 Group B inspection. Group B inspection shall be in accordance with table II of method 5005 of MIL-STD-883 and as follows:

a. End point electrical parameters shall be as specified in table II herein.
b. Life test for class S devices shall be in accordance with table IIa (subgroup 5) of method 5005 of MIL-STD-883, using the circuit on figure 5. If the alternate burn-in conditions are used, the circuit on figure 3 shall be used.

4.4.3 Group C inspection. Group C inspection shall be in accordance with table III of method 5005 of MIL-STD-883 as follows:

a. End point electrical parameters shall be as specified in table II herein.
b. Life tests for class B and C (method 1005 of MIL-STD-883): Test condition D using the circuit shown on figure 3 or test condition F using the circuit shown on figure 5 (see 4.3a.2, note).

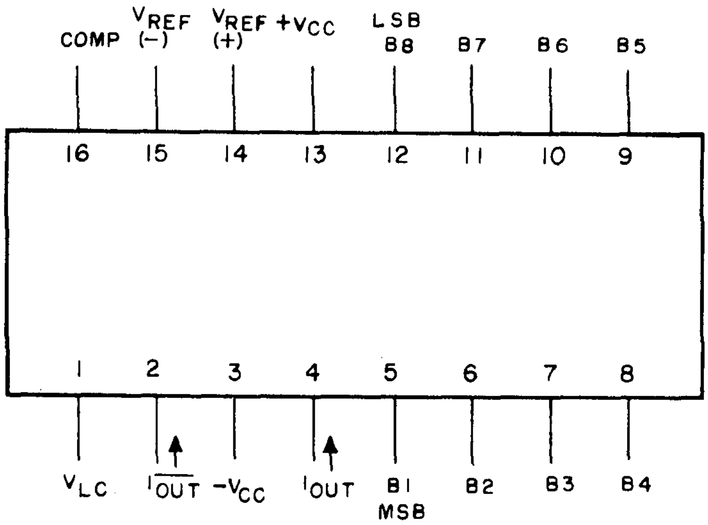
4.4.4 Group D inspection. Group D inspection shall be in accordance with table IV of method 5005 of MIL-STD-883 and end point electrical parameters shall be as specified in table II herein.

4.5 Methods of examination and test. Methods of examination and test shall be as specified in the appropriate tables. Electrical test circuits as prescribed herein or in the referenced test methods of MIL-STD-883 shall be acceptable. Other test circuits shall require the approval of the qualifying activity.

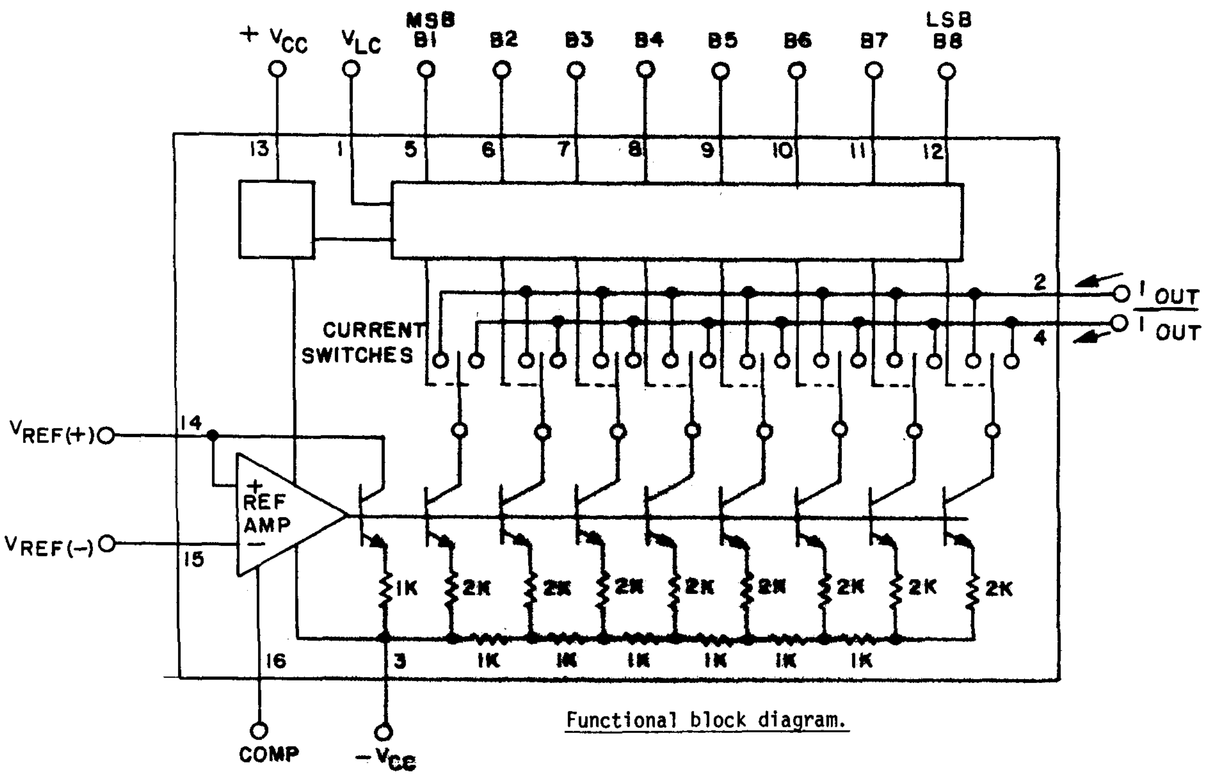
4.5.1 Voltage and current. All voltage values given, except the input offset voltage (or differential voltage) are referenced to the external zero reference level of the supply voltage. Currents given are conventional current and positive when flowing into the referenced terminal.

4.5.2 Life test cooldown procedure. When devices are measured at 25°C following application of the operating life or burn-in test condition, they shall be cooled to room temperature prior to removal of the bias.

4.6 Inspection of preparation for delivery. Inspection of preparation for delivery shall be in accordance with MIL-M-38510, except that the rough handling test shall not apply.



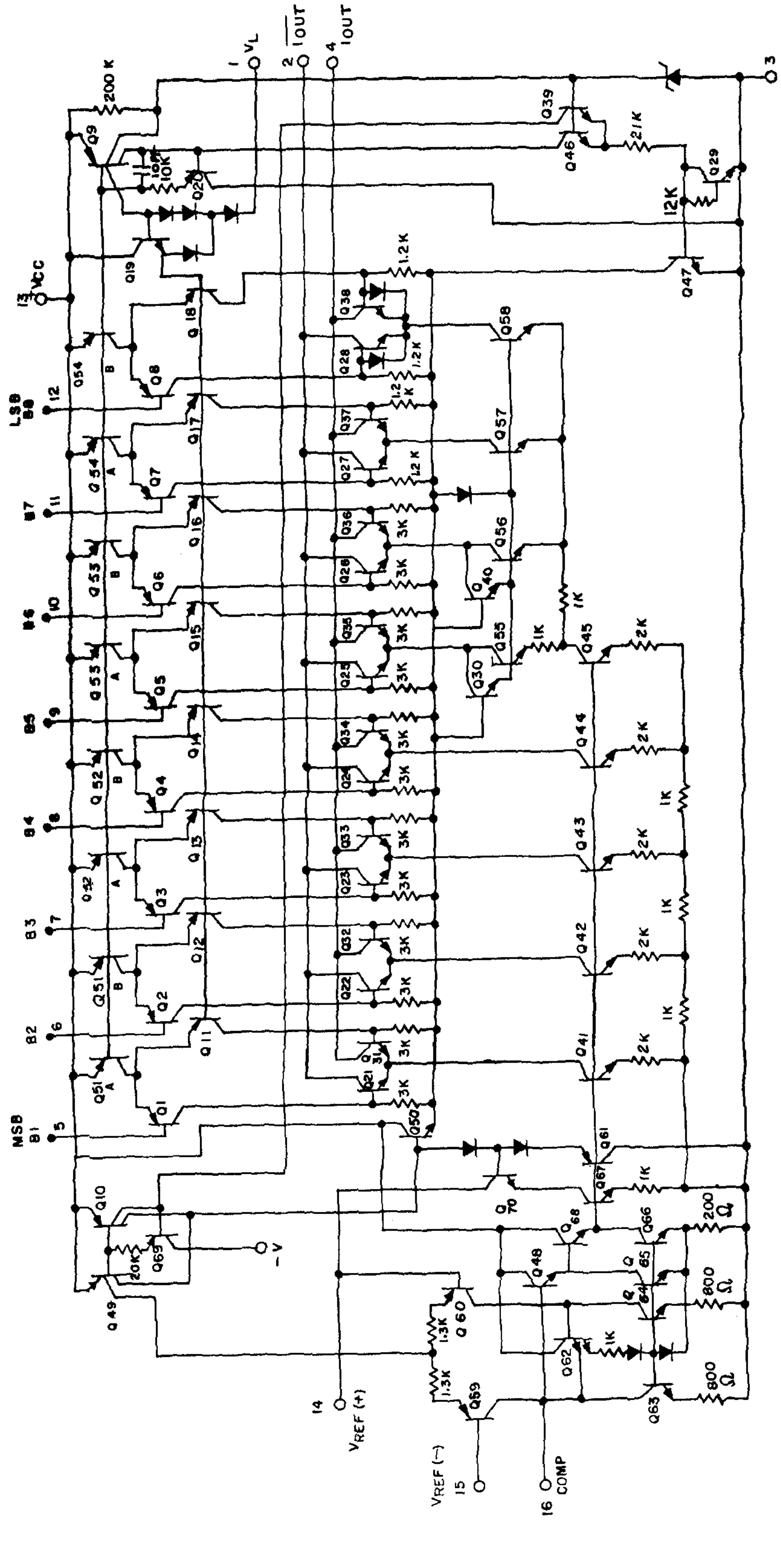
Terminal connections.



Functional block diagram.

Figure 1. Terminal connections and functional block diagram.

Device types 01 and 02



FAIRCHILD SEMICONDUCTOR

FIGURE 2. Schematic circuits.

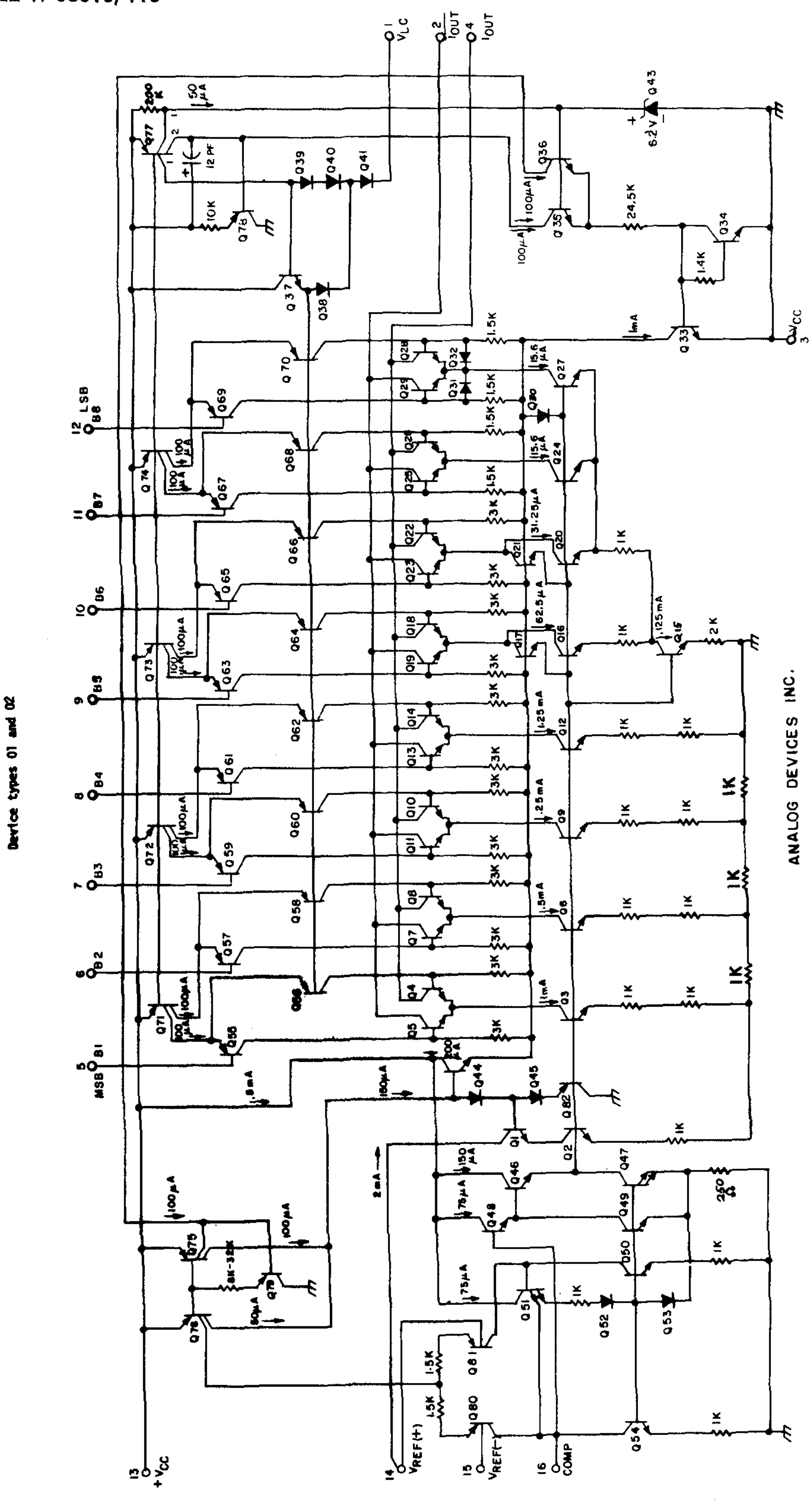


FIGURE 2. Schematic circuits - Continued.

Device types 01 and 02

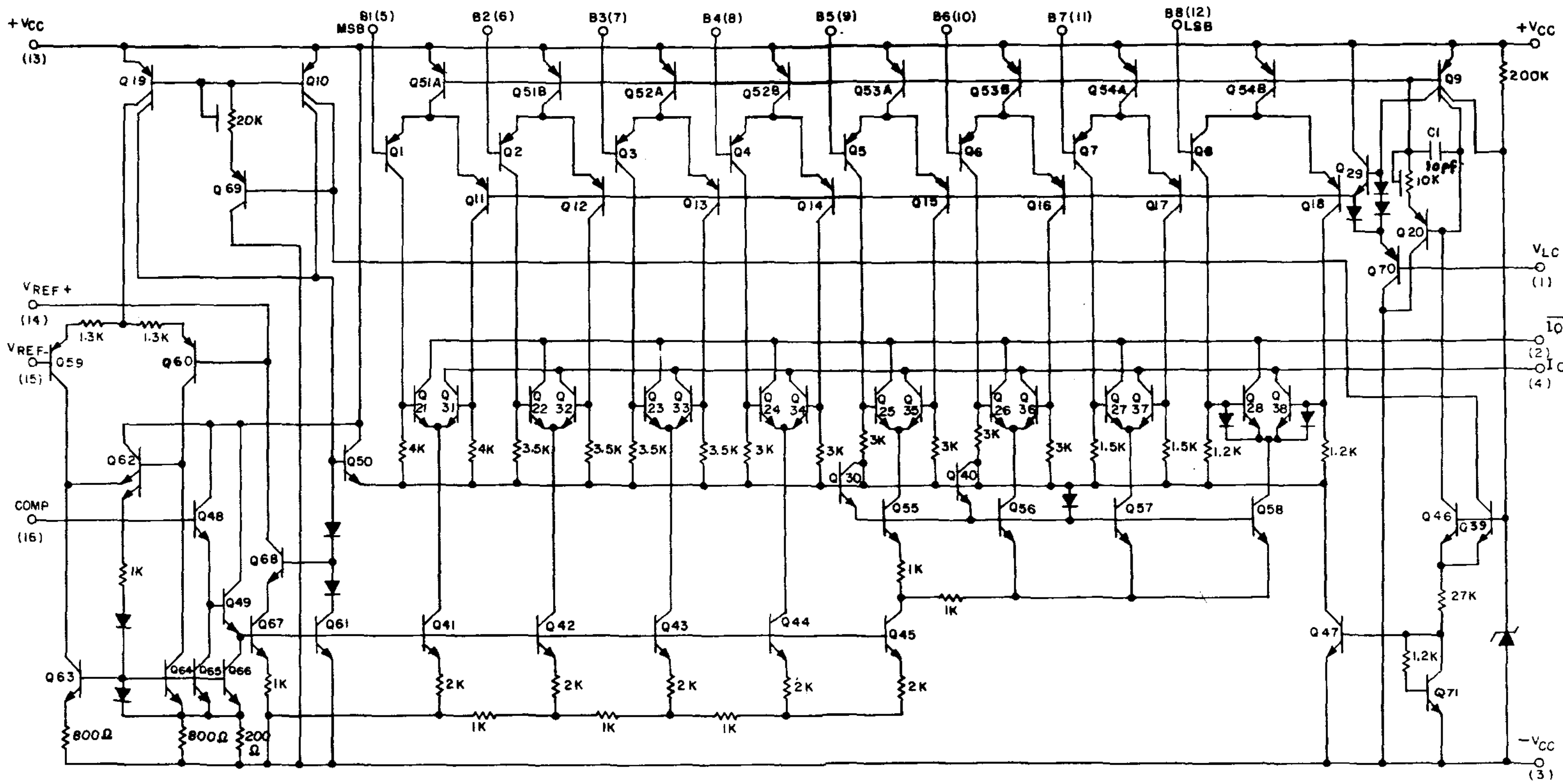


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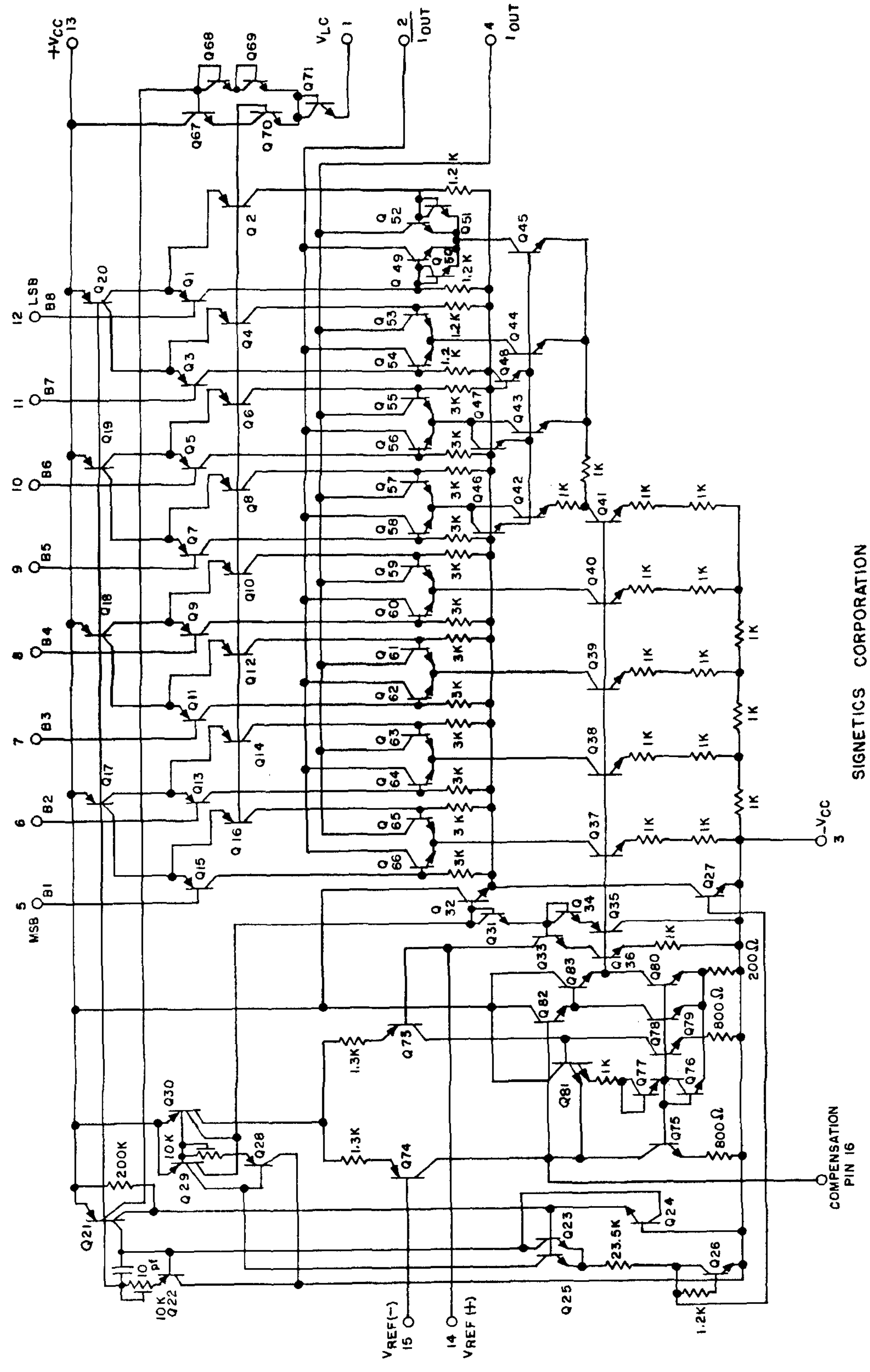
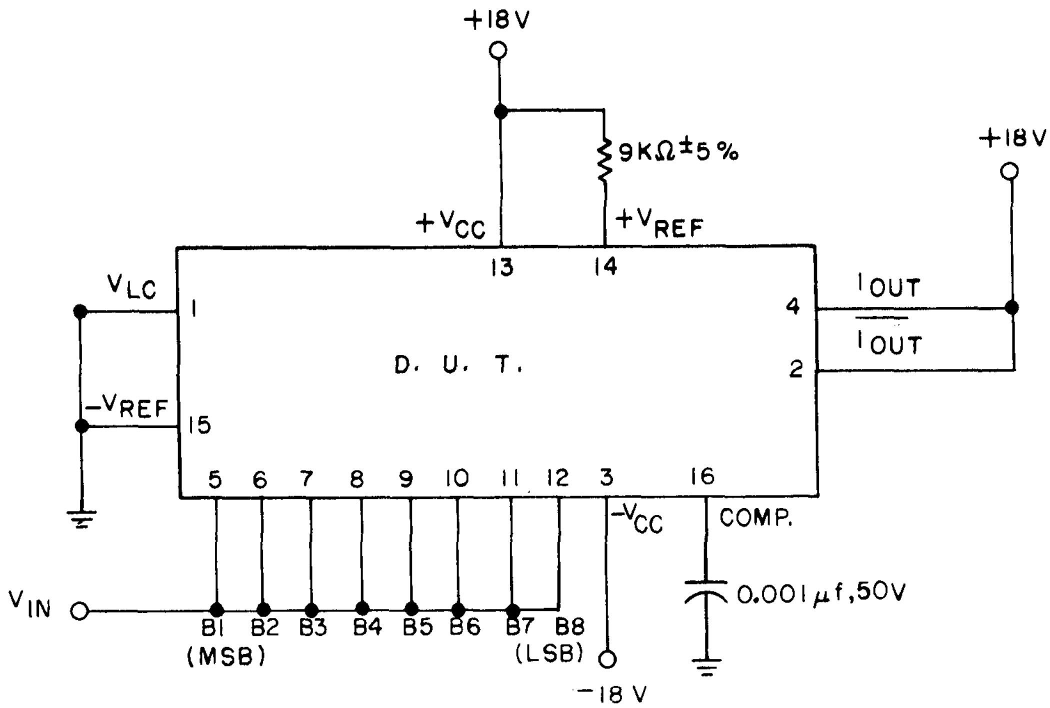
FIGURE 2. Schematic circuits - Continued.

Device types 01 and 02



SIGNETICS CORPORATION

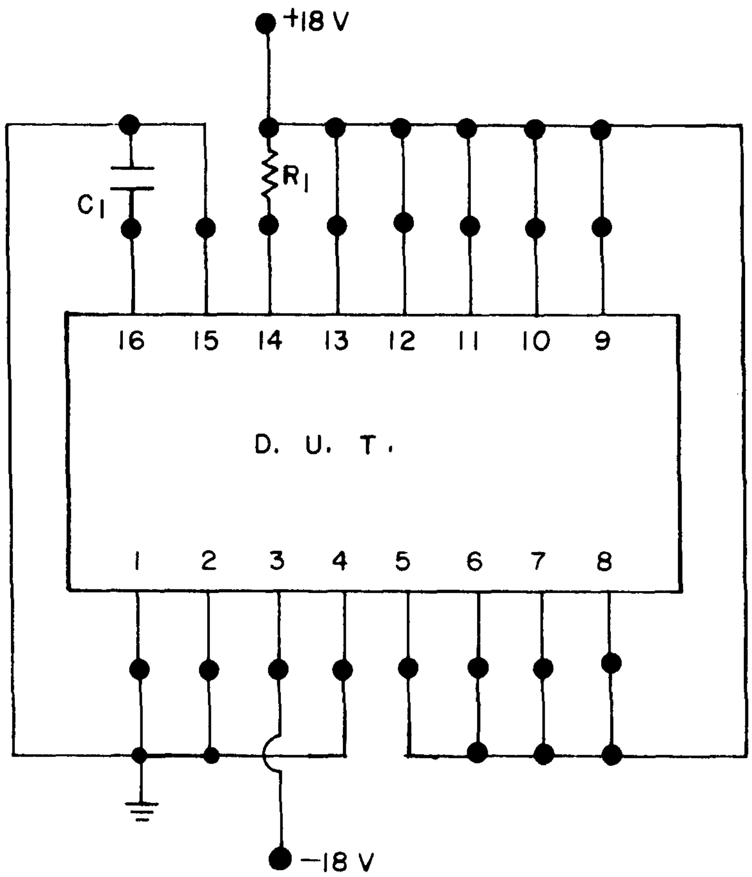
FIGURE 2. Schematic circuits - Continued.



V_{IN} = 0 to 3 V square wave
@ 5 ≤ f ≤ 10 HZ

FIGURE 3. Test circuit, burn-in and operating life test device types 01 and 02.

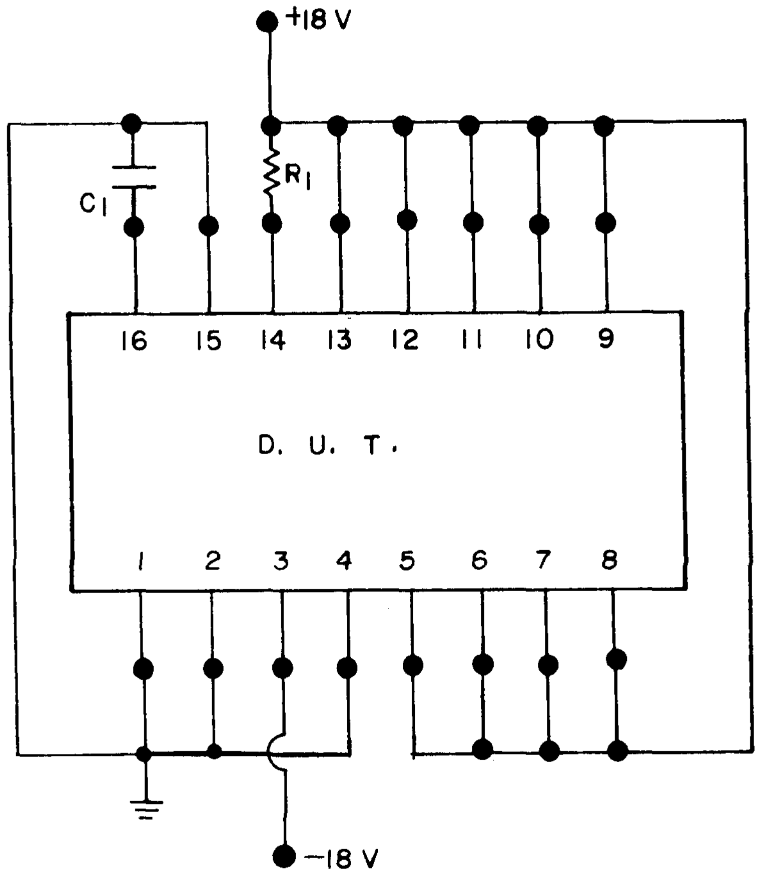
Device types 01 and 02



R_1 = 9k ±5%
C_1 = .001 Mfd, 50 V

FIGURE 4. Test circuit, burn-in (steady state power and reverse bias) and operating life test.

Device types 01 and 02



R_1 = 9k ±5%
C_1 = .001 Mfd ,50 V

FIGURE 5. Test circuit, accelerated burn-in and life test, device types 01 and 02.

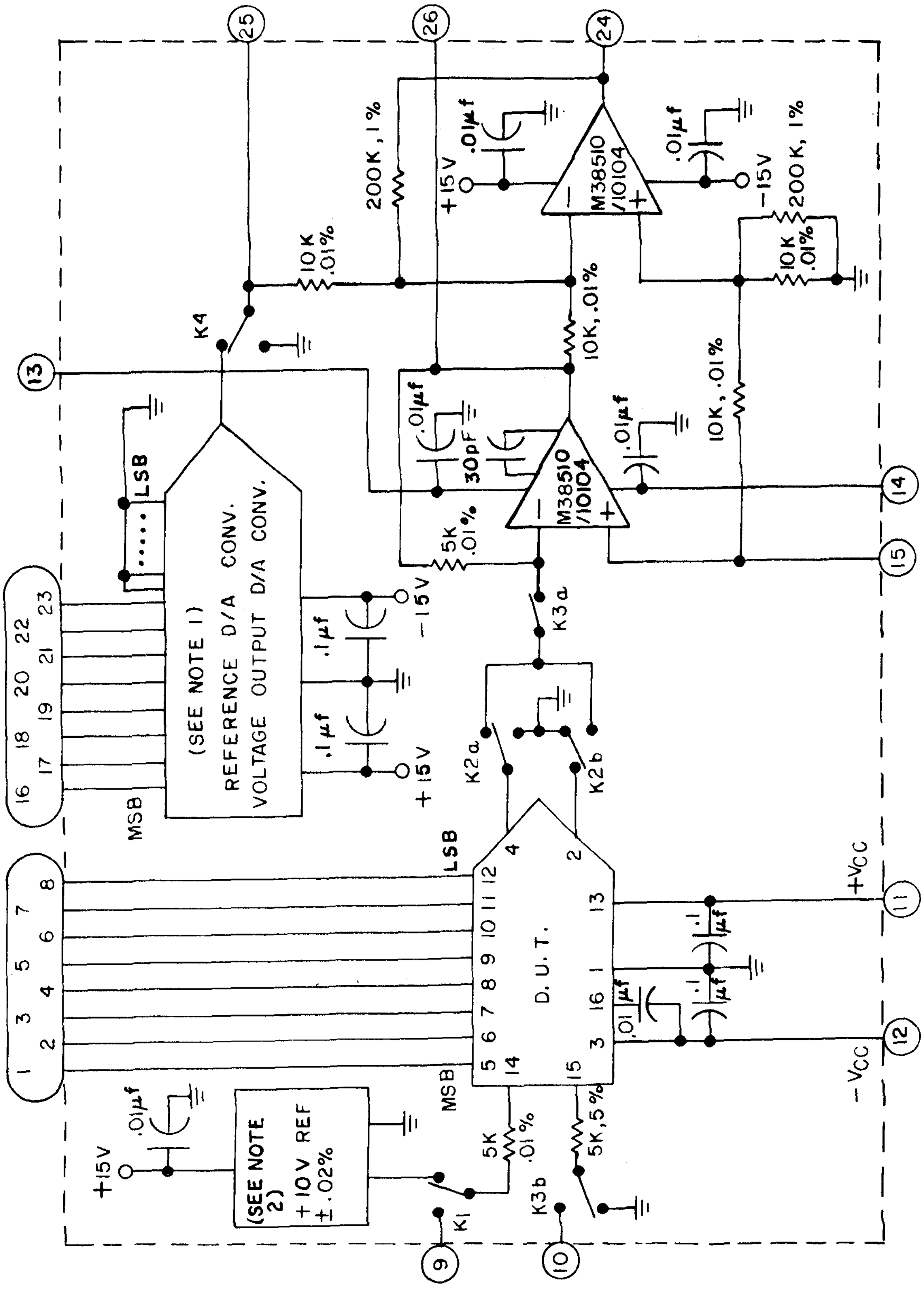
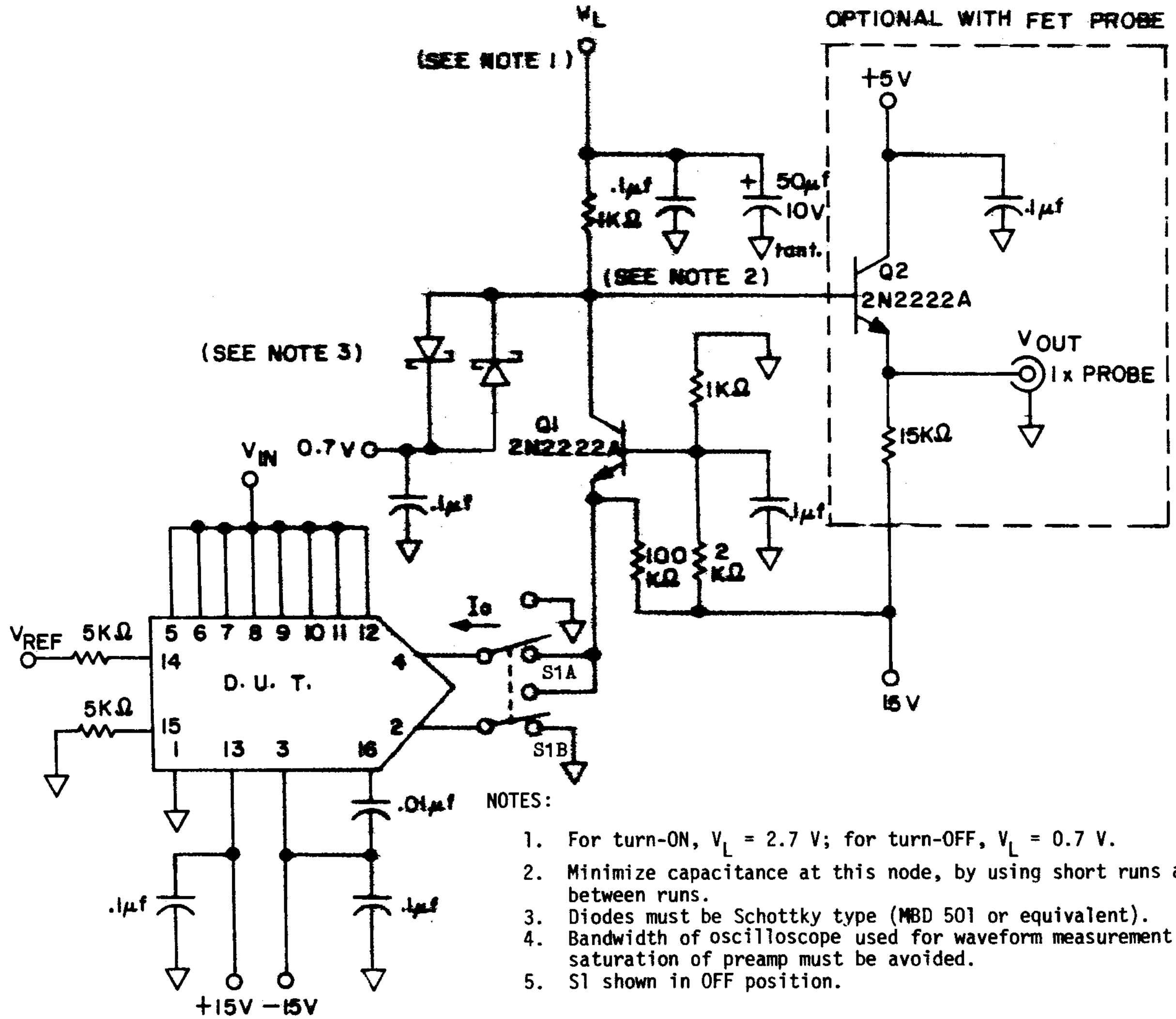


FIGURE 6. Test circuit for static tests.

NOTES:

1. The reference D/A converter selected should have a resolution of 8 bits or more, and a linearity of 0.015% or better.
2. The voltage reference should have an accuracy of ±0.02% or better.
3. All relays are shown in their unexcited state.

FIGURE 6. Test circuit for static test - Continued.



NOTES:

1. For turn-ON, V_L = 2.7 V; for turn-OFF, V_L = 0.7 V.
2. Minimize capacitance at this node, by using short runs and adequate spacing between runs.
3. Diodes must be Schottky type (MBD 501 or equivalent).
4. Bandwidth of oscilloscope used for waveform measurement should be 50 MHz minimum; saturation of preamp must be avoided.
5. S1 shown in OFF position.

FIGURE 7. Test circuit for propagation delay and settling time, device types 01 and 02.

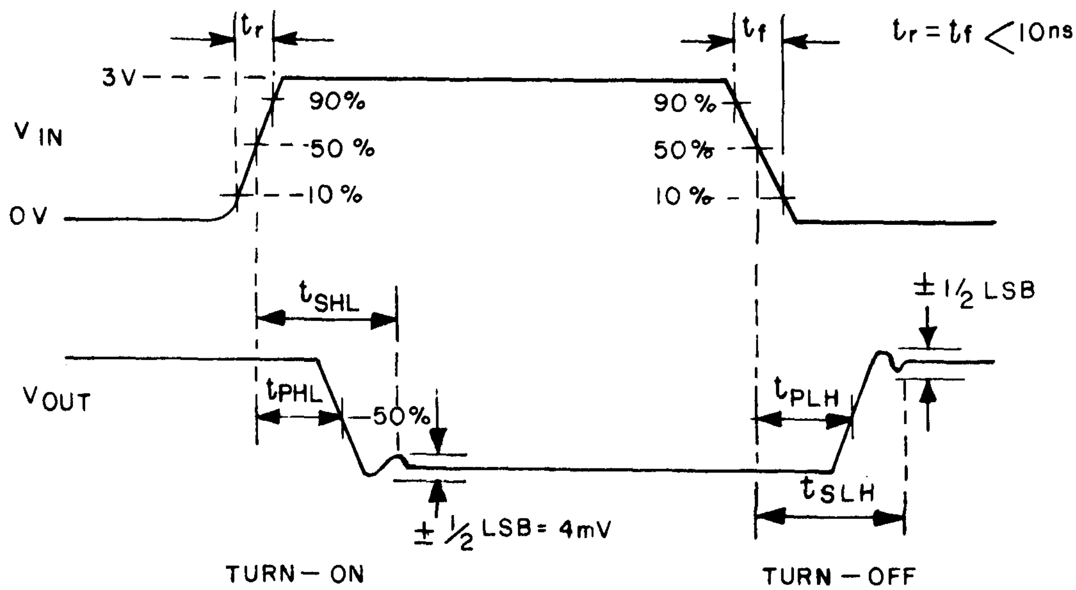
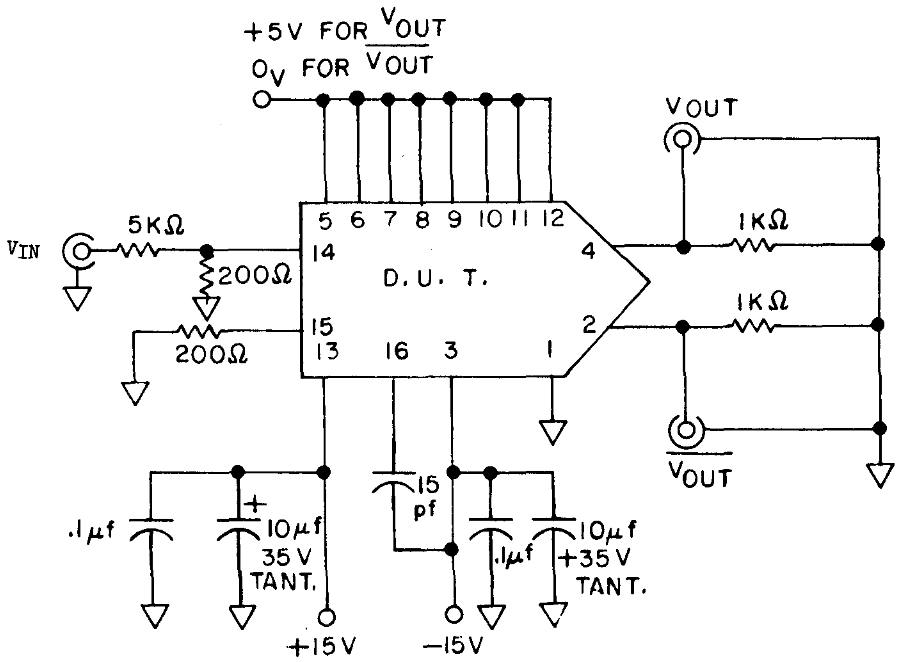
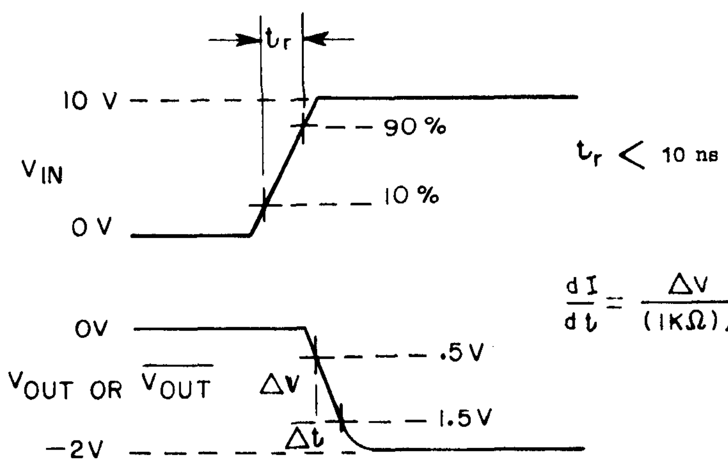


FIGURE 7. Test circuit for propagation delay and settling time, device types 01 and 02 - Continued.





$$\frac{dI}{dt} = \frac{\Delta V}{(1K\Omega)\Delta t} = \frac{1}{\Delta t}\ \frac{mA}{\mu s}$$

FIGURE 8. Test circuit for slew rate, device types 01, 02.

TABLE III. Group A inspection for device types 01 and 02.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Measured pin Value	Measured pin Unit	Equation	Limits Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
1	I_{CC}^{+}	3005	1	11111111			+15	-15	+15	-15	0			11	I_1	mA	$I_{CC}^{+} = I_1$	0.4	3.8	0.4	3.8	mA
$T_A = 25°C$	I_{CC}^{-}	3005	2	11111111										12	I_2	mA	$I_{CC}^{-} = I_2$	-7.8	-0.8	-7.8	-0.8	mA
	I_{FS}		3 1/	11111111								11111111		24	E_1	V	$I_{FS} = 2-0.01E_1$	1.94	2.04	1.984	2.000	mA
	$\overline{I_{FS}}$		4	00000000								11111111	K2	24	E_2	V	$\overline{I_{FS}} = 2-0.01E_2$	1.94	2.04	1.984	2.000	mA
	I_{ZS}		5	00000000									K4	24	E_3	V	$I_{ZS}' = -10E_3$	-2.0	2.0	-1.0	1.0	µA
	$\overline{I_{ZS}}$		6	11111111									K2,K4	24	E_4	V	$\overline{I_{ZS}} = -10E_4$	-2.0	2.0	-1.0	1.0	µA
	$P_{SS}I_{FS}+1$		7	11111111			5.5	-18				11111111		24	E_5	V	$P_{SS}I_{FS}+1 = -10(E_5-E_6)$	-4.0	4.0	-4.0	4.0	µA
			8	11111111			4.5	-18				11111111		24	E_6	V						
	$\overline{P_{SS}I_{FS}+1}$		9	00000000			5.5	-18				11111111	K2	24	E_7	V	$\overline{P_{SS}I_{FS}+1} = -10(E_7-E_8)$	-4.0	4.0	-4.0	4.0	µA
			10	00000000			4.5	-18				11111111	K2	24	E_8	V						
	$P_{SS}I_{FS}+2$		11	11111111			18	-18				11111111		24	E_9	V	$P_{SS}I_{FS}+2 = -10(E_9-E_{10})$	-8.0	8.0	-8.0	8.0	µA
			12	11111111			12	-18				11111111		24	E_{10}	V						
	$\overline{P_{SS}I_{FS}+2}$		13	00000000			18	-18				11111111	K2	24	E_{11}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{11}-E_{12})$	-8.0	8.0	-8.0	8.0	µA
			14	00000000			12	-18				11111111	K2	24	E_{12}	V						
	$P_{SS}I_{FS}-1$		15	11111111			18	-12				11111111		24	E_{13}	V	$P_{SS}I_{FS}-1 = -10(E_{13}-E_9)$	-8.0	8.0	-8.0	8.0	µA
	$\overline{P_{SS}I_{FS}-1}$		16	00000000			18	-12				11111111	K2	24	E_{14}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{14}-E_{11})$	-8.0	8.0	-8.0	8.0	µA
	$P_{SS}I_{FS}-2$		17	11111111			18	5.5				11111111		24	E_{15}	V	$P_{SS}I_{FS}-2 = -10(E_{15}-E_{16})$	-2.0	2.0	-2.0	2.0	µA
			18	11111111			18	4.5				11111111		24	E_{16}	V						
	$\overline{P_{SS}I_{FS}^{-}}$		19	00000000			18	5.5				11111111	K2	24	E_{17}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{17}-E_{18})$	-2.0	2.0	-2.0	2.0	µA
			20	00000000			18	4.5				11111111	K2	24	E_{18}	V						
	$I_{FS}R_1$		21	11111111	15		15	-10	30	-5			K1,K4	26	E_{19}	V	$I_{FS}R_1 = 0.2E_{19}$	2.1	---	2.1	---	mA
	$\overline{I_{FS}R_1}$		22	00000000	15			-10	30	-5			K1,K2,K4	26	E_{20}	V	$\overline{I_{FS}R_1} = 0.2E_{20}$	2.1	---	2.1	---	mA
	$I_{FS}R_2$		23	11111111	25			-12	30	-5			K1,K4	26	E_{21}	V	$I_{FS}R_2 = 0.2E_{21}$	4.2	---	4.2	---	mA
	$\overline{I_{FS}R_2}$		24	00000000	25			-12	30	-5			K1,K2,K4	26	E_{22}	V	$\overline{I_{FS}R_2} = 0.2E_{22}$	4.2	---	4.2	---	mA
	I_{REF}^{-}		25	00000000		0		-15	15	-15			K3	10	I_3	A	$I_{REF}^{-} = I_3 \times 10^6$	-3.0	0	-3.0	0	µA
	I_{IH1}		26 2/	10000000										1	I_4	A	$I_{IH1} = I_4 \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH2}		27 2/	01000000										2	I_5	A	$I_{IH2} = I_5 \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH3}		28 2/	00100000										3	I_6	A	$I_{IH3} = I_6 \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH4}		29 2/	00010000										4	I_7	A	$I_{IH4} = I_7 \times 10^6$	-.01	10.0	-.01	10.0	µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
1	I_{IH5}		30 2/	00001000			15	-15	15	-15	0			5	I_8	A	$I_{IH5} = I_8 \times 10^6$	-.01	10.0	-.01	10.0	µA
$T_A = 25°C$	I_{IH6}		31 2/	00000100										6	I_9	A	$I_{IH6} = I_9 \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH7}		32 2/	00000010										7	I_{10}	A	$I_{IH7} = I_{10} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH8}		33 2/	00000001										8	I_{11}	A	$I_{IH8} = I_{11} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IL1}		34 2/	10000000										1	I_{12}	A	$I_{IL1} = I_{12} \times 10^6$	-10.0		-10.0		µA
	I_{IL2}		35 2/	01000000										2	I_{13}	A	$I_{IL2} = I_{13} \times 10^6$	-10.0		-10.0		µA
	I_{IL3}		36 2/	00100000										3	I_{14}	A	$I_{IL3} = I_{14} \times 10^6$	-10.0		-10.0		µA
	I_{IL4}		37 2/	00010000										4	I_{15}	A	$I_{IL4} = I_{15} \times 10^6$	-10.0		-10.0		µA
	I_{IL5}		38 2/	00001000										5	I_{16}	A	$I_{IL5} = I_{16} \times 10^6$	-10.0		-10.0		µA
	I_{IL6}		39 2/	00000100										6	I_{17}	A	$I_{IL6} = I_{17} \times 10^6$	-10.0		-10.0		µA
	I_{IL7}		40 2/	00000010										7	I_{18}	A	$I_{IL7} = I_{18} \times 10^6$	-10.0		-10.0		µA
	I_{IL8}		41 2/	00000001			↓	↓	↓	↓	↓			8	I_{19}	A	$I_{IL8} = I_{19} \times 10^6$	-10.0		-10.0		µA
	V_{CAL1}		42											24	E_{23}	V	$V_{CAL1} = E_{23}$	—	—	—	—	V
	I_{FS}^+		43	11111111			15	-15	30	0	18	11111111		24	E_{24}	V	$I_{FS}^+ = 2-0.01(E_{24}-E_{23})$	1.94	2.04	1.90	2.08	mA
	$\overline{I_{FS}^+}$		44	00000000					30	0	18	11111111	K2	24	E_{25}	V	$\overline{I_{FS}^+} = 2-0.01(E_{25}-E_{23})$	1.94	2.04	1.90	2.08	mA
	V_{CAL2}		45	11111111					15	-15	-10	11111111		24	E_{26}	V	$V_{CAL2} = E_{26}$	—	—	—	—	V
	I_{FS}^-		46	11111111					15	-15	-10	11111111		24	E_{27}	V	$I_{FS}^- = 2-0.01(E_{27}-E_{26})$	1.94	2.04	1.90	2.08	mA
	$\overline{I_{FS}^-}$		47	00000000			↓	↓	15	-15	-10	11111111	K2	24	E_{28}	V	$\overline{I_{FS}^-} = 2-0.01(E_{28}-E_{26})$	1.94	2.04	1.90	2.08	mA
	ΔI_{FSC}		48														$\Delta I_{FSC} = 1000(I_{FS}^+ - I_{FS}^-)$	-4.0	4.0	-4.0	4.0	µA
	$\Delta \overline{I_{FSC}}$		49														$\Delta \overline{I_{FSC}} = 1000(\overline{I_{FS}^+} - \overline{I_{FS}^-})$	-4.0	4.0	-4.0	4.0	µA
	V_{CAL3}		50	00000000			15	-15	15	-15	0	00000000		24	E_{29}	V	$V_{CAL3} = E_{29}$	—	—	—	—	V
	V_{CAL4}		51	11111111								11111111		24	E_{30}	V	$V_{CAL4} = E_{30}$	—	—	—	—	V
	V_{CAL5}		52	11111111								11111111	K2	24	E_{31}	V	$V_{CAL5} = E_{31}$	—	—	—	—	V
	V_{CAL6}		53	00000000								00000000	K2	24	E_{32}	V	$V_{CAL6} = E_{32}$	—	—	—	—	V
↓	NL_1		54	10000000			↓	↓	↓	↓	↓	10000000		24	E_{33}	V	$NL_1 = \frac{(E_{33}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(128)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers									Energized relays	Measured pin			Equation	Limits				Units
				1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state		No.	Value	Unit		Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	
1 $T_A = 25°C$	NL_2		55	01000000			15	-15	15	-15	0	01000000		24	E_{34}	V	$NL_2 = \frac{(E_{34}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(64)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_3		56	00100000								00100000		24	E_{35}	V	$NL_3 = \frac{(E_{35}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(32)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_4		57	00010000								00010000		24	E_{36}	V	$NL_4 = \frac{(E_{36}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(16)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_5		58	00001000								00001000		24	E_{37}	V	$NL_5 = \frac{(E_{37}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(8)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_6		59	00000100								00000100		24	E_{38}	V	$NL_6 = \frac{(E_{38}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(4)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_7		60	00000010								00000010		24	E_{39}	V	$NL_7 = \frac{(E_{39}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(2)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_8		61	00000001								00000001		24	E_{40}	V	$NL_8 = \frac{(E_{40}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(1)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
1 $T_A = 25°C$	$\overline{NL_1}$		62	01111111			15	-15	15	-15	0	10000000		24	E_{41}	V	$\overline{NL_1} = \frac{(E_{41}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(128)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_2}$		63	10111111								01000000		24	E_{42}	V	$\overline{NL_2} = \frac{(E_{42}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(64)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_3}$		64	11011111								00100000		24	E_{43}	V	$\overline{NL_3} = \frac{(E_{43}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(32)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_4}$		65	11101111								00010000		24	E_{44}	V	$\overline{NL_4} = \frac{(E_{44}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(16)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_5}$		66	11110111								00001000		24	E_{45}	V	$\overline{NL_5} = \frac{(E_{45}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(8)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_6}$		67	11111011								00000100		24	E_{46}	V	$\overline{NL_6} = \frac{(E_{46}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(4)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_7}$		68	11111101								00000010		24	E_{47}	V	$\overline{NL_7} = \frac{(E_{47}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(2)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
1 $T_A = 25°C$	$\overline{NL}_8$		69	11111110			15	-15	15	-15	0	00000001		24	E_{48}	V	$\overline{NL}_8 = \frac{(E_{48}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(1)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	ΣNL^+		70														$\Sigma NL^+ = NL_i + NL_k + \ldots$ (i,k = bits having positive errors)	0	0.19	0	0.10	%
	$\Sigma\overline{NL}^+$		71														$\Sigma\overline{NL}^+ = \overline{NL}_{i'} + \overline{NL}_{k'} + \ldots$	0	0.19	0	0.10	%
	ΣNL^-		72														$\Sigma NL^- = NL_m + NL_n + \ldots$ (m,n = bits having negative errors)	-0.19	0	-0.10	0	%
	$\Sigma\overline{NL}^-$		73														$\Sigma\overline{NL}^- = \overline{NL}_{m'} + \overline{NL}_{n'} + \ldots$	-0.19	0	-0.10	0	%
	$\Delta\Sigma NL$		74														$\Delta\Sigma NL = \lvert\Sigma NL^+\rvert - \lvert\Sigma NL^-\rvert$	-0.05	0.05	-0.03	0.03	%
	$\Delta\Sigma\overline{NL}$		75														$\Delta\Sigma\overline{NL} = \lvert\Sigma\overline{NL}^+\rvert - \lvert\Sigma\overline{NL}^-\rvert$	-0.05	0.05	-0.03	0.03	%
	NL^+		76														$NL^+ = \lvert\Sigma NL^+\rvert + \lvert\Delta\Sigma NL\rvert$	0	0.19	0	0.10	%
	$\overline{NL}^+$		77														$\overline{NL}^+ = \lvert\Sigma\overline{NL}^+\rvert + \lvert\Delta\Sigma\overline{NL}\rvert$	0	0.19	0	0.10	%
	NL^-		78														$NL^- = \lvert\Sigma NL^-\rvert + \lvert\Delta\Sigma NL\rvert$	0	0.19	0	0.10	%
	$\overline{NL}^-$		79														$\overline{NL}^- = \lvert\Sigma\overline{NL}^-\rvert + \lvert\Delta\Sigma\overline{NL}\rvert$	0	0.19	0	0.10	%
	$(I_{01})_a$		80	10000000			15	-15	15	-15	0	10000000		24	E_{49}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{49})$	—	—	—	—	mA
	$(I_{01})_b$		81	01111111			15	-15	15	-15	0	01111111		24	E_{50}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{50})$	—	—	—	—	mA
	$\Delta(I_{01})$		82														$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{02})_a$		83	01000000			15	-15	15	-15	0	01000000		24	E_{51}	V	$(I_{02})_a = I_{FS} \times \frac{64}{255} - 0.01(E_{51})$	—	—	—	—	mA
	$(I_{02})_b$		84	00111111			15	-15	15	-15	0	00111111		24	E_{52}	V	$(I_{02})_b = I_{FS} \times \frac{63}{255} - 0.01(E_{52})$	—	—	—	—	mA
	$\Delta(I_{02})$		85														$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{03})_a$		86	00100000			15	-15	15	-15	0	00100000		24	E_{53}	V	$(I_{03})_a = I_{FS} \times \frac{32}{255} - 0.01(E_{53})$	—	—	—	—	mA
	$(I_{03})_b$		87	00011111			15	-15	15	-15	0	00011111		24	E_{54}	V	$(I_{03})_b = I_{FS} \times \frac{31}{255} - 0.01(E_{54})$	—	—	—	—	mA
	$\Delta(I_{03})$		88														$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] \times 10^3$	0	16.0	0	16.0	µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
1 T_A = 25°C	$(I_{04})_a$		89	00010000			15	-15	15	-15	0	00010000		24	E_{55}	V	$(I_{04})_a = I_{FS} \times \frac{16}{255} - 0.01(E_{55})$	–	–	–	–	mA
	$(I_{04})_b$		90	00001111			15	-15	15	-15	0	00001111		24	E_{56}	V	$(I_{04})_b = I_{FS} \times \frac{15}{255} - 0.01(E_{56})$	–	–	–	–	mA
	ΔI_{04}		91														$\Delta I_{04} = [(I_{04})_a - (I_{04})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{05})_a$		92	00001000			15	-15	15	-15	0	00001000		24	E_{57}	V	$(I_{05})_a = I_{FS} \times \frac{8}{255} - 0.01(E_{57})$	–	–	–	–	mA
	$(I_{05})_b$		93	00000111			15	-15	15	-15	0	00000111		24	E_{58}	V	$(I_{05})_b = I_{FS} \times \frac{7}{255} - 0.01(E_{58})$	–	–	–	–	mA
	ΔI_{05}		94														$\Delta I_{05} = [(I_{05})_a - (I_{05})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{06})_a$		95	00000100			15	-15	15	-15	0	00000100		24	E_{59}	V	$(I_{06})_a = I_{FS} \times \frac{4}{255} - 0.01(E_{59})$	–	–	–	–	mA
	$(I_{06})_b$		96	00000011			15	-15	15	-15	0	00000011		24	E_{60}	V	$(I_{06})_b = I_{FS} \times \frac{3}{255} - 0.01(E_{60})$	–	–	–	–	mA
	ΔI_{06}		97														$\Delta I_{06} = [(I_{06})_a - (I_{06})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{07})_a$		98	00000010			15	-15	15	-15	0	00000010		24	E_{61}	V	$(I_{07})_a = I_{FS} \times \frac{2}{255} - 0.01(E_{61})$	–	–	–	–	mA
	$(I_{07})_b$		99	00000001			15	-15	15	-15	0	00000001		24	E_{62}	V	$(I_{07})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{62})$	–	–	–	–	mA
	ΔI_{07}		100														$\Delta I_{07} = [(I_{07})_a - (I_{07})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{08})_b$		101	00000000			15	-15	15	-15	0	00000000		24	E_{63}	V	$(I_{08})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{63})$	–	–	–	–	mA
	ΔI_{08}		102														$\Delta I_{08} = [(I_{07})_b - (I_{08})_b] \times 10^3$	0	16.0	0	16.0	µA
	ΔI_{FS}		103														$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$	-8.0	8.0	-4.0	4.0	µA
2 T_A = 125°C	I_{CC}^+	3005	104	11111111			+15	-15	+15	-15	0			11	I_{20}	mA	$I_{CC}^+ = I_{20}$	0.4	3.8	0.4	3.8	mA
	I_{CC}^-	3005	105	11111111										12	I_{21}	mA	$I_{CC}^- = I_{21}$	-7.8	-0.8	-7.8	-0.8	mA
	I_{FS}		106 1/	11111111								11111111		24	E_{64}	V	$I_{FS} = 2 - 0.01E_{64}$	1.94	2.04	1.984	2.000	mA
	$\overline{I_{FS}}$		107	00000000								11111111	K2	24	E_{65}	V	$\overline{I_{FS}} = 2 - 0.01E_{65}$	1.94	2.04	1.984	2.000	mA
	I_{ZS}		108	00000000									K4	24	E_{66}	V	$I_{ZS} = -10E_{66}$	-2.0	2.0	-1.0	1.0	µA
	$\overline{I_{ZS}}$		109	11111111									K2,K4	24	E_{67}	V	$\overline{I_{ZS}} = -10E_{67}$	-2.0	2.0	-1.0	1.0	µA
	$P_{SS}I_{FS}+1$		110	11111111			5.5	-18				11111111		24	E_{68}	V	$P_{SS}I_{FS}+1 = -10(E_{68}-E_{69})$	-4.0	4.0	-4.0	4.0	µA
			111	11111111			4.5	-18				11111111		24	E_{69}	V						

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Measured pin Value	Measured pin Unit	Equation	Limits Device 01 Min	Limits Device 01 Max	Limits Device 02 Min	Limits Device 02 Max	Units
2 T_A = 125°C	$\overline{P_{SS}I_{FS}+1}$		112	00000000			5.5	-18	+15	-15	0	11111111	K2	24	E_{70}	V	$\overline{P_{SS}I_{FS}+1} = -10(E_{70}-E_{71})$	-4.0	4.0	-4.0	4.0	µA
			113	00000000			4.5	-18				11111111	K2	24	E_{71}	V						
	$P_{SS}I_{FS}+2$		114	11111111			18	-18				11111111		24	E_{72}	V	$P_{SS}I_{FS}+2 = -10(E_{72}-E_{73})$	-8.0	8.0	-8.0	8.0	µA
			115	11111111			12	-18				11111111		24	E_{73}	V						
	$\overline{P_{SS}I_{FS}+2}$		116	00000000			18	-18				11111111	K2	24	E_{74}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{74}-E_{75})$	-8.0	8.0	-8.0	8.0	µA
			117	00000000			12	-18				11111111	K2	24	E_{75}	V						
	$P_{SS}I_{FS}-1$		118	11111111			18	-12				11111111		24	E_{76}	V	$P_{SS}I_{FS}-1 = -10(E_{76}-E_{72})$	-8.0	8.0	-8.0	8.0	µA
	$\overline{P_{SS}I_{FS}-1}$		119	00000000			18	-12				11111111	K2	24	E_{77}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{77}-E_{74})$	-8.0	8.0	-8.0	8.0	µA
	$P_{SS}I_{FS}-2$		120	11111111			18	5.5				11111111		24	E_{78}	V	$P_{SS}I_{FS}-2 = -10(E_{78}-E_{79})$	-2.0	2.0	-2.0	2.0	µA
			121	11111111			18	4.5				11111111		24	E_{79}	V						
	$\overline{P_{SS}I_{FS}-2}$		122	00000000			18	5.5				11111111	K2	24	E_{80}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{80}-E_{81})$	-2.0	2.0	-2.0	2.0	µA
			123	00000000			18	4.5				11111111	K2	24	E_{81}	V						
	$I_{FS}R_1$		124	11111111	15		15	-10	30	-5			K1,K4	26	E_{82}	V	$I_{FS}R_1 = 0.2E_{82}$	2.1		2.1		mA
	$\overline{I_{FS}R_1}$		125	00000000	15			-10	30	-5			K1,K2,K4	26	E_{83}	V	$\overline{I_{FS}R_1} = 0.2E_{83}$	2.1		2.1		mA
	$I_{FS}R_2$		126	11111111	25			-12	30	-5			K1,K4	26	E_{84}	V	$I_{FS}R_2 = 0.2E_{84}$	4.2		4.2		mA
	$\overline{I_{FS}R_2}$		127	00000000	25			-12	30	-5			K1,K2,K4	26	E_{85}	V	$\overline{I_{FS}R_2} = 0.2E_{85}$	4.2		4.2		mA
	I_{REF}^-		128	00000000		0		-15	15	-15			K3	10	I_{22}	A	$I_{REF}^- = I_{22} \times 10^6$	-3.0	0	-3.0	0	µA
	I_{IH1}		129[2/]	10000000										1	I_{23}	A	$I_{IH1} = I_{23} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH2}		130[2/]	01000000										2	I_{24}	A	$I_{IH2} = I_{24} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH3}		131[2/]	00100000										3	I_{25}	A	$I_{IH3} = I_{25} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH4}		132[2/]	00010000										4	I_{26}	A	$I_{IH4} = I_{26} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH5}		133[2/]	00001000										5	I_{27}	A	$I_{IH5} = I_{27} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH6}		134[2/]	00000100										6	I_{28}	A	$I_{IH6} = I_{28} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH7}		135[2/]	00000010										7	I_{29}	A	$I_{IH7} = I_{29} \times 10^6$	-.01	10.0	.01	10.0	µA
	I_{IH8}		136[2/]	00000001										8	I_{30}	A	$I_{IH8} = I_{30} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IL1}		137[2/]	10000000										1	I_{31}	A	$I_{IL1} = I_{31} \times 10^6$	-10.0		-10.0		µA
	I_{IL2}		138[2/]	01000000										2	I_{32}	A	$I_{IL2} = I_{32} \times 10^6$	-10.0		-10.0		µA
	I_{IL3}		139[2/]	00100000										3	I_{33}	A	$I_{IL3} = I_{33} \times 10^6$	-10.0		-10.0		µA
	I_{IL4}		140[2/]	00010000										4	I_{34}	A	$I_{IL4} = I_{34} \times 10^6$	-10.0		-10.0		µA
	I_{IL5}		141[2/]	00001000										5	I_{35}	A	$I_{IL5} = I_{35} \times 10^6$	-10.0		-10.0		µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
2 $T_A = 125°C$	I_{IL6}		142 2/	00000100			15	-15	15	-15	0			6	I_{36}	A	$I_{IL6} = I_{36} \times 10^6$	-10.0		-10.0		µA
	I_{IL7}		143 2/	00000010			15	-15	15	-15	0			7	I_{37}	A	$I_{IL7} = I_{37} \times 10^6$	-10.0		-10.0		µA
	I_{IL8}		144 2/	00000001			15	-15	15	-15	0			8	I_{38}	A	$I_{IL8} = I_{38} \times 10^6$	-10.0		-10.0		µA
	V_{CAL1}		145											24	E_{86}	V	$V_{CAL1} = E_{86}$					V
	I_{FS}^{+}		146	11111111			15	-15	30	0	18	11111111		24	E_{87}	V	$I_{FS}^{+} = 2 - 0.01(E_{87}-E_{86})$	1.94	2.04	1.90	2.08	mA
	$\overline{I_{FS}^{+}}$		147	00000000			15	-15	30	0	18	11111111	K2	24	E_{88}	V	$\overline{I_{FS}^{+}} = 2 - 0.01(E_{88}-E_{86})$	1.94	2.04	1.90	2.08	mA
	V_{CAL2}		148	11111111			15	-15	15	-15	-10	11111111		24	E_{89}	V	$V_{CAL2} = E_{89}$					V
	I_{FS}^{-}		149	11111111			15	-15	15	-15	-10	11111111		24	E_{90}	V	$I_{FS}^{-} = 2 - 0.01(E_{90}-E_{89})$	1.94	2.04	1.90	2.08	mA
	$\overline{I_{FS}^{-}}$		150	00000000			15	-15	15	-15	-10	11111111	K2	24	E_{91}	V	$\overline{I_{FS}^{-}} = 2 - 0.01(E_{91}-E_{89})$	1.94	2.04	1.90	2.08	mA
	ΔI_{FSC}		151														$\Delta I_{FSC} = 1000 (I_{FS+} - I_{FS-})$	-4.0	4.0	-4.0	4.0	µA
	$\Delta \overline{I_{FSC}}$		152														$\Delta \overline{I_{FSC}} = 1000 (\overline{I_{FS+}} - \overline{I_{FS-}})$	-4.0	4.0	-4.0	4.0	µA
	V_{CAL3}		153	00000000			15	-15	15	-15	0	00000000		24	E_{92}	V	$V_{CAL3} = E_{92}$	—	—	—	—	V
	V_{CAL4}		154	11111111								11111111		24	E_{93}	V	$V_{CAL4} = E_{93}$	—	—	—	—	V
	V_{CAL5}		155	11111111								11111111	K2	24	E_{94}	V	$V_{CAL5} = E_{94}$	—	—	—	—	V
	V_{CAL6}		156	00000000								00000000	K2	24	E_{95}	V	$V_{CAL6} = E_{95}$	—	—	—	—	V
	NL_1		157	10000000								10000000		24	E_{96}	V	$NL_1 = \frac{(E_{96}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(128)}{255} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_2		158	01000000								01000000		24	E_{97}	V	$NL_2 = \frac{(E_{97}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(64)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_3		159	00100000								00100000		24	E_{98}	V	$NL_3 = \frac{(E_{98}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(32)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3} -$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers									Energized relays	Measured pin			Equation	Limits				Units
				1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state		No.	Value	Unit		Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	
2 $T_A = 125°C$	NL_4		160	00010000			15	-15	15	-15	0	00010000		24	E_{99}	V	$NL_4 = \frac{(E_{99}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(16)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_5		161	00001000								00001000		24	E_{100}	V	$NL_5 = \frac{(E_{100}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(8)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_6		162	00000100								00000100		24	E_{101}	V	$NL_6 = \frac{(E_{101}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(4)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_7		163	00000010								00000010		24	E_{102}	V	$NL_7 = \frac{(E_{102}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(2)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_8		164	00000001								00000001		24	E_{103}	V	$NL_8 = \frac{(E_{103}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(1)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_1}$		165	01111111								10000000		24	E_{104}	V	$\overline{NL_1} = \frac{(E_{104}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(128)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_2}$		166	10111111								01000000		24	E_{105}	V	$\overline{NL_2} = \frac{(E_{105}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(64)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
T_A = 125°C [2]	$\overline{NL_3}$		167	11011111			15	-15	15	-15	0	00100000		24	E_{106}	V	$\overline{NL_3} = \frac{(E_{106}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{32}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_4}$		168	11101111								00010000		24	E_{107}	V	$\overline{NL_4} = \frac{(E_{107}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{16}{255}\right)\frac{(V_{CAL}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_5}$		169	11110111								00001000		24	E_{108}	V	$\overline{NL_5} = \frac{(E_{108}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{8}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_6}$		170	11111011								00000100		24	E_{109}	V	$\overline{NL_6} = \frac{(E_{109}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{4}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_7}$		171	11111101								00000010		24	E_{110}	V	$\overline{NL_7} = \frac{(E_{110}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{2}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_8}$		172	11111110								00000001		24	E_{111}	V	$\overline{NL_8} = \frac{(E_{111}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{1}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	ΣNL^+		173														$\Sigma NL^+ = NL_i + NL_k + \ldots$ (i,k = bits having positive errors)	0	0.19	0	0.10	%
	$\Sigma\overline{NL}^+$		174														$\Sigma\overline{NL}^+ = \overline{NL_{i'}} + \overline{NL_{k'}} + \ldots$	0	0.19	0	0.10	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Measured pin Value	Measured pin Unit	Equation	Limits Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
2 T_A = 125°C	ΣNL^-		175														$\Sigma NL^- = NL_m + NL_n + ...$ (m,n = bits having negative errors)	-0.19	0	-0.10	0	%
	$\Sigma \overline{NL^-}$		176														$\Sigma \overline{NL^-} = \overline{NL}_{m'} + \overline{NL}_{n'} + ...$	-0.19	0	-0.10	0	%
	$\Delta\Sigma NL$		177														$\Delta\Sigma NL = \|\Sigma NL^+\| - \|\Sigma NL^-\|$	-0.05	0.05	-0.03	0.03	%
	$\Delta\Sigma\overline{NL}$		178														$\Delta\Sigma\overline{NL} = \|\Sigma\overline{NL^+}\| - \|\Sigma\overline{NL^-}\|$	-0.05	0.05	-0.03	0.03	%
	NL^+		179														$NL^+ = \|\Sigma NL^+\| + \|\Delta\Sigma NL\|$	0	0.19	0	0.10	%
	$\overline{NL^+}$		180														$\overline{NL^+} = \|\Sigma\overline{NL^+}\| + \|\Delta\Sigma\overline{NL}\|$	0	0.19	0	0.10	%
	NL^-		181														$NL^- = \|\Sigma NL^-\| + \|\Delta\Sigma NL\|$	0	0.19	0	0.10	%
	$\overline{NL^-}$		182														$\overline{NL^-} = \|\Sigma\overline{NL^-}\| + \|\Delta\Sigma\overline{NL}\|$	0	0.19	0	0.10	%
	$(I_{01})_a$		183	10000000			15	-15	15	-15	0	10000000		24	E_{112}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{112})$	—	—	—	—	mA
	$(I_{01})_b$		184	01111111			15	-15	15	-15	0	01111111		24	E_{113}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{113})$	—	—	—	—	mA
	$\Delta(I_{01})$		185														$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{02})_a$		186	01000000			15	-15	15	-15	0	01000000		24	E_{114}	V	$(I_{02})_a = I_{FS} \times \frac{64}{255} - 0.01(E_{114})$	—	—	—	—	mA
	$(I_{02})_b$		187	00111111			15	-15	15	-15	0	00111111		24	E_{115}	V	$(I_{02})_b = I_{FS} \times \frac{63}{255} - 0.01(E_{115})$	—	—	—	—	mA
	$\Delta(I_{02})$		188														$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{03})_a$		189	00100000			15	-15	15	-15	0	00100000		24	E_{116}	V	$(I_{03})_a = I_{FS} \times \frac{32}{255} - 0.01(E_{116})$	—	—	—	—	mA
	$(I_{03})_b$		190	00011111			15	-15	15	-15	0	00011111		24	E_{117}	V	$(I_{03})_b = I_{FS} \times \frac{31}{255} - 0.01(E_{117})$	—	—	—	—	mA
	$\Delta(I_{03})$		191														$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{04})_a$		192	00010000			15	-15	15	-15	0	00010000		24	E_{118}	V	$(I_{04})_a = I_{FS} \times \frac{16}{255} - 0.01(E_{118})$	—	—	—	—	mA
	$(I_{04})_b$		193	00001111			15	-15	15	-15	0	00001111		24	E_{119}	V	$(I_{04})_b = I_{FS} \times \frac{15}{255} - 0.01(E_{119})$	—	—	—	—	mA
	$\Delta(I_{04})$		194														$\Delta(I_{04}) = [(I_{04})_a - (I_{04})_b] \times 10^3$	0	16.0	0	16.0	µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Value	Unit	Equation	Limits Device 01 Min	Max	Device 02 Min	Max	Units
2 T_A = 125°C	$(I_{05})_a$		195	00001000			15	-15	15	-15	0	00001000		24	E_{120}	V	$(I_{05})_a = I_{FS} \times \frac{8}{255} - 0.01(E_{120})$	—	—	—	—	mA
	$(I_{05})_b$		196	00000111			15	-15	15	-15	0	00000111		24	E_{121}	V	$(I_{05})_b = I_{FS} \times \frac{7}{255} - 0.01(E_{121})$	—	—	—	—	mA
	ΔI_{05}		197														$\Delta I_{05} = [(I_{05})_a - (I_{05})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{06})_a$		198	00000100			15	-15	15	-15	0	00000100		24	E_{122}	V	$(I_{06})_a = I_{FS} \times \frac{4}{255} - 0.01(E_{122})$	—	—	—	—	mA
	$(I_{06})_b$		199	00000011			15	-15	15	-15	0	00000011		24	E_{123}	V	$(I_{06})_b = I_{FS} \times \frac{3}{255} - 0.01(E_{123})$	—	—	—	—	mA
	ΔI_{06}		200														$\Delta I_{06} = [(I_{06})_a - (I_{06})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{07})_a$		201	00000010			15	-15	15	-15	0	00000010		24	E_{124}	V	$(I_{07})_a = I_{FS} \times \frac{2}{255} - 0.01(E_{124})$	—	—	—	—	mA
	$(I_{07})_b$		202	00000001			15	-15	15	-15	0	00000001		24	E_{125}	V	$(I_{07})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{125})$	—	—	—	—	mA
	ΔI_{07}		203														$\Delta I_{07} = [(I_{07})_a - (I_{07})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{08})_b$		204	00000000			15	-15	15	-15	0	00000000		24	E_{126}	V	$(I_{08})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{126})$	—	—	—	—	mA
	ΔI_{08}		205														$\Delta I_{08} = [(I_{07})_b - (I_{08})_b] \times 10^3$	0	16.0	0	16.0	µA
↓	ΔI_{FS}		206														$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$	-8.0	8.0	-4.0	4.0	µA
3 T_A = -55°C	I_{CC}^+	3005	207	11111111			+15	-15	+15	-15	0			11	I_{39}	mA	$I_{CC}^+ = I_{39}$	0.4	3.8	0.4	3.8	mA
	I_{CC}^-	3005	208	11111111										12	I_{40}	mA	$I_{CC}^- = I_{40}$	-7.8	-0.8	-7.8	-0.8	mA
	I_{FS}		209 1/	11111111								11111111		24	E_{127}	V	$I_{FS} = 2 - 0.01(E_{127})$	1.94	2.04	1.984	2.000	mA
	$\overline{I_{FS}}$		210	00000000								11111111	K2	24	E_{128}	V	$\overline{I_{FS}} = 2 - 0.01(E_{128})$	1.94	2.04	1.984	2.000	mA
	I_{ZS}		211	00000000									K4	24	E_{129}	V	$I_{ZS} = -10(E_{129})$	-2.0	2.0	-1.0	1.0	µA
	$\overline{I_{ZS}}$		212	11111111			↓	↓					K2,K4	24	E_{130}	V	$\overline{I_{ZS}} = -10(E_{130})$	-2.0	2.0	-1.0	1.0	µA
	$P_{SS}I_{FS}+1$		213	11111111			5.5	-18				11111111		24	E_{131}	V	$P_{SS}I_{FS}+1 = -10(E_{131}-E_{132})$	-4.0	4.0	-4.0	4.0	µA
			214	11111111			4.5	-18				11111111		24	E_{132}	V						
	$\overline{P_{SS}I_{FS}+1}$		215	00000000			5.5	-18				11111111	K2	24	E_{133}	V	$\overline{P_{SS}I_{FS}+1} = -10(E_{133}-E_{134})$	-4.0	4.0	-4.0	4.0	µA
			216	00000000			4.5	-18				11111111	K2	24	E_{134}	V						
	$P_{SS}I_{FS}+2$		217	11111111			18	-18				11111111		24	E_{135}	V	$P_{SS}I_{FS}+2 = -10(E_{135}-E_{136})$	-8.0	8.0	-8.0	8.0	µA
↓			218	11111111			12	-18	↓	↓	↓	11111111		24	E_{136}	V						

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
3 T_A = -55°C	$\overline{P_{SS}I_{FS}+2}$		219	00000000			18	-18	+15	-15	0	11111111	K2	24	E_{137}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{137}-E_{138})$	-8.0	8.0	-8.0	8.0	µA
			220	00000000			12	-18				11111111	K2	24	E_{138}	V						
	$P_{SS}I_{FS}-1$		221	11111111			18	-12				11111111		24	E_{139}	V	$P_{SS}I_{FS}-1 = -10(E_{139}-E_{135})$	-8.0	8.0	-8.0	8.0	µA
	$\overline{P_{SS}I_{FS}-1}$		222	00000000			18	-12				11111111	K2	24	E_{140}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{140}-E_{137})$	-8.0	8.0	-8.0	8.0	µA
	$P_{SS}I_{FS}-2$		223	11111111			18	5.5				11111111		24	E_{141}	V	$P_{SS}I_{FS}-2 = -10(E_{141}-E_{142})$	-2.0	2.0	-2.0	2.0	µA
			224	11111111			18	4.5				11111111		24	E_{142}	V						
	$\overline{P_{SS}I_{FS}-2}$		225	00000000			18	5.5				11111111	K2	24	E_{143}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{143}-E_{144})$	-2.0	2.0	-2.0	2.0	µA
			226	00000000			18	4.5				11111111	K2	24	E_{144}	V						
	$I_{FS}R_1$		227	11111111	15		15	-10	30	-5	0		K1,K4	26	E_{145}	V	$I_{FS}R_1 = 0.2E_{145}$	2.1		2.1		mA
	$\overline{I_{FS}R_1}$		228	00000000	15		15	-10	30	-5	0		K1,K2,K4	26	E_{146}	V	$\overline{I_{FS}R_1} = 0.2E_{146}$	2.1		2.1		mA
	$I_{FS}R_2$		229	11111111	25		15	-12	30	-5	0		K1,K4	26	E_{147}	V	$I_{FS}R_2 = 0.2E_{147}$	4.2		4.2		mA
	$\overline{I_{FS}R_2}$		230	00000000	25		15	-12	30	-5	0		K1,K2,K4	26	E_{148}	V	$\overline{I_{FS}R_2} = 0.2E_{148}$	4.2		4.2		mA
	I_{REF}		231	00000000		0	15	-15	15	-15	0		K3	10	I_{41}	A	$I_{REF}^- = I_{41} \times 10^6$	-3.0	0	-3.0	0	µA
	I_{IH1}		232 2/	10000000										1	I_{42}	A	$I_{IH1} = I_{42} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH2}		233 2/	01000000										2	I_{43}	A	$I_{IH2} = I_{43} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH3}		234 2/	00100000										3	I_{44}	A	$I_{IH3} = I_{44} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH4}		235 2/	00010000										4	I_{45}	A	$I_{IH4} = I_{45} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH5}		236 2/	00001000										5	I_{46}	A	$I_{IH5} = I_{46} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH6}		237 2/	00000100										6	I_{47}	A	$I_{IH6} = I_{47} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH7}		238 2/	00000010										7	I_{48}	A	$I_{IH7} = I_{48} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IH8}		239 2/	00000001										8	I_{49}	A	$I_{IH8} = I_{49} \times 10^6$	-.01	10.0	-.01	10.0	µA
	I_{IL1}		240 2/	10000000										1	I_{50}	A	$I_{IL1} = I_{50} \times 10^6$	-10.0		-10.0		µA
	I_{IL2}		241 2/	01000000										2	I_{51}	A	$I_{IL2} = I_{51} \times 10^6$	-10.0		-10.0		µA
	I_{IL3}		242 2/	00100000										3	I_{52}	A	$I_{IL3} = I_{52} \times 10^6$	-10.0		-10.0		µA
	I_{IL4}		243 2/	00010000										4	I_{53}	A	$I_{IL4} = I_{53} \times 10^6$	-10.0		-10.0		µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
3 T_A = -55°C	I_{IL5}		244 2/	00001000			15	-15	15	-15	0			5	I_{54}	A	$I_{IL5} = I_{54} \times 10^6$	-10.0		-10.0		A
↓	I_{IL6}		245 2/	00000100			↓	↓	↓	↓	↓			6	I_{55}	A	$I_{IL6} = I_{55} \times 10^6$	-10.0		-10.0		A
↓	I_{IL7}		246 2/	00000010			↓	↓	↓	↓	↓			7	I_{56}	A	$I_{IL7} = I_{56} \times 10^6$	-10.0		-10.0		A
↓	I_{IL8}		247 2/	00000001			↓	↓	↓	↓	↓			8	I_{57}	A	$I_{IL8} = I_{57} \times 10^6$	-10.0		-10.0		A
↓	V_{CAL1}		248											24	E_{149}	V	$V_{CAL1} = E_{149}$	—	—	—	—	V
↓	I_{FS}^+		249	11111111			15	-15	30	0	18	11111111		24	E_{150}	V	$I_{FS}^+ = 2 - 0.01(E_{150}-E_{149})$	1.94	2.04	1.90	2.08	mA
↓	$\overline{I_{FS}^+}$		250	00000000			15	-15	30	0	18	11111111	K2	24	E_{151}	V	$\overline{I_{FS}^+} = 2 - 0.01(E_{151}-E_{149})$	1.94	2.04	1.90	2.08	mA
↓	V_{CAL2}		251	11111111			15	-15	15	-15	-10	11111111		24	E_{152}	V	$V_{CAL2} = E_{152}$	—	—	—	—	V
↓	I_{FS}^-		252	11111111			15	-15	15	-15	-10	11111111		24	E_{153}	V	$I_{FS}^- = 2 - 0.01(E_{153}-E_{152})$	1.94	2.04	1.90	2.08	mA
↓	$\overline{I_{FS}^-}$		253	00000000			15	-15	15	-15	-10	11111111	K2	24	E_{154}	V	$\overline{I_{FS}^-} = 2 - 0.01(E_{154}-E_{152})$	1.94	2.04	1.90	2.08	mA
↓	ΔI_{FSC}		254														$\Delta I_{FSC} = 1000(I_{FS}^+ - I_{FS}^-)$	-4.0	4.0	-4.0	4.0	A
↓	$\Delta\overline{I_{FSC}}$		255														$\Delta\overline{I_{FSC}} = 1000(\overline{I_{FS}^+} - \overline{I_{FS}^-})$	-4.0	4.0	-4.0	4.0	A
↓	V_{CAL3}		256	00000000			15	-15	15	-15	0	00000000		24	E_{155}	V	$V_{CAL3} = E_{155}$	—	—	—	—	V
↓	V_{CAL4}		257	11111111			↓	↓	↓	↓	↓	11111111		24	E_{156}	V	$V_{CAL4} = E_{156}$	—	—	—	—	V
↓	V_{CAL5}		258	11111111			↓	↓	↓	↓	↓	11111111	K2	24	E_{157}	V	$V_{CAL5} = E_{157}$	—	—	—	—	V
↓	V_{CAL6}		259	00000000			↓	↓	↓	↓	↓	00000000	K2	24	E_{158}	V	$V_{CAL6} = E_{158}$	—	—	—	—	V
↓	NL_1		260	10000000			15	-15	15	-15	0	10000000		24	E_{159}	V	$NL_1 = \frac{(E_{159}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(128)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
↓	NL_2		261	01000000			15	-15	15	-15	0	01000000		24	E_{160}	V	$NL_2 = \frac{(E_{160}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(64)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
3 T_A = -55°C	NL_3		262	00100000			15	-15	15	-15	0	00100000		24	E_{161}	V	$NL_3 = \frac{(E_{161}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(32)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_4		263	00010000								00010000		24	E_{162}	V	$NL_4 = \frac{(E_{162}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(16)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_5		264	00001000								00001000		24	E_{163}	V	$NL_5 = \frac{(E_{163}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(8)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_6		265	00000100								00000100		24	E_{164}	V	$NL_6 = \frac{(E_{164}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(4)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_7		266	00000010								00000010		24	E_{165}	V	$NL_7 = \frac{(E_{165}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(2)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	NL_8		267	00000001								00000001		24	E_{166}	V	$NL_8 = \frac{(E_{166}-V_{CAL3})}{I_{FS} \times 10^3} - \frac{(1)}{(255)} \frac{(V_{CAL4}-V_{CAL3})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_1}$		268	01111111								10000000		24	E_{167}	V	$\overline{NL_1} = \frac{(E_{167}-V_{CAL5})}{I_{FS} \times 10^3} - \frac{(128)}{(255)} \frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL STD-883 method	Test no.	Adapter pin numbers 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Value	Unit	Equation	Limits Device 01 Min	Max	Device 02 Min	Max	Units
3 T_A = -55°C	$\overline{NL_2}$		269	10111111			15	-15	15	-15	0	01000000		24	E_{168}	V	$\overline{NL_2} = \frac{(E_{168}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{64}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_3}$		270	11011111								00100000		24	E_{169}	V	$\overline{NL_3} = \frac{(E_{169}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{32}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_4}$		271	11101111								00010000		24	E_{170}	V	$\overline{NL_4} = \frac{(E_{170}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{16}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_5}$		272	11110111								00001000		24	E_{171}	V	$\overline{NL_5} = \frac{(E_{171}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{8}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_6}$		273	11111011								00000100		24	E_{172}	V	$\overline{NL_6} = \frac{(E_{172}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{4}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_7}$		274	11111101								00000010		24	E_{173}	V	$\overline{NL_7} = \frac{(E_{173}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{2}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%
	$\overline{NL_8}$		275	11111110								00000001		24	E_{174}	V	$\overline{NL_8} = \frac{(E_{174}-V_{CAL5})}{I_{FS} \times 10^3} - \left(\frac{1}{255}\right)\frac{(V_{CAL6}-V_{CAL5})}{I_{FS} \times 10^3}$	—	—	—	—	%

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin No.	Measured pin Value	Measured pin Unit	Equation	Limits Device 01 Min	Limits Device 01 Max	Limits Device 02 Min	Limits Device 02 Max	Units
3 T_A = -55°C	ΣNL^+		276														$\Sigma NL^+ = NL_i + NL_k + \ldots$ (i,k = bits having positive errors)	0	0.19	0	0.10	%
	$\Sigma \overline{NL}^+$		277														$\Sigma \overline{NL}^+ = \overline{NL}_{i'} + \overline{NL}_{k'} + \ldots$	0	0.19	0	0.10	%
	ΣNL^-		278														$\Sigma NL^- = NL_m + NL_n + \ldots$ (m,n = bits having negative errors)	-0.19	0	-0.10	0	%
	$\Sigma \overline{NL}^-$		279														$\Sigma \overline{NL}^- = \overline{NL}_{m'} + \overline{NL}_{n'} + \ldots$	-0.19	0	-0.10	0	%
	$\Delta \Sigma NL$		280														$\Delta \Sigma NL = \lvert \Sigma NL^+ \rvert - \lvert \Sigma NL^- \rvert$	-0.05	0.05	-0.03	0.03	%
	$\Delta \Sigma \overline{NL}$		281														$\Delta \Sigma \overline{NL} = \lvert \Sigma \overline{NL}^+ \rvert - \lvert \Sigma \overline{NL}^- \rvert$	-0.05	0.05	-0.03	0.03	%
	NL^+		282														$NL^+ = \lvert \Sigma NL^+ \rvert + \lvert \Delta \Sigma NL \rvert$	0	0.19	0	0.10	%
	$\overline{NL}^+$		283														$\overline{NL}^+ = \lvert \Sigma \overline{NL}^+ \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$	0	0.19	0	0.10	%
	NL^-		284														$NL^- = \lvert \Sigma NL^- \rvert + \lvert \Delta \Sigma NL \rvert$	0	0.19	0	0.10	%
	$\overline{NL}^-$		285														$\overline{NL}^- = \lvert \Sigma \overline{NL}^- \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$	0	0.19	0	0.10	%
	$(I_{01})_a$		286	10000000			15	-15	15	-15	0	10000000		24	E_{175}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{175})$	—	—	—	—	mA
	$(I_{01})_b$		287	01111111			15	-15	15	-15	0	01111111		24	E_{176}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{176})$	—	—	—	—	mA
	$\Delta(I_{01})$		288														$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{02})_a$		289	01000000			15	-15	15	-15	0	01000000		24	E_{177}	V	$(I_{02})_a = I_{FS} \times \frac{64}{255} - 0.01(E_{177})$	—	—	—	—	mA
	$(I_{02})_b$		290	00111111			15	-15	15	-15	0	00111111		24	E_{178}	V	$(I_{02})_b = I_{FS} \times \frac{63}{255} - 0.01(E_{178})$	—	—	—	—	mA
	$\Delta(I_{02})$		291														$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{03})_a$		292	00100000			15	-15	15	-15	0	00100000		24	E_{179}	V	$(I_{03})_a = I_{FS} \times \frac{32}{255} - 0.01(E_{179})$	—	—	—	—	mA
	$(I_{03})_b$		293	00011111			15	-15	15	-15	0	00011111		24	E_{180}	V	$(I_{03})_b = I_{FS} \times \frac{31}{255} - 0.01(E_{180})$	—	—	—	—	mA
	$\Delta(I_{03})$		294														$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{04})_a$		295	00010000			15	-15	15	-15	0	00010000		24	E_{181}	V	$(I_{04})_a = I_{FS} \times \frac{16}{255} - 0.01(E_{181})$	—	—	—	—	mA
	$(I_{04})_b$		296	00001111			15	-15	15	-15	0	00001111		24	E_{182}	V	$(I_{04})_b = I_{FS} \times \frac{15}{255} - 0.01(E_{182})$	—	—	—	—	mA
	$\Delta(I_{04})$		297														$\Delta(I_{04}) = [(I_{04})_a - (I_{04})_b] \times 10^3$	0	16.0	0	16.0	µA

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers: 1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state	Energized relays	Measured pin: No.	Value	Unit	Equation	Limits: Device 01 Min	Device 01 Max	Device 02 Min	Device 02 Max	Units
3 T_A = -55°C	$(I_{05})_a$		298	00001000			15	-15	15	-15	0	00001000		24	E_{183}	V	$(I_{05})_a = I_{FS} \times \frac{8}{255} - 0.01(E_{183})$	—	—	—	—	mA
	$(I_{05})_b$		299	00000111			15	-15	15	-15	0	00000111		24	E_{184}	V	$(I_{05})_b = I_{FS} \times \frac{7}{255} - 0.01(E_{184})$	—	—	—	—	mA
	$\Delta(I_{05})$		300														$\Delta(I_{05}) = [(I_{05})_a - (I_{05})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{06})_a$		301	00000100			15	-15	15	-15	0	00000100		24	E_{185}	V	$(I_{06})_a = I_{FS} \times \frac{4}{255} - 0.01(E_{185})$	—	—	—	—	mA
	$(_{06})_b$		302	00000011			15	-15	15	-15	0	00000011		24	E_{186}	V	$(I_{06})_b = I_{FS} \times \frac{3}{255} - 0.01(E_{186})$	—	—	—	—	mA
	$\Delta(I_{06})$		303														$\Delta(I_{06}) = [(I_{06})_a - (I_{06})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{07})_a$		304	00000010			15	-15	15	-15	0	00000010		24	E_{187}	V	$(I_{07})_a = I_{FS} \times \frac{2}{255} - 0.01(E_{187})$	—	—	—	—	mA
	$(I_{07})_b$		305	00000001			15	-15	15	-15	0	00000001		24	E_{188}	V	$(I_{07})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{188})$	—	—	—	—	mA
	$\Delta(I_{07})$		306														$\Delta(I_{07}) = [(I_{07})_a - (I_{07})_b] \times 10^3$	0	16.0	0	16.0	µA
	$(I_{08})_b$		307	00000000			15	-15	15	-15	0	00000000		24	E_{189}	V	$(I_{08})_b = I_{FS} \times \frac{1}{255} - 0.01(E_{189})$	—	—	—	—	mA
	$\Delta(I_{08})$		308														$\Delta(I_{08}) = [(I_{07})_b - (I_{08})_b] \times 10^3$	0	16.0	0	16.0	µA
	ΔI_{FS}		309														$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$	-8.0	8.0	-4.0	4.0	µA
9 T_A = 25°C	$TC(I_{FS})$		310														$TC(I_{FS}) = \frac{(E_1 - E_{64})}{E_1} \times 10^4$	-50	50	-50	50	PPM/°C
	$TC(I_{FS})$		311														$TC(I_{FS}) = \frac{(E_1 - E_{126})}{0.8E_1} \times 10^4$	-50	50	-50	50	PPM/°C
	$\overline{TC(I_{FS})}$		312														$\overline{TC(I_{FS})} = \frac{(E_2 - E_{65})}{E_2} \times 10^4$	-50	50	-50	50	PPM/°C
	$\overline{TC(I_{FS})}$		313														$\overline{TC(I_{FS})} = \frac{(E_2 - E_{127})}{0.8E_2} \times 10^4$	-50	50	-50	50	PPM/°C
	t_{PHL}		314	See figure 7. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)														6	60	6	60	ns
	t_{PLH}		315	See figure 7. V_L = 0.7 V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)														6	60	6	60	ns
10 T_A = 125°C	t_{PHL}		316	See figure 7. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)														6	60	6	60	ns

See footnotes at end of table.

TABLE III. Group A inspection for device types 01 and 02 - Continued.

Subgroup	Symbol	MIL-STD-883 method	Test no.	Adapter pin numbers									Energized relays	Measured pin			Equation	Limits				Units
				1 - 8 logic state	9 V	10 V	11 V	12 V	13 V	14 V	15 V	16-23 logic state		No.	Value	Unit		Device 01		Device 02		
																		Min	Max	Min	Max	
10 $T_A = 125°C$	t_{PLH}		317	See figure 7. $V_L = 0.7$ V, V_{OUT} low-to-high transition, S1 OFF (V_{IN} high-to-low)														6	60	6	60	ns
11 $T_A = -55°C$	t_{PHL}		318	See figure 7. $V_L = 2.7$ V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)														6	60	6	60	ns
↓	t_{PLH}		319	See figure 7. $V_L = 0.7$ V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)														6	60	6	60	ns
↓	dI_0/dt		320	See figure 8. V_{IN} low-to-high transition, $V_L = 5$ Vdc													$\frac{dI_0}{dt} = \frac{1}{\Delta t}$	1.5		1.5		$\frac{mA}{\mu sec}$
↓	t_{SHL}		321	See figure 7. $V_L = 2.7$ V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)														10	135	10	135	ns
↓	t_{SHL}		322	See figure 7. $V_L = 0.7$ V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)														10	135	10	135	ns

NOTES:
1/ The measurement of I_{FS} and $\overline{I_{FS}}$ can be made directly as a voltage measurement at pin 26 ($I_{FS} = [E_{pin26}/5000]$mA) provided that measurement accuracy is ±0.1% or better. If the measurement is made in accordance with table III, the reference D/A converter must be calibrated for a full scale current of 2.0 mA ±0.1%.
2/ For tests 26-33, 129-136 and 232-239, the logic input voltage shall be +18 V.
For tests 34-41, 137-144 and 240-247, the logic input voltage shall be -10.0 V.

TABLE IV. Group C end point electrical parameters.
(T_A = 25°C; $\pm V_{CC}$ = ±15 V)

Test no.	Symbol	Device type 01				Device type 02			
		Limits		Delta	Units	Limits		Delta	Units
		Min	Max			Min	Max		
3	I_{FS}	1.94	2.04	0.01	mA	1.984	2.000	0.005	mA
4	$\overline{I_{FS}}$	1.94	2.04	0.01	mA	1.984	2.000	0.005	mA
5	I_{ZS}	-2.0	+2.0	0.5	µA	-1.0	+1.0	0.3	µA
6	$\overline{I_{ZS}}$	-2.0	+2.0	0.5	µA	-1.0	+1.0	0.3	µA

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510.

6. NOTES

6.1 Notes. The notes specified in MIL-M-38510 are applicable to this specification.

6.2 Intended use. Microcircuits conforming to this specification are intended for use for Government microcircuit applications (original equipment) and logistic purposes.

6.3 Ordering data. The contract or order should specify the following:

a. Complete part number (see 1.2).
b. Requirements for delivery of one copy of the quality conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
c. Requirement for certificate of compliance, if applicable.
d. Requirements for notification of change of product or process to procuring activity in addition to notification to the qualifying activity, if applicable.
e. Requirements for packaging and packing.
f. Requirements for failure analysis (including required test condition of method 5003, MIL-STD-883, corrective action and reporting of results, if applicable.
g. Requirements for product assurance options.
h. Requirements for carriers, special lead lengths or lead forming, if applicable. These requirements shall not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.

6.4 Abbreviations, symbols, and definitions. Abbreviations, symbols, and definitions used herein are defined in MIL-M-38510 and MIL-STD-1331.

6.5 Logistic support. Lead materials and finishes (see 3.3) are interchangeable. Unless otherwise specified, microcircuits procured for Government logistic support will be procured to device class B (see 1.2.2), lead material and finish C (see 3.3). Longer length leads and lead forming shall not affect the part number.

6.6 Substitutability. The cross-reference information below is presented for the convenience of users. Microcircuits covered by this specification will functionally replace the listed Generic-Industry type. Generic-Industry microcircuit types may not have equivalent operational performance characteristics across military temperature ranges or reliability factors equivalent to MIL-M-38510 device types and may have slight physical variations in relation to case size. The presence of this information shall not be deemed as permitting substitution of Generic-Industry types for MIL-M-38510 types or as a waiver of any of the provisions of MIL-M-38510.

Military device type	Generic-Industry type
01	DAC-08
02	DAC-08A

Custodians:
Army - ER
Navy - EC
Air Force - 17

Review activities:
Army - AR, MI, HD
Navy - SD
Air Force - 99
DLA - ES
NASA - NA

User activities:
Army - SM
Navy - CG, MC, AS, OS
Air Force - 19

Preparing activity:
Air Force - 17

Agent:
DLA - ES

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