INCH-POUND
MIL-M-38510/113B
21 June 2005
SUPERSEDING
MIL-M-38510/113A
10 February 2005

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.

Reactivated for new design as of 10 February 2005. May be used for either new or existing design acquisition.

The requirements for acquiring the product herein shall consist of this specification sheet and MIL-PRF-38535

1. SCOPE

1.1 Scope. This specification covers the detail requirements for monolithic silicon, 8 bit, digital-to-analog converters. Two product assurance classes and a choice of case outlines and lead finishes are provided for each type and are reflected in the complete part number. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.4)

1.2 Part or Identifying Number (PIN). The PIN is in accordance with MIL-PRF-38535, and as specified herein.

1.2.1 Device types. The device types are 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 is the product assurance level as defined in MIL-PRF-38535.

1.2.3 Case outline. The case outlines are 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

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 (T_J) .... +175°C
Storage temperature .... -65°C to +150°C

Comments, suggestions, or questions on this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAS, 3990 East Broad St., Columbus, OH 43218-3990, or emailed to mailto:linear@dscc.dla.mil . Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil .

AMSC N/A FSC 5962

1.4 Recommended operating conditions.

Supply voltage range .... ±5 Vdc to ±15 Vdc 1/ 2/
Ambient temperature range .... -55°C to +125°C

1.5 Power and thermal characteristics.

Case outline	Package	Maximum allowable power dissipation	maximum θ_{JC}	maximum θ_{JA}
E	Dual-in-line	400 mW @ T_A = 125°C	35°C/W	120°C/W

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

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

DEPARTMENT OF DEFENSE STANDARDS

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

(Copies of these documents are available online at http://assist.daps.dla.mil/quicksearch/ or http://assist.daps.dla.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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

3. REQUIREMENTS

3.1 Qualification. Microcircuits furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturers list before contract award (see 4.3 and 6.3).

3.2 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-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 affect the form, fit, or function as described herein.

3.3 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein.

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

2/ Sequence of power supply turn-on must be $-V_{CC}$ prior to $+V_{CC}$ unless the positive supply has current limiting resistance of 100 Ω ±10%. If a current limiting resistance is used, a slight degradation in linearity will occur.

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

3.3.2 Schematic circuits. The schematic circuits shall be maintained by the manufacturer and made available to the qualifying activity and the preparing activity upon request.

3.3.3 Case outlines. The case outlines shall be as specified in 1.2.3.

3.4 Lead material and finish. The lead material and finish shall be in accordance with MIL-PRF-38535 (see 6.6).

3.5 Electrical performance characteristics. The electrical performance characteristics are as specified in table I, and apply over the full recommended ambient operating temperature range, unless otherwise specified.

3.6 Electrical test requirements. Electrical test requirements for each device class shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table III.

3.7 Marking. Marking shall be in accordance with MIL-PRF-38535.

3.8 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 56 (see MIL-PRF-38535, appendix A).

4. VERIFICATION.

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

4.2 Screening. Screening shall be in accordance with MIL-PRF-38535, and shall be conducted on all devices prior to qualification and quality conformance inspection. The following additional criteria shall apply:

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

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. Interim and final electrical test parameters shall be as specified in table II, except interim electrical parameters test prior to burn-in is optional at the discretion of the manufacturer.

c. Additional screening for space level product shall be as specified in MIL-PRF-38535.

4.3 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-38535.

4.4 Technology Conformance inspection (TCI). Technology conformance inspection shall be in accordance with MIL-PRF-38535 and herein for groups A, B, C, and D inspections (see 4.4.1 through 4.4.4).

TABLE I. Electrical performance characteristics.

Characteristics	Symbol	Conditions 1/ $-55°C \le T_A \le +125°C$ (table III and figures 2, 3, and 4 unless otherwise indicated)	Device type	Limits		Units
				Min	Max	
Supply current from $+V_{CC}$	$I_{CC}+$	All input bits high	All	0.4	3.8	mA
Supply current from $-V_{CC}$	$I_{CC}-$	All input bits high	All	-7.8	-0.8	mA
Full scale current	I_{FS}	All input bits high, Measure I_O	01	1.94	2.04	mA
			02	1.984	2.000	
	$\overline{I_{FS}}$	All input bits low, Measure $\overline{I_O}$	01	1.94	2.04	mA
			02	1.984	2.000	
Zero scale current	I_{ZS}	All input bits low, measure I_O	01	-2.0	2.0	µA
			02	-1.0	1.0	
	$\overline{I_{ZS}}$	All input bits high, measure $\overline{I_O}$	01	-2.0	2.0	µA
			02	-1.0	1.0	
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	All	-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	All	-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	All	-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	All	-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	All	-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	All	-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, I_{REF} = 1 mA	All	-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	All	-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	All	2.1	-----	mA
	$\overline{I_{FS}R_1}$	All input bits low, measure $\overline{I_O}$ $-V_{CC}$ = -10 V, V_{REF} = 15 V	All	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	All	4.2	-----	mA
	$\overline{I_{FS}R_2}$	All input bits low, measure $\overline{I_O}$ $-V_{CC}$ = -12 V, V_{REF} = 25 V	All	4.2	-----	mA

See footnote at end of table.

TABLE I. Electrical performance characteristics – Continued.

Characteristics	Symbol	Conditions 1/ -55°C ≤ T_A ≤ +125°C (table III and figures 2, 3, and 4 unless otherwise indicated)		Device type	Limits Min	Limits Max	Units
Reference bias current	I_{REF-}	All input bits low		All	-3.0	0	µA
High level input current	I_{IH}	All input bits V_{IN} = 18 V, each input measured separately		All	-0.05	10.0	µA
Low level input current	I_{IL}	All input bits V_{IN} = -10 V, each input measured separately		All	-10.0	-----	µA
Full scale current at +18 V compliance	$I_{FS}+$	All input bits high, measure I_O, V_{IO} = 18 V		01	1.90	2.08	mA
				02	1.94	2.04	
	$\overline{I_{FS}}+$	All input bits low, measure $\overline{I_O}$, $\overline{V_{IO}}$ = 18 V		01	1.90	2.08	mA
				02	1.94	2.04	
Full scale current at -10 V compliance	$I_{FS}-$	All input bits high, measure I_O, V_{IO} = -10 V		01	1.90	2.08	mA
				02	1.94	2.04	
	$\overline{I_{FS}}-$	All input bits low, measure $\overline{I_O}$, $\overline{V_{IO}}$ = -10 V		01	1.90	2.08	mA
				02	1.94	2.04	
Change in full scale current due to voltage compliance	ΔI_{FSC}	All input bits high, measure I_O, V_{IO} = 18 V to -10 V	25°C ≤ T_A ≤ 125°C	All	-4.0	4.0	µA
			T_A = -55°C		-8.0	8.0	
	$\Delta \overline{I_{FSC}}$	All input bits low, measure $\overline{I_O}$, $\overline{V_{IO}}$ = 18 V to -10 V	25°C ≤ T_A ≤ 125°C	All	-4.0	4.0	µA
			T_A = -55°C		-8.0	8.0	
Positive bit errors	$\sum NL+$	Measure I_O, $\left(\frac{\sum \text{Positive bit errors}}{IFS}\right)$		01	0	0.19	%
				02	0	0.10	
	$\overline{\sum NL+}$	Measure $\overline{I_O}$, $\left(\frac{\sum \text{Positive bit errors}}{\overline{IFS}}\right)$		01	0	0.19	%
				02	0	0.10	
Negative bit errors	$\sum NL-$	Measure I_O, $\left(\frac{\sum \text{Negative bit errors}}{IFS}\right)$		01	-0.19	0	%
				02	-0.10	0	
	$\overline{\sum NL-}$	Measure $\overline{I_O}$, $\left(\frac{\sum \text{Negative bit errors}}{\overline{IFS}}\right)$		01	-0.19	0	%
				02	-0.10	0	

See footnote at end of table.

TABLE I. Electrical performance characteristics – Continued.

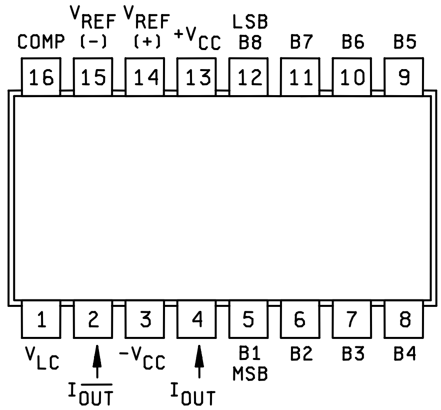
Characteristics	Symbol	Conditions 1/ $-55°C \le T_A \le +125°C$ (table III and figures 2, 3, and 4 unless otherwise indicated)	Device type	Limits Min	Limits Max	Units
Positive and negative bit error difference	$\Delta \Sigma NL$	Measure I_O, $\lvert \Sigma NL + \rvert - \lvert \Sigma NL - \rvert$	01	-0.05	0.05	%
			02	-0.03	0.03	
	$\Delta \Sigma \overline{NL}$	Measure $\overline{I_O}$, $\lvert \Sigma \overline{NL} + \rvert - \lvert \Sigma \overline{NL} - \rvert$	01	-0.05	0.05	%
			02	-0.03	0.03	
Positive relative accuracy	NL+	Measure I_O, $\lvert \Sigma NL + \rvert + \lvert \Delta \Sigma NL \rvert$	01	0	0.19	%
			02	0	0.10	
	$\overline{NL} +$	Measure $\overline{I_O}$, $\lvert \Sigma \overline{NL} + \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$	01	0	0.19	%
			02	0	0.10	
Negative relative accuracy	NL-	Measure I_O, $\lvert \Sigma NL - \rvert + \lvert \Delta \Sigma NL \rvert$	01	0	0.19	%
			02	0	0.10	
	$\overline{NL} -$	Measure $\overline{I_O}$, $\lvert \Sigma \overline{NL} - \rvert + \lvert \Delta \Sigma \overline{NL} \rvert$	01	0	0.19	%
			02	0	0.10	
Monotonicity	$\Delta(i)$	Measure I_O, $(I_{ON} - I_{ON-1}) \ge 0$ at each major carry point	All	0	16.0	µA
	$\Delta(\overline{i})$	Measure $\overline{I_O}$, $(\overline{I_{ON}} - \overline{I_{ON-1}}) \ge 0$ at each major carry point	All	0	16.0	µA
Output symmetry	ΔI_{FS}	$I_{FS} - \overline{I_{FS}}$	01	-8.0	8.0	µA
			02	-4.0	4.0	
Full scale current temperature coefficient	$T_C(I_{FS})$	All input bits high, measure I_O	All	-50.0	50.0	ppm/°C
	$\overline{T_C(I_{FS})}$	All input bits low, measure $\overline{I_O}$	All	-50.0	50.0	ppm/°C
Propagation delay time, high-to-low level	t_{PHL}	Figure 3, measure V_O	All	6.0	60.0	ns
Propagation delay time, low-to-high level	t_{PLH}	Figure 3, measure V_O	All	6.0	60.0	ns
Reference amplifier input slew rate	dI_O/dt	Figure 4, measure V_O, $T_A = 25°C$	All	1.5	-----	mA/µs
Settling time high-to-low	t_{SHL}	Figure 3, output within 1/2 LSB of final value of I_O, $T_A = 25°C$	All	10	135	ns
Settling time low-to-high	t_{SLH}	Figure 3, output within 1/2 LSB of final value of I_O, $T_A = 25°C$	All	10	135	ns

1/ The following electrical performance characteristics apply unless otherwise stated in table I: $\pm V_{CC} = \pm 15$ Vdc, source resistance = 50 Ω, $I_{REF} = 2.0$ mA.

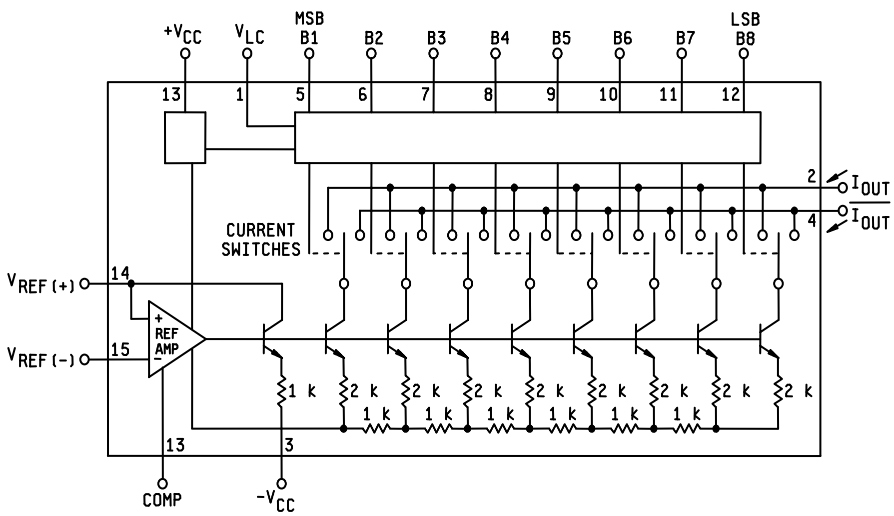
TABLE II. Electrical test requirements.

MIL-PRF-38535 test requirements	Subgroups (see table III)	
	Class S devices	Class B devices
Interim electrical parameters	1	1
Final electrical test parameters	1*, 2, 3	1*, 2, 3
Group A test requirements	1, 2, 3, 9, 10, 11, 12	1, 2, 3, 9, 10, 11, 12
Group B electrical test parameters when using the method 5005 QCI option	1, 2, 3 and table IV delta limits	N/A
Group C end-point electrical parameters	1, 2, 3 and table IV delta limits	1 and table IV delta limits
Group D end-point electrical parameters	1, 2, 3	1

*PDA applies to subgroup 1.

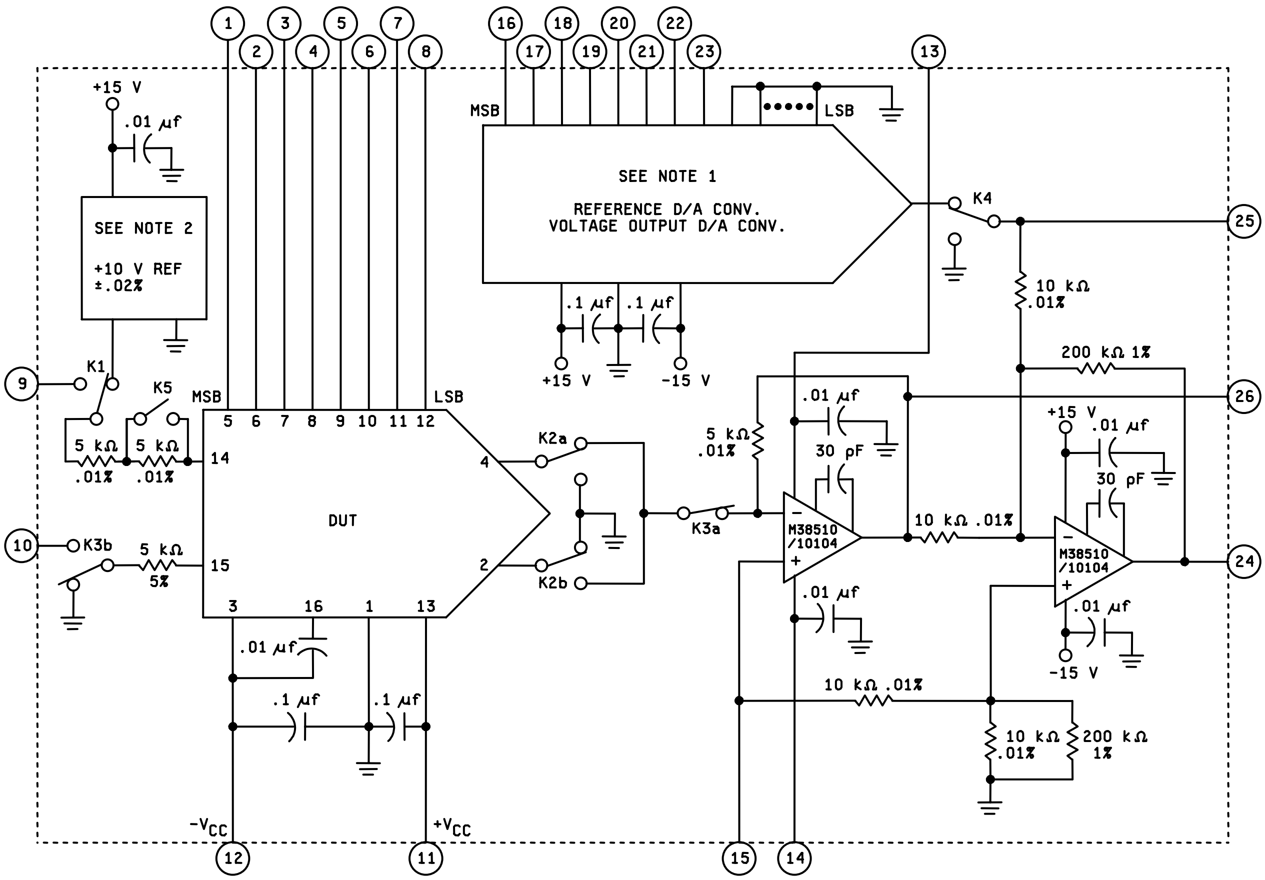


Terminal connections.



Functional block diagram.

Figure 1. Terminal connections and functional block diagram.



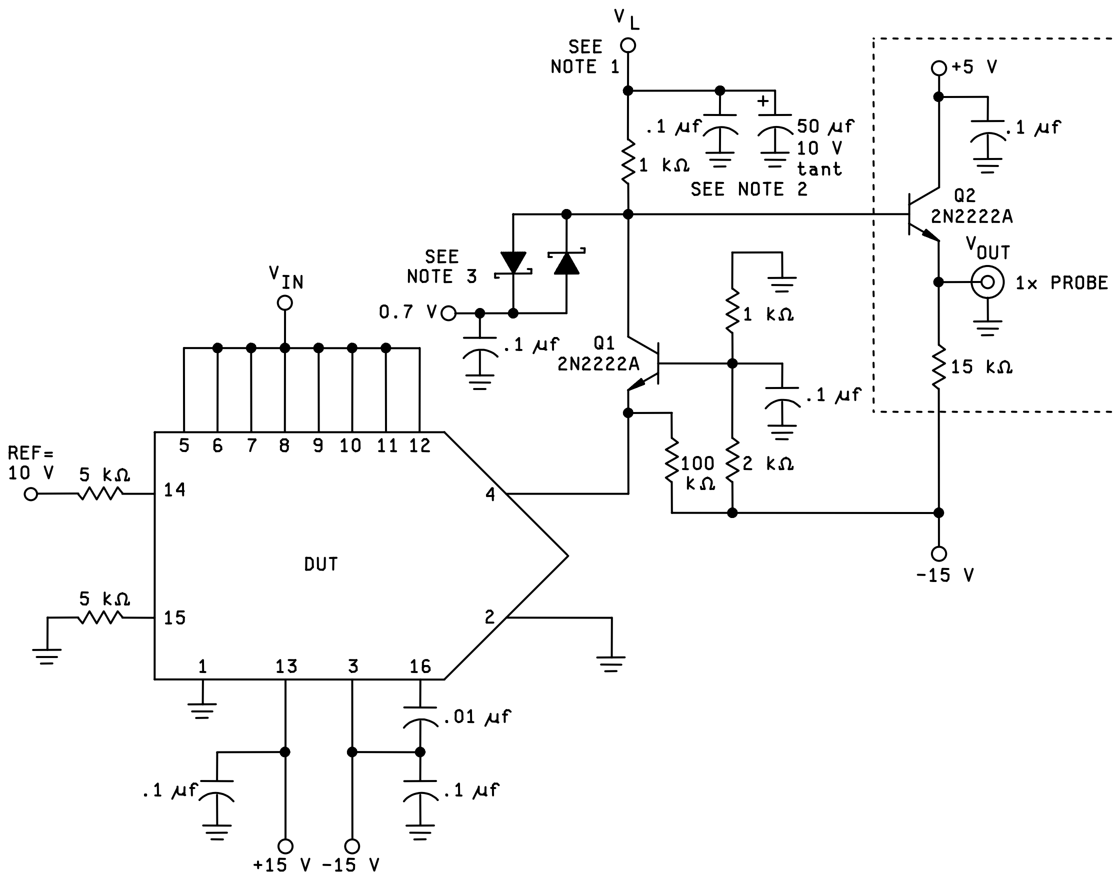
NOTES:

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 2. Test circuit for static tests.



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.

FIGURE 3. Test circuit for propagation delay and settling time, device type 01 and 02.

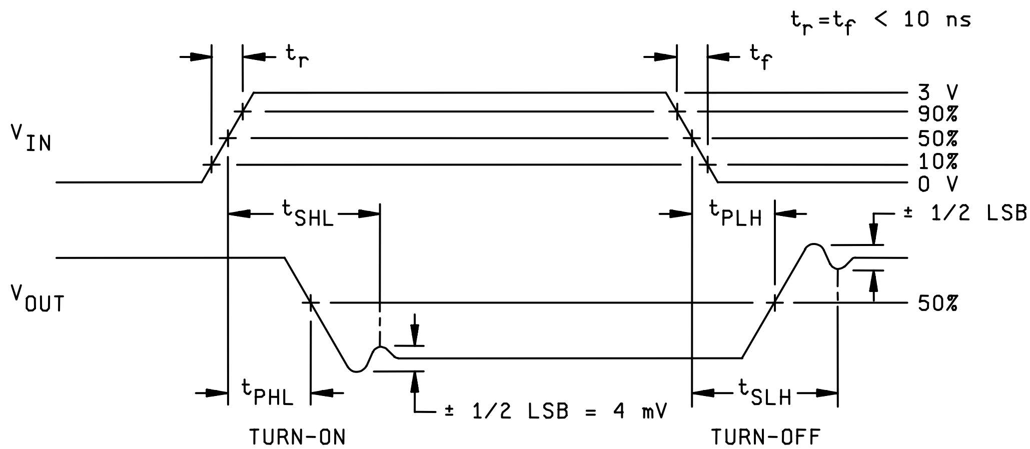


FIGURE 3. Test circuit for propagation delay and settling time, device type 01 and 02 – Continued.

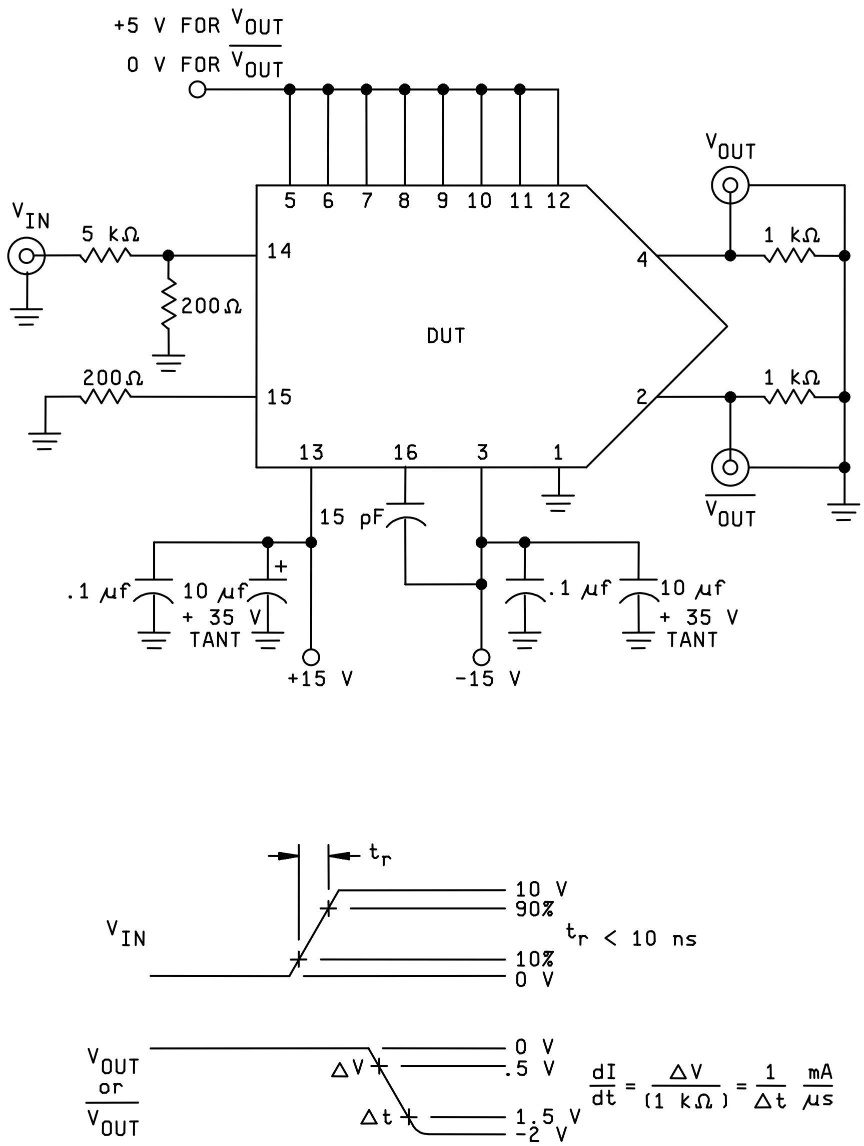


FIGURE 4. Test circuit for slew rate, device types 01 and 02.

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

Subgroup	Symbol	MIL-STD-883 method	Test No.	Adapter pin numbers									Energized relays	Measured pin			Equation	D
				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		M
1	$I_{CC}+$	3005	1	11111111	---	---	+15	-15	+15	-15	0	---	---	11	I_1	mA	$I_{CC}+ = I_1$	0
$T_A = 25°C$	$I_{CC}-$		2	11111111	---	---	+15	-15	+15	-15	0	---	---	12	I_2	mA	$I_{CC}- = I_2$	-
	I_{FS}		3 1/	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_1	V	$I_{FS} = 1.992 - 0.01E_1$	1
	$\overline{I_{FS}}$		4	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_2	V	$\overline{I_{FS}} = 1.992 - 0.01E_2$	1
	I_{ZS}		5	00000000	---	---	+15	-15	+15	-15	0	---	K4	24	E_3	V	$I_{ZS} = -10E_3$	
	$\overline{I_{ZS}}$		6	11111111	---	---	+15	-15	+15	-15	0	---	K2, K4	24	E_4	V	$\overline{I_{ZS}} = -10E_4$	
	$P_{SS}I_{FS}+1$		7	11111111	---	---	5.5	-18	+15	-15	0	11111111	---	24	E_5	V	$P_{SS}I_{FS}+1 = -10(E_5-E_6)$	
			8	11111111	---	---	4.5	-18	+15	-15	0	11111111	---	24	E_6	V		
	$\overline{P_{SS}I_{FS}+1}$		9	00000000	---	---	5.5	-18	+15	-15	0	11111111	K2	24	E_7	V	$\overline{P_{SS}I_{FS}+1} = -10(E_7-E_8)$	
			10	00000000	---	---	4.5	-18	+15	-15	0	11111111	K2	24	E_8	V		
	$P_{SS}I_{FS}+2$		11	11111111	---	---	18	-18	+15	-15	0	11111111	---	24	E_9	V	$P_{SS}I_{FS}+2 = -10(E_9-E_{10})$	
			12	11111111	---	---	12	-18	+15	-15	0	11111111	---	24	E_{10}	V		
	$\overline{P_{SS}I_{FS}+2}$		13	00000000	---	---	18	-18	+15	-15	0	11111111	K2	24	E_{11}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{11}-E_{12})$	
			14	00000000	---	---	12	-18	+15	-15	0	11111111	K2	24	E_{12}	V		
	$P_{SS}I_{FS}-1$		15	11111111	---	---	18	-12	+15	-15	0	11111111	---	24	E_{13}	V	$P_{SS}I_{FS}-1= -10(E_{13}-E_9)$	
	$\overline{P_{SS}I_{FS}-1}$		16	00000000	---	---	18	-12	+15	-15	0	11111111	K2	24	E_{14}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{14}-E_{11})$	
	$P_{SS}I_{FS}-2$		17	11111111	---	---	18	-5.5	+15	-15	0	11111111	K5	24	E_{15}	V	$P_{SS}I_{FS}-2= -10(E_{15}-E_{16})$	
			18	11111111	---	---	18	-4.5	+15	-15	0	11111111	K5	24	E_{16}	V		
	$\overline{P_{SS}I_{FS}-2}$		19	00000000	---	---	18	-5.5	+15	-15	0	11111111	K2, K5	24	E_{17}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{17}-E_{18})$	
			20	00000000	---	---	18	-4.5	+15	-15	0	11111111	K2, K5	24	E_{18}	V		
	$I_{FS}R_1$		21	11111111	15	---	+15	-10	30	-5	0	---	K1, K4	26	E_{19}	V	$I_{FS}R_1 = 0.2E_{19}$	2
	$\overline{I_{FS}R_1}$		22	00000000	15	---	+15	-10	30	-5	0	---	K1, K2, K4	26	E_{20}	V	$\overline{I_{FS}R_1} = 0.2E_{20}$	2
	$I_{FS}R_2$		23	11111111	25	---	+15	-12	30	-5	0	---	K1, K4	26	E_{21}	V	$I_{FS}R_2 = 0.2E_{21}$	4
	$\overline{I_{FS}R_2}$		24	00000000	25	---	+15	-12	30	-5	0	---	K1, K2, K4	26	E_{22}	V	$\overline{I_{FS}R_2} = 0.2E_{22}$	4
	$I_{REF}-$		25	00000000	---	0	+15	-15	+15	-15	0	---	K3	10	I_3	A	$I_{REF}- = I_3 X 10^6$	
	I_{IH1}		26 2/	10000000	---	---	+15	-15	+15	-15	0	---	---	1	I_4	A	$I_{IH1} = I_4 X 10^6$	-0
	I_{IH2}		27 2/	01000000	---	---	+15	-15	+15	-15	0	---	---	2	I_5	A	$I_{IH2} = I_5 X 10^6$	-0
	I_{IH3}		28 2/	00100000	---	---	+15	-15	+15	-15	0	---	---	3	I_6	A	$I_{IH3} = I_6 X 10^6$	-0
	I_{IH4}		29 2/	00010000	---	---	+15	-15	+15	-15	0	---	---	4	I_7	A	$I_{IH4} = I_7 X 10^6$	-0
	I_{IH5}		30 2/	00001000	---	---	+15	-15	+15	-15	0	---	---	5	I_8	A	$I_{IH5} = I_8 X 10^6$	-0
	I_{IH6}		31 2/	00000100	---	---	+15	-15	+15	-15	0	---	---	6	I_9	A	$I_{IH6} = I_9 X 10^6$	-0
	I_{IH7}		32 2/	00000010	---	---	+15	-15	+15	-15	0	---	---	7	I_{10}	A	$I_{IH7} = I_{10} X 10^6$	-0
	I_{IH8}		33 2/	00000001	---	---	+15	-15	+15	-15	0	---	---	8	I_{11}	A	$I_{IH8} = I_{11} X 10^6$	-0
	I_{IL1}		34 2/	01111111	---	---	+15	-15	+15	-15	0	---	---	1	I_{12}	A	$I_{IL1} = I_{12} X 10^6$	-
	I_{IL2}		35 2/	10111111	---	---	+15	-15	+15	-15	0	---	---	2	I_{13}	A	$I_{IL2} = I_{13} X 10^6$	-
	I_{IL3}		36 2/	11011111	---	---	+15	-15	+15	-15	0	---	---	3	I_{14}	A	$I_{IL3} = I_{14} X 10^6$	-
	I_{IL4}		37 2/	11101111	---	---	+15	-15	+15	-15	0	---	---	4	I_{15}	A	$I_{IL4} = I_{15} X 10^6$	-
	I_{IL5}		38 2/	11110111	---	---	+15	-15	+15	-15	0	---	---	5	I_{16}	A	$I_{IL5} = I_{16} X 10^6$	-
	I_{IL6}		39 2/	11111011	---	---	+15	-15	+15	-15	0	---	---	6	I_{17}	A	$I_{IL6} = I_{17} X 10^6$	-
	I_{IL7}		40 2/	11111101	---	---	+15	-15	+15	-15	0	---	---	7	I_{18}	A	$I_{IL7} = I_{18} X 10^6$	-
	I_{IL8}		41 2/	11111110	---	---	+15	-15	+15	-15	0	---	---	8	I_{19}	A	$I_{IL8} = I_{19} X 10^6$	-

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
				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	
1 T_A = 25°C	V_{CAL1}		42	---	---	---	+15	-15	30	0	18	00000000	K3	24	E_{23}	V	$V_{CAL1} = E_{23}$
	$I_{FS}+$		43	11111111	---	---	+15	-15	30	0	18	11111111	---	24	E_{24}	V	$I_{FS}+ = 1.992 - 0.01(E_{24} - E_{23})$
	$\overline{I_{FS}+}$		44	00000000	---	---	+15	-15	30	0	18	11111111	K2	24	E_{25}	V	$\overline{I_{FS}+} = 1.992 - 0.01(E_{25} - E_{23})$
	V_{CAL2}		45	---	---	---	+15	-15	+15	-15	-10	00000000	K3	24	E_{26}	V	$V_{CAL2} = E_{26}$
	$I_{FS}-$		46	11111111	---	---	+15	-15	+15	-15	-10	11111111	---	24	E_{27}	V	$I_{FS}- = 1.992 - 0.01(E_{27} - E_{26})$
	$\overline{I_{FS}-}$		47	00000000	---	---	+15	-15	+15	-15	-10	11111111	K2	24	E_{28}	V	$\overline{I_{FS}-} = 1.992 - 0.01(E_{28} - E_{26})$
	ΔI_{FSC}		48	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta I_{FSC} = 1000(I_{FS}+ - I_{FS}-)$
	$\Delta \overline{I_{FSC}}$		49	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta \overline{I_{FSC}} = 1000\left(\overline{I_{FS}+} - \overline{I_{FS}-}\right)$
	V_{CAL3}		50	00000000	---	---	+15	-15	+15	-15	0	00000000	---	24	E_{29}	V	$V_{CAL3} = E_{29}$
	V_{CAL4}		51	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_{30}	V	$V_{CAL4} = E_{30}$
	V_{CAL5}		52	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_{31}	V	$V_{CAL5} = E_{31}$
	V_{CAL6}		53	11111111	---	---	+15	-15	+15	-15	0	00000000	K2	24	E_{32}	V	$V_{CAL6} = E_{32}$
	NL_1		54	10000000	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{33}	V	$NL_1 = \left(\frac{(E_{33} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_2		55	01000000	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{34}	V	$NL_2 = \left(\frac{(E_{34} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_3		56	00100000	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{35}	V	$NL_3 = \left(\frac{(E_{35} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_4		57	00010000	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{36}	V	$NL_4 = \left(\frac{(E_{36} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_5		58	00001000	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{37}	V	$NL_5 = \left(\frac{(E_{37} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$

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	D
				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		
1 T_A = 25°C	NL_6		59	00000100	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{38}	V	$NL_6 = \left(\frac{(E_{38} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	NL_7		60	00000010	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{39}	V	$NL_7 = \left(\frac{(E_{39} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(2)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	NL_8		61	00000001	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{40}	V	$NL_8 = \left(\frac{(E_{40} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(1)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	$\overline{NL_1}$		62	01111111	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{41}	V	$\overline{NL_1} = \left(\frac{(E_{41} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_2}$		63	10111111	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{42}	V	$\overline{NL_2} = \left(\frac{(E_{42} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_3}$		64	11011111	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{43}	V	$\overline{NL_3} = \left(\frac{(E_{43} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_4}$		65	11101111	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{44}	V	$\overline{NL_4} = \left(\frac{(E_{44} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_5}$		66	11110111	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{45}	V	$\overline{NL_5} = \left(\frac{(E_{45} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_6}$		67	11111011	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{46}	V	$\overline{NL_6} = \left(\frac{(E_{46} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	

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									Energized relays	Measured pin			Equation
				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	
1 T_A = 25°C	$\overline{NL_7}$		68	11111101	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{47}	V	$\overline{NL_7} = \left(\frac{(E_{47} - V_{CAL5})}{I_{FS} \times 10^3} \right) - \frac{(2)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_8}$		69	11111110	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{48}	V	$\overline{NL_8} = \left(\frac{(E_{48} - V_{CAL5})}{I_{FS} \times 10^3} \right) - \frac{(1)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	ΣNL^+		70	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^+ = NL_i + NL_K + \ldots$ (i, k, bits having positive errors)
	$\overline{\Sigma NL^+}$		71	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^+} = \overline{NL_i}^1 + \overline{NL_k}^1 + \ldots$ (i, k, bits having positive errors)
	ΣNL^-		72	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^- = NL_m + NL_n + \ldots$ (m, n, bits having negative errors)
	$\overline{\Sigma NL^-}$		73	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^-} = \overline{NL_m}^1 + \overline{NL_n}^1 + \ldots$ (m, n, bits having negative errors)
	$\Delta\Sigma NL$		74	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma NL = \lvert\Sigma NL^+\rvert - \lvert\Sigma NL^-\rvert$
	$\Delta\Sigma \overline{NL}$		75	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma \overline{NL} = \lvert\Sigma\overline{NL}^+\rvert - \lvert\Sigma\overline{NL}^-\rvert$
	NL^+		76	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^+ = \lvert\Sigma NL^+\rvert + \lvert\Delta\Sigma NL\rvert$
	$\overline{NL^+}$		77	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^+} = \lvert\Sigma\overline{NL}^+\rvert + \lvert\Delta\Sigma\overline{NL}\rvert$
	NL^-		78	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^- = \lvert\Sigma NL^-\rvert + \lvert\Delta\Sigma NL\rvert$
	$\overline{NL^-}$		79	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^-} = \lvert\Sigma\overline{NL}^-\rvert + \lvert\Delta\Sigma\overline{NL}\rvert$
	$(I_{01})_a$		80	10000000	---	---	+15	-15	+15	-15	0	10000000		24	E_{49}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{49})$
	$(I_{01})_b$		81	01111111	---	---	+15	-15	+15	-15	0	01111111		24	E_{50}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{50})$
	$\Delta(I_{01})$		82	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$

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
1 $T_A = 25°C$	$(I_{02})_a$		83	01000000	---	---	+15	-15	+15	-15	0	01000000		24	E_{51}	V	$(I_{02})_a = I_{FS} X \frac{64}{255} - 0.01(E_{51})$
	$(I_{02})_b$		84	00111111	---	---	+15	-15	+15	-15	0	00111111		24	E_{52}	V	$(I_{02})_b = I_{FS} X \frac{63}{255} - 0.01(E_{52})$
	$\Delta(I_{02})$		85	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] x 10^3$
	$(I_{03})_a$		86	00100000	---	---	+15	-15	+15	-15	0	00100000		24	E_{53}	V	$(I_{03})_a = I_{FS} X \frac{32}{255} - 0.01(E_{53})$
	$(I_{03})_b$		87	00011111	---	---	+15	-15	+15	-15	0	00011111		24	E_{54}	V	$(I_{03})_b = I_{FS} X \frac{31}{255} - 0.01(E_{54})$
	$\Delta(I_{03})$		88	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] x 10^3$
	$(I_{04})_a$		89	00010000	---	---	+15	-15	+15	-15	0	00010000		24	E_{55}	V	$(I_{04})_a = I_{FS} X \frac{16}{255} - 0.01(E_{55})$
	$(I_{04})_b$		90	00001111	---	---	+15	-15	+15	-15	0	00001111		24	E_{56}	V	$(I_{04})_b = I_{FS} X \frac{15}{255} - 0.01(E_{56})$
	$\Delta(I_{04})$		91	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{04}) = [(I_{04})_a - (I_{04})_b] x 10^3$
	$(I_{05})_a$		92	00001000	---	---	+15	-15	+15	-15	0	00001000		24	E_{57}	V	$(I_{05})_a = I_{FS} X \frac{8}{255} - 0.01(E_{57})$
	$(I_{05})_b$		93	00000111	---	---	+15	-15	+15	-15	0	00000111		24	E_{58}	V	$(I_{05})_b = I_{FS} X \frac{7}{255} - 0.01(E_{58})$
	$\Delta(I_{05})$		94	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{05}) = [(I_{05})_a - (I_{05})_b] x 10^3$
	$(I_{06})_a$		95	00000100	---	---	+15	-15	+15	-15	0	00000100		24	E_{59}	V	$(I_{06})_a = I_{FS} X \frac{4}{255} - 0.01(E_{59})$
	$(I_{06})_b$		96	00000011	---	---	+15	-15	+15	-15	0	00000011		24	E_{60}	V	$(I_{06})_b = I_{FS} X \frac{3}{255} - 0.01(E_{60})$
	$\Delta(I_{06})$		97	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{06}) = [(I_{06})_a - (I_{06})_b] x 10^3$
	$(I_{07})_a$		98	00000010	---	---	+15	-15	+15	-15	0	00000010		24	E_{61}	V	$(I_{07})_a = I_{FS} X \frac{2}{255} - 0.01(E_{61})$
	$(I_{07})_b$		99	00000001	---	---	+15	-15	+15	-15	0	00000001		24	E_{62}	V	$(I_{07})_b = I_{FS} X \frac{1}{255} - 0.01(E_{62})$
	$\Delta(I_{07})$		100	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{07}) = [(I_{07})_a - (I_{07})_b] x 10^3$
	$(I_{08})_b$		101	00000000	---	---	+15	-15	+15	-15	0	00000000		24	E_{63}	V	$(I_{08})_b = - 0.01(E_{63})$
	(I_{08})		102	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{08}) = [(I_{07})_b - (I_{08})_b] x 10^3$
	ΔI_{FS}		103	---	---	---	---	---	---	---	---	---	---	---	---	---	$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$

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	D (M)
2	$I_{CC}+$	3005	104	11111111	---	---	+15	-15	+15	-15	0	---	---	11	I_{20}	mA	$I_{CC}+ = I_{20}$	0
$T_A = 125°C$	$I_{CC}-$		105	11111111	---	---	+15	-15	+15	-15	0	---	---	12	I_{21}	mA	$I_{CC}- = I_{21}$	-
	I_{FS}		106 1/	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_{64}	V	$I_{FS} = 1.992 - 0.01E_{64}$	1
	$\overline{I_{FS}}$		107	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_{65}	V	$\overline{I_{FS}} = 1.992 - 0.01E_{65}$	1
	I_{ZS}		108	00000000	---	---	+15	-15	+15	-15	0	---	K4	24	E_{66}	V	$I_{ZS} = -10E_{66}$	
	$\overline{I_{ZS}}$		109	11111111	---	---	+15	-15	+15	-15	0	---	K2, K4	24	E_{67}	V	$\overline{I_{ZS}} = -10E_{67}$	
	$P_{SS}I_{FS}+1$		110	11111111	---	---	5.5	-18	+15	-15	0	11111111	---	24	E_{68}	V	$P_{SS}I_{FS}+1 = -10(E_{68}-E_{69})$	
			111	11111111	---	---	4.5	-18	+15	-15	0	11111111	---	24	E_{69}	V		
	$\overline{P_{SS}I_{FS}+1}$		112	00000000	---	---	5.5	-18	+15	-15	0	11111111	K2	24	E_{70}	V	$\overline{P_{SS}I_{FS}+1} = -10(E_{70}-E_{71})$	
			113	00000000	---	---	4.5	-18	+15	-15	0	11111111	K2	24	E_{71}	V		
	$P_{SS}I_{FS}+2$		114	11111111	---	---	18	-18	+15	-15	0	11111111	---	24	E_{72}	V	$P_{SS}I_{FS}+2 = -10(E_{72}-E_{73})$	
			115	11111111	---	---	12	-18	+15	-15	0	11111111	---	24	E_{73}	V		
	$\overline{P_{SS}I_{FS}+2}$		116	00000000	---	---	18	-18	+15	-15	0	11111111	K2	24	E_{74}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{74}-E_{75})$	
			117	00000000	---	---	12	-18	+15	-15	0	11111111	K2	24	E_{75}	V		
	$P_{SS}I_{FS}-1$		118	11111111	---	---	18	-12	+15	-15	0	11111111	---	24	E_{76}	V	$P_{SS}I_{FS}-1 = -10(E_{76}-E_{72})$	
	$\overline{P_{SS}I_{FS}-1}$		119	00000000	---	---	18	-12	+15	-15	0	11111111	K2	24	E_{77}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{77}-E_{74})$	
	$P_{SS}I_{FS}-2$		120	11111111	---	---	18	-5.5	+15	-15	0	11111111	K5	24	E_{78}	V	$P_{SS}I_{FS}-2 = -10(E_{78}-E_{79})$	
			121	11111111	---	---	18	-4.5	+15	-15	0	11111111	K5	24	E_{79}	V		
	$\overline{P_{SS}I_{FS}-2}$		122	00000000	---	---	18	-5.5	+15	-15	0	11111111	K2, K5	24	E_{80}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{80}-E_{81})$	
			123	00000000	---	---	18	-4.5	+15	-15	0	11111111	K2, K5	24	E_{81}	V		
	$I_{FS}R_1$		124	11111111	15	---	+15	-10	30	-5	0	---	K1, K4	26	E_{82}	V	$I_{FS}R_1 = 0.2E_{82}$	2
	$\overline{I_{FS}R_1}$		125	00000000	15	---	+15	-10	30	-5	0	---	K1, K2, K4	26	E_{83}	V	$\overline{I_{FS}R_1} = 0.2E_{83}$	2
	$I_{FS}R_2$		126	11111111	25	---	+15	-12	30	-5	0	---	K1, K4	26	E_{84}	V	$I_{FS}R_2 = 0.2E_{84}$	4
	$\overline{I_{FS}R_2}$		127	00000000	25	---	+15	-12	30	-5	0	---	K1, K2, K4	26	E_{85}	V	$\overline{I_{FS}R_2} = 0.2E_{85}$	4
	$I_{REF}-$		128	00000000	---	0	+15	-15	+15	-15	0	---	K3	10	I_{22}	A	$I_{REF}- = I_{22} X 10^6$	
	I_{IH1}		129 2/	10000000	---	0	+15	-15	+15	-15	0	---	---	1	I_{23}	A	$I_{IH1} = I_{23} X 10^6$	-0
	I_{IH2}		130 2/	01000000	---	0	+15	-15	+15	-15	0	---	---	2	I_{24}	A	$I_{IH2} = I_{24} X 10^6$	-0
	I_{IH3}		131 2/	00100000	---	0	+15	-15	+15	-15	0	---	---	3	I_{25}	A	$I_{IH3} = I_{25} X 10^6$	-0
	I_{IH4}		132 2/	00010000	---	0	+15	-15	+15	-15	0	---	---	4	I_{26}	A	$I_{IH4} = I_{26} X 10^6$	-0
	I_{IH5}		133 2/	00001000	---	0	+15	-15	+15	-15	0	---	---	5	I_{27}	A	$I_{IH5} = I_{27} X 10^6$	-0
	I_{IH6}		134 2/	00000100	---	0	+15	-15	+15	-15	0	---	---	6	I_{28}	A	$I_{IH6} = I_{28} X 10^6$	-0
	I_{IH7}		135 2/	00000010	---	0	+15	-15	+15	-15	0	---	---	7	I_{29}	A	$I_{IH7} = I_{29} X 10^6$	-0
	I_{IH8}		136 2/	00000001	---	0	+15	-15	+15	-15	0	---	---	8	I_{30}	A	$I_{IH8} = I_{30} X 10^6$	-0
	I_{IL1}		137 2/	01111111	---	0	+15	-15	+15	-15	0	---	---	1	I_{31}	A	$I_{IL1} = I_{31} X 10^6$	-
	I_{IL2}		138 2/	10111111	---	0	+15	-15	+15	-15	0	---	---	2	I_{32}	A	$I_{IL2} = I_{32} X 10^6$	-
	I_{IL3}		139 2/	11011111	---	0	+15	-15	+15	-15	0	---	---	3	I_{33}	A	$I_{IL3} = I_{33} X 10^6$	-
	I_{IL4}		140 2/	11101111	---	0	+15	-15	+15	-15	0	---	---	4	I_{34}	A	$I_{IL4} = I_{34} X 10^6$	-
	I_{IL5}		141 2/	11110111	---	0	+15	-15	+15	-15	0	---	---	5	I_{35}	A	$I_{IL5} = I_{35} X 10^6$	-
	I_{IL6}		142 2/	11111011	---		+15	-15	+15	-15	0	---	---	6	I_{36}	A	$I_{IL6} = I_{36} X 10^6$	-
	I_{IL7}		143 2/	11111101	---		+15	-15	+15	-15	0	---	---	7	I_{37}	A	$I_{IL7} = I_{37} X 10^6$	-
	I_{IL8}		144 2/	11111110	---		+15	-15	+15	-15	0	---	---	8	I_{38}	A	$I_{IL8} = I_{38} X 10^6$	-

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
				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	
2	V_{CAL1}		145	---	---	---	+15	-15	30	0	18	00000000	K3	24	E_{86}	V	$V_{CAL1} = E_{86}$
T_A = 125°C	$I_{FS}+$		146	11111111	---	---	+15	-15	30	0	18	11111111	---	24	E_{87}	V	$I_{FS}+ = 1.992\text{-}0.01(E_{87}\text{-}E_{86})$
	$\overline{I_{FS}+}$		147	00000000	---	---	+15	-15	30	0	18	11111111	K2	24	E_{88}	V	$\overline{I_{FS}+} = 1.992\text{-}0.01(E_{88}\text{-}E_{86})$
	V_{CAL2}		148	---	---	---	+15	-15	+15	-15	-10	00000000	K3	24	E_{89}	V	$V_{CAL2} = E_{89}$
	$I_{FS}-$		149	11111111	---	---	+15	-15	+15	-15	-10	11111111	---	24	E_{90}	V	$I_{FS} = 1.992\text{-}0.01(E_{90} - E_{89})$
	$\overline{I_{FS}-}$		150	00000000	---	---	+15	-15	+15	-15	-10	11111111	K2	24	E_{91}	V	$\overline{I_{FS}} = 1.992\text{-}0.01(E_{91} - E_{89})$
	ΔI_{FSC}		151	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta I_{FSC} = 1000(I_{FS}+ - I_{FS}-)$
	$\Delta \overline{I_{FSC}}$		152	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta \overline{I_{FSC}} = 1000\left(\overline{I_{FS}+} - \overline{I_{FS}-}\right)$
	V_{CAL3}		153	00000000	---	---	+15	-15	+15	-15	0	00000000	---	24	E_{92}	V	$V_{CAL3} = E_{92}$
	V_{CAL4}		154	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_{93}	V	$V_{CAL4} = E_{93}$
	V_{CAL5}		155	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_{94}	V	$V_{CAL5} = E_{94}$
	V_{CAL6}		156	11111111	---	---	+15	-15	+15	-15	0	00000000	K2	24	E_{95}	V	$V_{CAL6} = E_{95}$
	NL_1		157	10000000	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{96}	V	$NL_1 = \left(\frac{(E_{96} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_2		158	01000000	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{97}	V	$NL_2 = \left(\frac{(E_{97} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_3		159	00100000	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{98}	V	$NL_3 = \left(\frac{(E_{98} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_4		160	00010000	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{99}	V	$NL_4 = \left(\frac{(E_{99} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_5		161	00001000	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{100}	V	$NL_5 = \left(\frac{(E_{100} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$

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
				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	
2 T_A = 125°C	NL_6		162	00000100	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{101}	V	$NL_6 = \left(\frac{(E_{101} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_7		163	00000010	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{102}	V	$NL_7 = \left(\frac{(E_{102} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(2)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_8		164	00000001	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{103}	V	$NL_8 = \left(\frac{(E_{103} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(1)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	$\overline{NL_1}$		165	01111111	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{104}	V	$\overline{NL_1} = \left(\frac{(E_{104} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_2}$		166	10111111	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{105}	V	$\overline{NL_2} = \left(\frac{(E_{105} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_3}$		167	11011111	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{106}	V	$\overline{NL_3} = \left(\frac{(E_{106} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_4}$		168	11101111	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{107}	V	$\overline{NL_4} = \left(\frac{(E_{107} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_5}$		169	11110111	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{108}	V	$\overline{NL_5} = \left(\frac{(E_{108} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_6}$		170	11111011	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{109}	V	$\overline{NL_6} = \left(\frac{(E_{109} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$

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									Energized relays	Measured pin			Equation
				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	
2 T_A = 125°C	$\overline{NL_7}$		171	11111101	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{110}	V	$\overline{NL_7} = \left(\frac{(E_{110} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(2)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_8}$		172	11111110	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{111}	V	$\overline{NL_8} = \left(\frac{(E_{111} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(1)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	ΣNL^+		173	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^+ = NL_i + NL_K + ...$ (i, k, bits having positive errors)
	$\overline{\Sigma NL^+}$		174	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^+} = \overline{NL_i}^1 + \overline{NL_k}^1 + ...$ (i, k, bits having positive errors)
	ΣNL^-		175	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^- = NL_m + NL_n + ...$ (m, n, bits having negative errors)
	$\overline{\Sigma NL^-}$		176	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^-} = \overline{NL_m}^1 + \overline{NL_n}^1 + ...$ (m, n, bits having negative errors)
	$\Delta\Sigma NL$		177	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma NL = \left\|\Sigma NL^+\right\| - \left\|\Sigma NL^-\right\|$
	$\Delta\Sigma \overline{NL}$		178	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma \overline{NL} = \left\|\Sigma\overline{NL}^+\right\| - \left\|\Sigma\overline{NL}^-\right\|$
	NL^+		179	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^+ = \left\|\Sigma NL^+\right\| + \left\|\Delta\Sigma NL\right\|$
	$\overline{NL^+}$		180	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^+} = \left\|\Sigma\overline{NL}^+\right\| + \left\|\Delta\Sigma\overline{NL}\right\|$
	NL^-		181	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^- = \left\|\Sigma NL^-\right\| + \left\|\Delta\Sigma NL\right\|$
	$\overline{NL^-}$		182	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^-} = \left\|\Sigma\overline{NL}^-\right\| + \left\|\Delta\Sigma\overline{NL}\right\|$
	$(I_{01})_a$		183	10000000	---	---	+15	-15	+15	-15	0	10000000		24	E_{112}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{112})$
	$(I_{01})_b$		184	01111111	---	---	+15	-15	+15	-15	0	01111111		24	E_{113}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{113})$
	$\Delta(I_{01})$		185	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$

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
				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	
2 T_A = 125°C	$(I_{02})_a$		186	01000000	---	---	+15	-15	+15	-15	0	01000000		24	E_{114}	V	$(I_{02})_a = I_{FS} X \frac{64}{255} - 0.01(E_{114})$
	$(I_{02})_b$		187	00111111	---	---	+15	-15	+15	-15	0	00111111		24	E_{115}	V	$(I_{02})_b = I_{FS} X \frac{63}{255} - 0.01(E_{115})$
	$\Delta(I_{02})$		188	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] \times 10^3$
	$(I_{03})_a$		189	00100000	---	---	+15	-15	+15	-15	0	00100000		24	E_{116}	V	$(I_{03})_a = I_{FS} X \frac{32}{255} - 0.01(E_{116})$
	$(I_{03})_b$		190	00011111	---	---	+15	-15	+15	-15	0	00011111		24	E_{117}	V	$(I_{03})_b = I_{FS} X \frac{31}{255} - 0.01(E_{117})$
	$\Delta(I_{03})$		191	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] \times 10^3$
	$(I_{04})_a$		192	00010000	---	---	+15	-15	+15	-15	0	00010000		24	E_{118}	V	$(I_{04})_a = I_{FS} X \frac{16}{255} - 0.01(E_{118})$
	$(I_{04})_b$		193	00001111	---	---	+15	-15	+15	-15	0	00001111		24	E_{119}	V	$(I_{04})_b = I_{FS} X \frac{15}{255} - 0.01(E_{119})$
	$\Delta(I_{04})$		194	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{04}) = [(I_{04})_a - (I_{04})_b] \times 10^3$
	$(I_{05})_a$		195	00001000	---	---	+15	-15	+15	-15	0	00001000		24	E_{120}	V	$(I_{05})_a = I_{FS} X \frac{8}{255} - 0.01(E_{120})$
	$(I_{05})_b$		196	00000111	---	---	+15	-15	+15	-15	0	00000111		24	E_{121}	V	$(I_{05})_b = I_{FS} X \frac{7}{255} - 0.01(E_{121})$
	$\Delta(I_{05})$		197	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{05}) = [(I_{05})_a - (I_{05})_b] \times 10^3$
	$(I_{06})_a$		198	00000100	---	---	+15	-15	+15	-15	0	00000100		24	E_{122}	V	$(I_{06})_a = I_{FS} X \frac{4}{255} - 0.01(E_{122})$
	$(I_{06})_b$		199	00000011	---	---	+15	-15	+15	-15	0	00000011		24	E_{123}	V	$(I_{06})_b = I_{FS} X \frac{3}{255} - 0.01(E_{123})$
	$\Delta(I_{06})$		200	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{06}) = [(I_{06})_a - (I_{06})_b] \times 10^3$
	$(I_{07})_a$		201	00000010	---	---	+15	-15	+15	-15	0	00000010		24	E_{124}	V	$(I_{07})_a = I_{FS} X \frac{2}{255} - 0.01(E_{124})$
	$(I_{07})_b$		202	00000001	---	---	+15	-15	+15	-15	0	00000001		24	E_{125}	V	$(I_{07})_b = I_{FS} X \frac{1}{255} - 0.01(E_{125})$
	$\Delta(I_{07})$		203	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{07}) = [(I_{07})_a - (I_{07})_b] \times 10^3$
	$(I_{08})_b$		204	00000000	---	---	+15	-15	+15	-15	0	00000000		24	E_{126}	V	$(I_{08})_b = I_{FS} X \frac{1}{255} - 0.01(E_{126})$
	(I_{08})		205	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{08}) = [(I_{07})_b - (I_{08})_b] \times 10^3$
	ΔI_{FS}		206	---	---	---	---	---	---	---	---	---	---	---	---	---	$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$

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	D
3 T_A = -55°C	I_{CC}+	3005	207	11111111	---	---	+15	-15	+15	-15	0	---	---	11	I_{39}	mA	$I_{CC}+ = I_{39}$	
	I_{CC}-		208	11111111	---	---	+15	-15	+15	-15	0	---	---	12	I_{40}	mA	$I_{CC}- = I_{40}$	-
	I_{FS}		209 1/	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_{127}	V	$I_{FS} = 1.992-0.01E_{127}$	1
	$\overline{I_{FS}}$		210	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_{128}	V	$\overline{I_{FS}} = 1.992-0.01E_{128}$	1
	I_{ZS}		211	00000000	---	---	+15	-15	+15	-15	0	---	K4	24	E_{129}	V	$I_{ZS} = -10E_{129}$	
	$\overline{I_{ZS}}$		212	11111111	---	---	+15	-15	+15	-15	0	---	K2, K4	24	E_{130}	V	$\overline{I_{ZS}} = -10E_{130}$	
	$P_{SS}I_{FS}$+1		213	11111111	---	---	5.5	-18	+15	-15	0	11111111	---	24	E_{131}	V	$P_{SS}I_{FS}+1 = -10(E_{131}-E_{132})$	
			214	11111111	---	---	4.5	-18	+15	-15	0	11111111	---	24	E_{132}	V		
	$\overline{P_{SS}I_{FS}+1}$		215	00000000	---	---	5.5	-18	+15	-15	0	11111111	K2	24	E_{133}	V	$\overline{P_{SS}I_{FS}+1} = -10(E_{133}-E_{134})$	
			216	00000000	---	---	4.5	-18	+15	-15	0	11111111	K2	24	E_{134}	V		
	$P_{SS}I_{FS}$+2		217	11111111	---	---	18	-18	+15	-15	0	11111111	---	24	E_{135}	V	$P_{SS}I_{FS}+2 = -10(E_{135}-E_{136})$	
			218	11111111	---	---	12	-18	+15	-15	0	11111111	---	24	E_{136}	V		
	$\overline{P_{SS}I_{FS}+2}$		219	00000000	---	---	18	-18	+15	-15	0	11111111	K2	24	E_{137}	V	$\overline{P_{SS}I_{FS}+2} = -10(E_{137}-E_{138})$	
			220	00000000	---	---	12	-18	+15	-15	0	11111111	K2	24	E_{138}	V		
	$P_{SS}I_{FS}$-1		221	11111111	---	---	18	-12	+15	-15	0	11111111	---	24	E_{139}	V	$P_{SS}I_{FS}-1 = -10(E_{139}-E_{135})$	
	$\overline{P_{SS}I_{FS}-1}$		222	00000000	---	---	18	-12	+15	-15	0	11111111	K2	24	E_{140}	V	$\overline{P_{SS}I_{FS}-1} = -10(E_{140}-E_{137})$	
	$P_{SS}I_{FS}$-2		223	11111111	---	---	18	-5.5	+15	-15	0	11111111	K5	24	E_{141}	V	$P_{SS}I_{FS}-2 = -10(E_{141}-E_{142})$	
			224	11111111	---	---	18	-4.5	+15	-15	0	11111111	K5	24	E_{142}	V		
	$\overline{P_{SS}I_{FS}-2}$		225	00000000	---	---	18	-5.5	+15	-15	0	11111111	K2, K5	24	E_{143}	V	$\overline{P_{SS}I_{FS}-2} = -10(E_{143}-E_{144})$	
			226	00000000	---	---	18	-4.5	+15	-15	0	11111111	K2, K5	24	E_{144}	V		
	$I_{FS}R_1$		227	11111111	15	---	+15	-10	30	-5	0	---	K1, K4	26	E_{145}	V	$I_{FS}R_1 = 0.2E_{145}$	
	$\overline{I_{FS}R_1}$		228	00000000	15	---	+15	-10	30	-5	0	---	K1, K2, K4	26	E_{146}	V	$\overline{I_{FS}R_1} = 0.2E_{146}$	
	$I_{FS}R_2$		229	11111111	25	---	+15	-12	30	-5	0	---	K1, K4	26	E_{147}	V	$I_{FS}R_2 = 0.2E_{147}$	
	$\overline{I_{FS}R_2}$		230	00000000	25	---	+15	-12	30	-5	0	---	K1, K2, K4	26	E_{148}	V	$\overline{I_{FS}R_2} = 0.2E_{148}$	
	I_{REF}-		231	00000000	---	0	+15	-15	+15	-15	0	---	K3	10	I_{41}	A	$I_{REF}- = I_{41} \times 10^6$	
	I_{IH1}		232 2/	10000000	---	---	+15	-15	+15	-15	0	---	---	1	I_{42}	A	$I_{IH1} = I_{42} \times 10^6$	-(
	I_{IH2}		233 2/	01000000	---	---	+15	-15	+15	-15	0	---	---	2	I_{43}	A	$I_{IH2} = I_{43} \times 10^6$	-(
	I_{IH3}		234 2/	00100000	---	---	+15	-15	+15	-15	0	---	---	3	I_{44}	A	$I_{IH3} = I_{44} \times 10^6$	-(
	I_{IH4}		235 2/	00010000	---	---	+15	-15	+15	-15	0	---	---	4	I_{45}	A	$I_{IH4} = I_{45} \times 10^6$	-(
	I_{IH5}		236 2/	00001000	---	---	+15	-15	+15	-15	0	---	---	5	I_{46}	A	$I_{IH5} = I_{46} \times 10^6$	-(
	I_{IH6}		237 2/	00000100	---	---	+15	-15	+15	-15	0	---	---	6	I_{47}	A	$I_{IH6} = I_{47} \times 10^6$	-(
	I_{IH7}		238 2/	00000010	---	---	+15	-15	+15	-15	0	---	---	7	I_{48}	A	$I_{IH7} = I_{48} \times 10^6$	-(
	I_{IH8}		239 2/	00000001	---	---	+15	-15	+15	-15	0	---	---	8	I_{49}	A	$I_{IH8} = I_{49} \times 10^6$	-(
	I_{IL1}		240 2/	01111111	---	---	+15	-15	+15	-15	0	---	---	1	I_{50}	A	$I_{IL1} = I_{50} \times 10^6$	
	I_{IL2}		241 2/	10111111	---	---	+15	-15	+15	-15	0	---	---	2	I_{51}	A	$I_{IL2} = I_{51} \times 10^6$	
	I_{IL3}		242 2/	11011111	---	---	+15	-15	+15	-15	0	---	---	3	I_{52}	A	$I_{IL3} = I_{52} \times 10^6$	
	I_{IL4}		243 2/	11101111	---	---	+15	-15	+15	-15	0	---	---	4	I_{53}	A	$I_{IL4} = I_{53} \times 10^6$	
	I_{IL5}		244 2/	11110111	---	---	+15	-15	+15	-15	0	---	---	5	I_{54}	A	$I_{IL5} = I_{54} \times 10^6$	
	I_{IL6}		245 2/	11111011	---	---	+15	-15	+15	-15	0	---	---	6	I_{55}	A	$I_{IL6} = I_{55} \times 10^6$	
	I_{IL7}		246 2/	11111101	---	---	+15	-15	+15	-15	0	---	---	7	I_{56}	A	$I_{IL7} = I_{56} \times 10^6$	
	I_{IL8}		247 2/	11111110	---	---	+15	-15	+15	-15	0	---	---	8	I_{57}	A	$I_{IL8} = I_{57} \times 10^6$	

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
3 T_A = -55°C	V_{CAL1}		248	---	---	---	+15	-15	30	0	18	00000000	K3	24	E_{149}	V	$V_{CAL1} = E_{149}$
	$I_{FS}+$		249	11111111	---	---	+15	-15	30	0	18	11111111	---	24	E_{150}	V	$I_{FS}+ = 1.992 - 0.01(E_{150} - E_{149})$
	$\overline{I_{FS}+}$		250	00000000	---	---	+15	-15	30	0	18	11111111	K2	24	E_{151}	V	$\overline{I_{FS}+} = 1.992 - 0.01(E_{151} - E_{149})$
	V_{CAL2}		251	---	---	---	+15	-15	+15	-15	-10	00000000	K3	24	E_{152}	V	$V_{CAL2} = E_{152}$
	$I_{FS}-$		252	11111111	---	---	+15	-15	+15	-15	-10	11111111	---	24	E_{153}	V	$I_{FS}- = 1.992 - 0.01(E_{153} - E_{152})$
	$\overline{I_{FS}-}$		253	00000000	---	---	+15	-15	+15	-15	-10	11111111	K2	24	E_{154}	V	$\overline{I_{FS}-} = 1.992 - 0.01(E_{154} - E_{152})$
	ΔI_{FSC}		254	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta I_{FSC} = 1000(I_{FS}+ - I_{FS}-)$
	$\Delta \overline{I_{FSC}}$		255	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta \overline{I_{FSC}} = 1000\left(\overline{I_{FS}+} - \overline{I_{FS}-}\right)$
	V_{CAL3}		256	00000000	---	---	+15	-15	+15	-15	0	00000000	---	24	E_{155}	V	$V_{CAL3} = E_{155}$
	V_{CAL4}		257	11111111	---	---	+15	-15	+15	-15	0	11111111	---	24	E_{156}	V	$V_{CAL4} = E_{156}$
	V_{CAL5}		258	00000000	---	---	+15	-15	+15	-15	0	11111111	K2	24	E_{157}	V	$V_{CAL5} = E_{157}$
	V_{CAL6}		259	11111111	---	---	+15	-15	+15	-15	0	00000000	K2	24	E_{158}	V	$V_{CAL6} = E_{158}$
	NL_1		260	10000000	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{159}	V	$NL_1 = \left(\frac{(E_{159} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_2		261	01000000	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{160}	V	$NL_2 = \left(\frac{(E_{160} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_3		262	00100000	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{161}	V	$NL_3 = \left(\frac{(E_{161} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_4		263	00010000	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{162}	V	$NL_4 = \left(\frac{(E_{162} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$
	NL_5		264	00001000	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{163}	V	$NL_5 = \left(\frac{(E_{163} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$

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	D
				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		
3 T_A = -55°C	NL_6		265	00000100	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{164}	V	$NL_6 = \left(\frac{(E_{164} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	NL_7		266	00000010	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{165}	V	$NL_7 = \left(\frac{(E_{165} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(2)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	NL_8		267	00000001	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{166}	V	$NL_8 = \left(\frac{(E_{166} - V_{CAL3})}{I_{FS} \times 10^3}\right) - \frac{(1)}{(255)} \frac{(V_{CAL4} - V_{CAL3})}{I_{FS} \times 10^3}$	
	$\overline{NL_1}$		268	01111111	---	---	+15	-15	+15	-15	0	10000000	---	24	E_{167}	V	$\overline{NL_1} = \left(\frac{(E_{167} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(128)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_2}$		269	10111111	---	---	+15	-15	+15	-15	0	01000000	---	24	E_{168}	V	$\overline{NL_2} = \left(\frac{(E_{168} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(64)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_3}$		270	11011111	---	---	+15	-15	+15	-15	0	00100000	---	24	E_{169}	V	$\overline{NL_3} = \left(\frac{(E_{169} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(32)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_4}$		271	11101111	---	---	+15	-15	+15	-15	0	00010000	---	24	E_{170}	V	$\overline{NL_4} = \left(\frac{(E_{170} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(16)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_5}$		272	11110111	---	---	+15	-15	+15	-15	0	00001000	---	24	E_{171}	V	$\overline{NL_5} = \left(\frac{(E_{171} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(8)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	
	$\overline{NL_6}$		273	11111011	---	---	+15	-15	+15	-15	0	00000100	---	24	E_{172}	V	$\overline{NL_6} = \left(\frac{(E_{172} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(4)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$	

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									Energized relays	Measured pin			Equation
				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	
3 T_A = -55°C	$\overline{NL_7}$		274	11111101	---	---	+15	-15	+15	-15	0	00000010	---	24	E_{173}	V	$\overline{NL_7} = \left(\frac{(E_{173} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(2)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	$\overline{NL_8}$		275	11111110	---	---	+15	-15	+15	-15	0	00000001	---	24	E_{174}	V	$\overline{NL_8} = \left(\frac{(E_{174} - V_{CAL5})}{I_{FS} \times 10^3}\right) - \frac{(1)}{(255)} \frac{(V_{CAL6} - V_{CAL5})}{I_{FS} \times 10^3}$
	ΣNL^+		276	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^+ = NL_i + NL_K + \ldots$ (i, k, bits having positive errors)
	$\overline{\Sigma NL^+}$		277	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^+} = \overline{NL_i}^1 + \overline{NL_k}^1 + \ldots$ (i, k, bits having positive errors)
	ΣNL^-		278	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Sigma NL^- = NL_m + NL_n + \ldots$ (m, n, bits having negative errors)
	$\overline{\Sigma NL^-}$		279	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{\Sigma NL^-} = \overline{NL_m}^1 + \overline{NL_n}^1 + \ldots$ (m, n, bits having negative errors)
	$\Delta\Sigma NL$		280	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma NL = \left\|\Sigma NL^+\right\| - \left\|\Sigma NL^-\right\|$
	$\Delta\Sigma \overline{NL}$		281	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta\Sigma \overline{NL} = \left\|\Sigma\overline{NL}^+\right\| - \left\|\Sigma\overline{NL}^-\right\|$
	NL^+		282	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^+ = \left\|\Sigma NL^+\right\| + \left\|\Delta\Sigma NL\right\|$
	$\overline{NL^+}$		283	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^+} = \left\|\Sigma\overline{NL}^+\right\| + \left\|\Delta\Sigma\overline{NL}\right\|$
	NL^-		284	---	---	---	---	---	---	---	---	---	---	---	---	---	$NL^- = \left\|\Sigma NL^-\right\| + \left\|\Delta\Sigma NL\right\|$
	$\overline{NL^-}$		285	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{NL^-} = \left\|\Sigma\overline{NL}^-\right\| + \left\|\Delta\Sigma\overline{NL}\right\|$
	$(I_{01})_a$		286	10000000	---	---	+15	-15	+15	-15	0	10000000		24	E_{175}	V	$(I_{01})_a = I_{FS} \times \frac{128}{255} - 0.01(E_{175})$
	$(I_{01})_b$		287	01111111	---	---	+15	-15	+15	-15	0	01111111		24	E_{176}	V	$(I_{01})_b = I_{FS} \times \frac{127}{255} - 0.01(E_{176})$
	$\Delta(I_{01})$		288	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{01}) = [(I_{01})_a - (I_{01})_b] \times 10^3$

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
				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	
3 T_A = -55°C	$(I_{02})_a$		289	01000000	---	---	+15	-15	+15	-15	0	01000000		24	E_{177}	V	$(I_{02})_a = I_{FS} X \frac{64}{255} - 0.01(E_{177})$
	$(I_{02})_b$		290	00111111	---	---	+15	-15	+15	-15	0	00111111		24	E_{178}	V	$(I_{02})_b = I_{FS} X \frac{63}{255} - 0.01(E_{178})$
	$\Delta(I_{02})$		291	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{02}) = [(I_{02})_a - (I_{02})_b] \times 10^3$
	$(I_{03})_a$		292	00100000	---	---	+15	-15	+15	-15	0	00100000		24	E_{179}	V	$(I_{03})_a = I_{FS} X \frac{32}{255} - 0.01(E_{179})$
	$(I_{03})_b$		293	00011111	---	---	+15	-15	+15	-15	0	00011111		24	E_{180}	V	$(I_{03})_b = I_{FS} X \frac{31}{255} - 0.01(E_{180})$
	$\Delta(I_{03})$		294	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{03}) = [(I_{03})_a - (I_{03})_b] \times 10^3$
	$(I_{04})_a$		295	00010000	---	---	+15	-15	+15	-15	0	00010000		24	E_{181}	V	$(I_{04})_a = I_{FS} X \frac{16}{255} - 0.01(E_{181})$
	$(I_{04})_b$		296	00001111	---	---	+15	-15	+15	-15	0	00001111		24	E_{182}	V	$(I_{04})_b = I_{FS} X \frac{15}{255} - 0.01(E_{182})$
	$\Delta(I_{04})$		297	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{04}) = [(I_{04})_a - (I_{04})_b] \times 10^3$
	$(I_{05})_a$		298	00001000	---	---	+15	-15	+15	-15	0	00001000		24	E_{183}	V	$(I_{05})_a = I_{FS} X \frac{8}{255} - 0.01(E_{183})$
	$(I_{05})_b$		299	00000111	---	---	+15	-15	+15	-15	0	00000111		24	E_{184}	V	$(I_{05})_b = I_{FS} X \frac{7}{255} - 0.01(E_{184})$
	$\Delta(I_{05})$		300	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{05}) = [(I_{05})_a - (I_{05})_b] \times 10^3$
	$(I_{06})_a$		301	00000100	---	---	+15	-15	+15	-15	0	00000100		24	E_{185}	V	$(I_{06})_a = I_{FS} X \frac{4}{255} - 0.01(E_{185})$
	$(I_{06})_b$		302	00000011	---	---	+15	-15	+15	-15	0	00000011		24	E_{186}	V	$(I_{06})_b = I_{FS} X \frac{3}{255} - 0.01(E_{186})$
	$\Delta(I_{06})$		303	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{06}) = [(I_{06})_a - (I_{06})_b] \times 10^3$
	$(I_{07})_a$		304	00000010	---	---	+15	-15	+15	-15	0	00000010		24	E_{187}	V	$(I_{07})_a = I_{FS} X \frac{2}{255} - 0.01(E_{187})$
	$(I_{07})_b$		305	00000001	---	---	+15	-15	+15	-15	0	00000001		24	E_{188}	V	$(I_{07})_b = I_{FS} X \frac{1}{255} - 0.01(E_{188})$
	$\Delta(I_{07})$		306	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{07}) = [(I_{07})_a - (I_{07})_b] \times 10^3$
	$(I_{08})_b$		307	00000000	---	---	+15	-15	+15	-15	0	00000000		24	E_{189}	V	$(I_{08})_b = I_{FS} X \frac{1}{255} - 0.01(E_{189})$
	(I_{08})		308	---	---	---	---	---	---	---	---	---	---	---	---	---	$\Delta(I_{08}) = [(I_{07})_b - (I_{08})_b] \times 10^3$
	ΔI_{FS}		309	---	---	---	---	---	---	---	---	---	---	---	---	---	$I_{FS} - \overline{I_{FS}} = \Delta I_{FS}$

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
9 T_A = 25°C	$TC(I_{FS})$		310	---	---	---	---	---	---	---	---	---	---	---	---	---	$TC(I_{FS}) = \frac{(E_1 - E_{64})}{E_1} \times 10^4$
	$TC(I_{FS})$		311	---	---	---	---	---	---	---	---	---	---	---	---	---	$TC(I_{FS}) = \frac{(E_1 - E_{127})}{0.8E_1} \times 10^4$
	$\overline{TC(I_{FS})}$		312	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{TC(I_{FS})} = \frac{(E_2 - E_{65})}{E_2} \times 10^4$
	$\overline{TC(I_{FS})}$		313	---	---	---	---	---	---	---	---	---	---	---	---	---	$\overline{TC(I_{FS})} = \frac{(E_2 - E_{128})}{0.8E_2} \times 10^4$
	t_{PHL}		314	See figure 3. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)													---
	t_{PLH}		315	See figure 3. V_L = 0.7 V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)													---
10 T_A = 125°C	t_{PHL}		316	See figure 3. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)													---
	t_{PLH}		317	See figure 3. V_L = 0.7 V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)													---
11 T_A = -55°C	t_{PHL}		318	See figure 3. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)													---
	t_{PLH}		319	See figure 3. V_L = 0.7 V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)													---
12 T_A = 25°C	$\frac{dI_O}{dt}$		320	See figure 4. V_{IN} low-to-high transition, V_L = 5 Vdc													$\frac{dI_O}{dt} = \frac{1}{\Delta t}$
	t_{SHL}		321	See figure 3. V_L = 2.7 V, V_{OUT} high-to-low transition, S1-OFF (V_{IN} low-to-high)													---
	t_{SLH}		322	See figure 3. V_L = 0.7 V, V_{OUT} low-to-high transition, S1-OFF (V_{IN} high-to-low)													---

NOTES:

1/ The measurement of I_{FS} and $\overline{I_{FS}}$ can be made directly as a voltage measurement at pin 26 ($I_{FS} = \left[\frac{E_{pin26}}{5000}\right]$ 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; ±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

4.4.1 Group A inspection. Group A inspection shall be in accordance with table III of MIL-PRF-38535 and as follows:

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

b. Subgroups 4, 5, 6, 7, and 8 shall be omitted.

c. Subgroup 12 shall be added to group A inspection for all classes and it shall consist of the conditions and limits as specified in table III. The sample size series number shall be 5 for all classes (accept on 0).

4.4.2 Group B inspection. Group B inspection shall be in accordance with table II of MIL-PRF-38535.

4.4.3 Group C inspection. Group C inspection shall be in accordance with table IV of MIL-PRF-38535 and as follows:

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

b. The steady-state life test duration, test condition, and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document control by the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.

4.4.4 Group D inspection. Group D inspection shall be in accordance with table V of MIL-PRF-38535. End point electrical parameters shall be as specified in table II herein.

4.5 Methods of inspection. Methods of inspection shall be specified and as follows.

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.

5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Service or Defense Agency, or within the military service's system command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Microcircuits conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.

6.2 Acquisition requirements. Acquisition documents should specify the following:

a. Title, number, and date of the specification.

b. PIN and compliance identifier, if applicable (see 1.2).

c. Requirements for delivery of one copy of the conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.

d. Requirements for certificate of compliance, if applicable.

e. Requirements for notification of change of product or process to acquiring activity in addition to notification of the qualifying activity, if applicable.

f. Requirements for failure analysis (including required test condition of MIL-STD-883, method 5003), corrective action and reporting of results, if applicable.

g. Requirements for product assurance options.

h. Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements should not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.

i. Requirements for "JAN" marking.

j. Packaging requirements (see 5.1).

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List QML-38535 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from DSCC-VQ, 3990 E. Broad Street, Columbus, Ohio 43123-1199.

6.4 Superseding information. The requirements of MIL-M-38510 have been superseded to take advantage of the available Qualified Manufacturer Listing (QML) system provided by MIL-PRF-38535. Previous references to MIL-M-38510 in this document have been replaced by appropriate references to MIL-PRF-38535. All technical requirements now consist of this specification and MIL-PRF-38535. The MIL-M-38510 specification sheet number and PIN have been retained to avoid adversely impacting existing government logistics systems and contractor's parts lists.

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

6.6 Logistic support. Lead materials and finishes (see 3.3) are interchangeable. Unless otherwise specified, microcircuits acquired for Government logistic support will be acquired to device class B (see 1.2.2), lead material and finish A (see 3.4). Longer length leads and lead forming should not affect the part number.

6.7 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 should 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-PRF-38535.

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

6.8 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodians:
Army – CR
Navy - EC
Air Force - 11
NASA - NA
DLA – CC

Review activities:
Army - MI, SM
Navy - AS, CG, MC, SH, TD
Air Force – 03, 19, 99

Preparing activity:
DLA - CC

Project 5962-2127

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at http://assist.daps.dla.mil.