

MILITARY SPECIFICATION

MICROCIRCUITS, LINEAR, CMOS/ANALOG
 MULTIPLEXERS/DEMULTIPLEXERS WITH OVERVOLTAGE PROTECTION,
 MONOLITHIC SILICON, POSITIVE LOGIC

This specification is approved for use by all Depart-
 ments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the detail requirements for monolithic silicon, CMOS/Analog logic microcircuits. 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.

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

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

<u>Device type</u>	<u>Circuit</u>
01	Single 16-channel MUX/DEMUX
02	Single 16-channel MUX/DEMUX with overvoltage protection
03	Differential 8-channel MUX/DEMUX
04	Differential 8-channel MUX/DEMUX with overvoltage protection
05	Single 8-channel MUX/DEMUX with overvoltage protection
06	Differential 4-channel MUX/DEMUX with overvoltage protection
07	Single 8-channel MUX/DEMUX
08	Differential 4-channel MUX/DEMUX

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:

<u>Letter</u>	<u>Case outline (see MIL-M-38510, appendix C)</u>
E	D-2 (16-lead, 1/4" x 7/8"), dual-in-line package
X	See figure 4 (28-lead, 9/16" x 1-7/16"), dual-in-line package

1.3 Absolute maximum ratings:

Supply voltage between V+ and V-:
 Device types 02, 04, 05, and 06- - - - +40 V
 Device types 01, 03, 07, and 08- - - - +32 V

V+ to ground:
 Device types 02, 04, 05, and 06- - - - +20 V
 Device types 01, 03, 07, and 08- - - - +16 V

Digital input voltage:
 Device types 02, 04, 05, and 06- - - - ((V-)-4 V) ≤ V_D ≤ ((V+)+4 V)
 Device types 01, 03, 07, and 08- - - - -0.3 V ≤ V_D ≤ (V+)

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: NASA Part Project Office, Code 311.A NASA/Goddard Space Flight Center, Greenbelt, MD 20771, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

Analog input:

Device types 02, 04, 05, and 06- - -	$((V-)-20 V < V_A \leq ((V+)+20 V)$
Device types 01, 03, 07, and 08- - -	$(V-) \leq V_A \leq (V+)$
Storage temperature - - - - -	-65°C to +150°C
Lead temperature (soldering 10 seconds)- - - - -	300°C
Junction temperature (T _J)- - - - -	175°C

1.4 Recommended operating conditions:

V+	- - - - -	+15 V
V-	- - - - -	-15 V
V _{REF}	- - - - -	Open
V _{IL} (max)	- - - - -	0.8 V
V _{IH} (min)	- - - - -	- - - - -
Device types 01, 03, 07, and 08- - -	- - - - -	2.4 V
Device types 02, 04, 05, and 06- - -	- - - - -	4.0 V
V _{EN}	- - - - -	- - - - -
Device types 02, 04, 05, and 06- - -	- - - - -	4.0 V
Device types 01, 03, 07, and 08- - -	- - - - -	4.5 V
Ambient operating temperature range (T _A) - - - - -	- - - - -	-55°C to +125°C

1.5 Power and thermal characteristics.

Package	Case outline	Maximum allowable power dissipation 1/	Maximum θ_{JC} 2/	Maximum θ_{JA}
16-lead DIP	E	400 mW @ T _A = 125°C	50°C/W	125°C/W
28-lead DIP	X	400 mW @ T _A = 125°C	51°C/W	125°C/W

2. APPLICABLE DOCUMENTS

2.1 Government documents

2.1.1 Specification and standard. Unless otherwise specified, the following specification and standard form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATION

MILITARY

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

STANDARD

MILITARY

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

(Copies of the specification and standard required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

1/ All leads welded or soldered to PC board.

2/ Applies only when T_A ≥ 75°C.

2.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Detail specification. 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. Although eutectic die bonding is preferred, epoxy die bonding may be performed. However, the resin used shall be Dupont 5504A conductive silver paste, or equivalent, which is cured at 200°C ±10°C for a minimum of 2 hours. The use of equivalent epoxies or cure cycles shall be approved by the qualifying activity. Equivalency shall be demonstrated in data submitted to the qualifying activity for verification.

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

3.2.2 Functional diagrams. The function diagrams shall be as specified on figure 2.

3.2.3 Truth tables. The truth tables shall be as specified on figure 3.

3.2.4 Case outlines. The case outline "X" shall be as specified on figure 4, and case outline "E" shall be as specified in 1.2.3.

3.2.5 Schematic circuits. The schematic circuits shall be submitted to the preparing activity prior to inclusion of a manufacturer's device in this specification and shall be submitted to the qualifying activity and agent activity (DESC-ECS) as a prerequisite for qualification. All qualified manufacturer's schematics shall be maintained by the agent activity and will be available upon request.

3.2.6 Package and sealing material. Package and sealing material shall be in accordance with MIL-M-38510.

3.3 Lead material and finish. The lead material and finish shall be in accordance with MIL-M-38510 (see 6.5).

3.4 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.

3.5 Electrical test requirements. The 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.

3.6 Marking. Marking shall be in accordance with MIL-M-38510 and 1.2 herein.

3.6.1 Serialization. All class S devices shall be serialized in accordance with MIL-M-38510.

3.6.2 Correctness of indexing and marking. All devices shall be subjected to the final electrical tests in table II after part number marking, to verify that they are correctly indexed and identified by part number. Optionally, an approved electrical test may be devised especially for this requirement.

3.7 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 82 (see MIL-M-38510, appendix E).

4. PRODUCT ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-M-38510 and methods 5005 and 5007, as applicable, of MIL-STD-883, except as modified herein.

4.2 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 tests (method 1015 of MIL-STD-883).
 - (1) For class S devices: dynamic test (test condition D) using the circuit shown on figure 7. Test duration shall be 240 hours minimum. Static test (test condition C) using the circuit shown on figure 6. Test duration shall be 48 hours minimum.
 - (2) For class B devices: Test condition A using the circuit shown on figure 6 or test condition D using the circuit shown on figure 7 or test condition F using an accelerated burn-in circuit approved by the qualifying activity.

NOTE: Burn-in circuit resistor tolerances for figures 6 and 7 shall be ± 10 percent.

- b. Interim and final electrical 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. The percent defective allowable (PDA) for class S and class B devices shall be as specified in MIL-M-38510, 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 divided by the total number of devices submitted for 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.

4.3 Qualification inspection. Qualification 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 through 4.4.4).

4.4 Quality conformance inspection. Quality conformance inspection shall be in accordance with MIL-M-38510 and as specified herein. 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 through 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. Tests shall be as specified in table II herein.
- b. Subgroups 5, 6, 7, and 8 of method 5005 of MIL-STD-883 shall be omitted.
- c. Subgroup 4 (Ci measurements) shall be measured only for initial qualification and after process or design changes which may affect input capacitance. Capacitance shall be measured between the designated terminal and GND at a frequency of 1 MHz. Subgroup 4 shall be performed using a sample of 5 devices with no failures allowed.
- d. Subgroup 13 shall be added to group A inspection using an LTPD of 10 and shall consist of the tests, conditions, and limits as specified in table III.
- e. Subgroup 12 shall be performed for initial qualification only using a sample of 5 devices for each device type submitted to group A inspections with no failures allowed. If not more than 1 failure is found in the first sample of 5, a second sample of 5 is permitted with no further failures allowed.

TABLE I. Electrical performance characteristics.

Characteristic	Symbol	Conditions 1/ 2/ V- = -15 V, V+ = +15 V, VEN = 4.5 V, GND = 0 V -55°C < TA < 125°C Unless otherwise specified	Device type	Limits		Unit
				Min	Max	
Positive input clamping voltage	VIC(POS)	TA = 25°C, V+ = V- = 0 V IIN = 1 mA	02,04,05, 06		1.5	V dc
Negative input clamping voltage	VIC(NEG)	TA = 25°C, V+ = V- = 0 V IIN = -1 mA	02,04,05, 06	-1.5		
Input leakage current 3/	I _{IH}	Measure address inputs sequentially, connect all unused address inputs to GND	All	-0.1	+1.0	μA
Input leakage current 3/	I _{IL}	Measure address inputs sequentially connect all unused address inputs to 5 V	All	-1.0	+0.1	
Leakage current into the source terminal of an "OFF" switch	IS(OFF)	VS = 10 V, VEN = 0.8 V All unused sources = -10 V TA = 25°C -55°C ≤ TA ≤ 125°C	All	-1	1	nA
			All	-50	50	
		VS = -10 V, VEN = 0.8 V All unused sources to +10 V TA = 25°C -55°C ≤ TA ≤ 125°C	All	-1	1	
			All	-50	50	
Leakage current into the drain terminal of an "OFF" switch	ID+(OFF)	VD = 10 V, VEN = 0.8 V All unused sources to -10 V TA = 25°C -55°C ≤ TA ≤ 125°C	01,02	-20	20	nA
			03,04, 05,06, 07,08	-10	10	
			01,02,	-500	500	
			03,04, 05,07, 06,08	-250	250	
				-125	125	
	ID-(OFF)	VD = 10 V, VEN = 0.8 V All unused sources to -10 V TA = 25°C -55°C ≤ TA ≤ 125°C	01,02	-20	20	
			03,04, 05,06, 07,08	-10	10	
			01,02,	-500	500	
			03,04, 05,07, 06,08	-250	250	
				-125	125	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Characteristic	Symbol	Conditions 1/ 2/ V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 4.5 V, GND = 0 V -55°C ≤ T _A ≤ 125°C Unless otherwise specified	Device type	Limits		Unit				
				Min	Max					
Leakage current from an "ON" driver into the switch (drain)	I _{D(ON)}	V _S = 10 V, V _D = 10 V Connect all unused sources to -10 V T _A = 25°C -55°C ≤ T _A ≤ 125°C	01,02	-20	20	nA				
			03,04, 05,06 07,08	-10	10					
			01,02,	-500	500					
			03,04 05,07	-250	250					
			06,08	-125	125					
			01,02	-20	20					
		V _S = 10 V, V _D = -10 V Connect all unused sources to 10 V T _A = 25°C -55°C ≤ T _A ≤ 125°C	03,04, 05,06 07,08	-10	10					
			01,02,	-500	500					
			03,04 05,07	-250	250					
			06,08	-125	125					
			Overvoltage protected, leakage current into the drain terminal of an "OFF" switch	I _{D(OFF)} overvoltage	V _S = 33 V, V _D = 0 V, V _{EN} = 0.8 V V _S = -33 V, V _D = 0 V, V _{EN} = 0.8 V		02,04,05, 06	-2.0	2.0	μA
							02,04,05, 06	-2.0	2.0	
Positive supply current	I(+)	V _A = 0 V, V _{EN} = 5 V	01,03		14	mA				
			02,04,05, 06		2.0					
			07,08		12					
Negative supply current	I(-)	V _A = 0 V, V _{EN} = 5 V	01,03	-14						
			02,04,05, 06	-1						
			07,08	-12						
Standby positive supply current	I+SBY	V _A = 0 V, V _{EN} = 0 V	01,03		3.0	mA				
			02,04,05, 06		2.0					
			07,08		3.5					
Standby negative supply current	I-SBY	V _A = 0 V, V _{EN} = 0 V	01,03	-4.0						
			02,04,05, 06	-1.0						
			07,08	-3.5						

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Characteristic	Symbol	Conditions 1/ 2/ V- = -15 V, V+ = +15 V, VEN = 4.5 V, GND = 0 V -55°C < TA < 125°C Unless otherwise specified		Device type	Limits		Unit	
					Min	Max		
Capacitance: Address	CA	V+ = V- = 0 V, TA = 25°C f = 1 MHz		A11		10	pF	
Capacitance: Enable	CEN	V+ = V- = 0 V, TA = 25°C f = 1 MHz		A11		10	pF	
Capacitance: Output switch	COS	V+ = V- = 0 V See table III		01		90	pF	
				02		85		
				03,04		50		
				05,07		45		
				06,08		25		
Capacitance: Input switch	CIS	V+ = V- = 0 V See table III		A11		10		
Switch "ON" resistance	RDS1	VS = 10 V	ID = 1 mA	TA = 25°C TA = -55°C	01,03		600	Ω
				TA = 125°C			700	
			ID = 100 μA	TA = 25°C TA = -55°C	02,04		1,500	
				TA = 125°C			2,000	
			ID = 1 mA	TA = 25°C TA = -55°C	05,06		1,500	
				TA = 125°C			1,800	
			ID = 1 mA	TA = 25°C TA = -55°C	07,08		400	
				TA = 125°C			500	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Characteristic	Symbol	Conditions 1/ 2/ V- = -15 V, V+ = +15 V, V _{EN} = 4.5 V, GND = 0 V -55°C < T _A < 125°C Unless otherwise specified		Device type	Limits		Unit			
					Min	Max				
Switch "ON" resistance	R _{DS1}	V _S = -10 V	I _D = -1 mA	T _A = 25°C T _A = -55°C	01,03		600	Ω		
						T _A = 125°C			700	
				I _D = -100 μA	T _A = 25°C T _A = -55°C	02,04		1,500		
							T _A = 125°C		2,000	
					T _A = 25°C T _A = -55°C	05,06		1,500		
			T _A = 125°C				1,800			
			I _D = -1 mA	T _A = 25°C T _A = -55°C	07,08		400			
						T _A = 125°C		500		
			R _{DS2}	V _S = 7.5 V	V _S = 7.5 V	I _D = 1 mA	01,03,07, 08		1,000	
								I _D = 100 μA	02,04	
05,06		2,200								
V _S = -7.5 V	I _D = -1 mA	01,03,07, 08				1,000				
					I _D = -100 μA	02,04		2,400		
						05,06		2,200		
Single channel isolation	V _{ISO}	f = 200 kHz, V _{GEN} = 1 V _{p-p} See figure 17		A11	50		dB			
Crosstalk between channels	V _{CT}	f = 200 kHz, V _{GEN} = 1 V _{p-p} See figure 18		A11	50		dB			
Charge transfer error	V _{CTE}	V _S = GND, see figure 19		A11		10	mV			

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Characteristic	Symbol	Conditions <u>1/</u> <u>2/</u> V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 4.5 V, GND = 0 V -55°C < T _A < 125°C Unless otherwise specified		Device type	Limits		Unit
					Min	Max	
Break-before-make time delay	t _D	See figure 16	T _A = 25°C	All	5		ns
Propagation delay times: Address inputs to I/O channels	t _{ON(A)} t _{OFF(A)}	R _L = 1 kΩ C _L = 100 pF See figures 8, 10, 12, and 14	T _A = 25°C	All		1,000	ns
			T _A = -55°C			1,500	
Enable to I/O	t _{ON(EN)} t _{OFF(EN)}	R _L = 1 kΩ C _L = 100 pF See figures 9, 11, 13, and 15	T _A = 25°C	All		1,000	
			T _A = -55°C			1,500	
			T _A = 125°C			1,500	

1/ Current flowing in either direction between any associated input and output terminals of the switch shall be 30 mA maximum.

2/ Input = source; Output = drain.

3/ Input current of one input node.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (see table III) <u>1/</u> , <u>2/</u> , <u>3/</u>	
	Class S <u>4/</u>	Class B
Interim electrical parameters (method 5004)	1	1
Final electrical parameters (method 5004)	1,2,3,9	1,2,3,9,
Group A test requirements (method 5005)	1,2,3,4,9, 10,11,12,13	1,2,3,4,9, 12,13
Group B test requirements (method 5005)	1, 2, 3 and table IV delta limits	N/A
Group C end-point electrical parameters (method 5005)	N/A	1 and table IV delta limits
Additional electrical subgroups for group C periodic inspection	N/A	10,11,12
Group D end-point electrical parameters (method 5005)	1, 2, 3	1
Additional electrical subgroups for group D periodic inspection	12**	None

1/ PDA applies to subgroup 1 (see 4.2c).

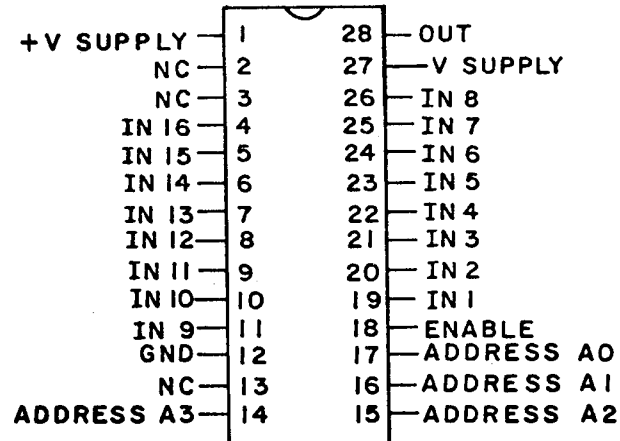
2/ See 4.4.1c.

3/ See 4.4.1e.

4/ See 4.4.4b.

Device type 01

Case X



Device type 02

Case X

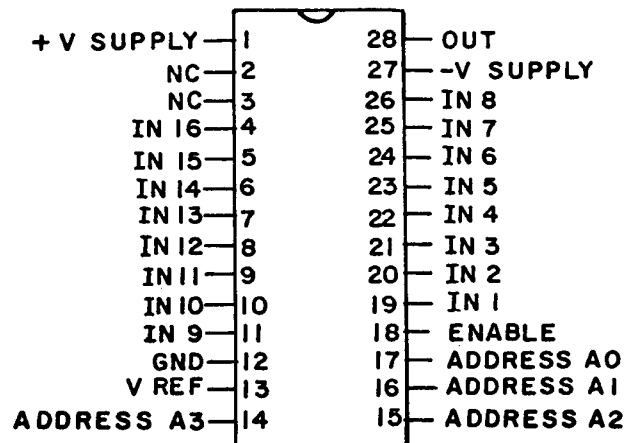
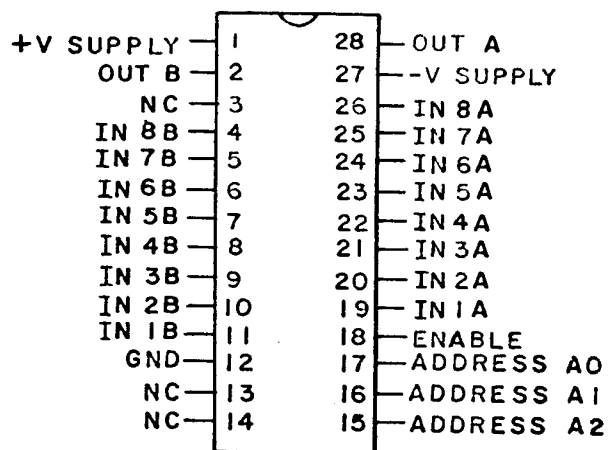
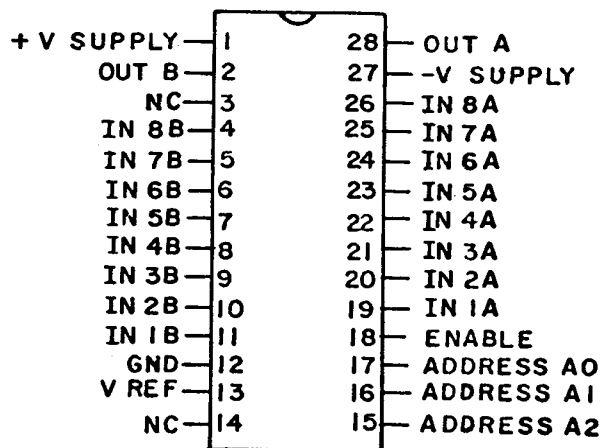
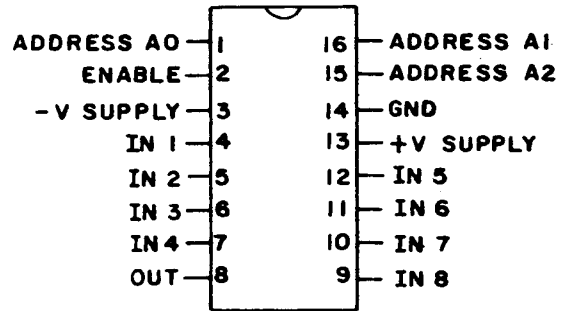


FIGURE 1. Terminal connections.

Device type 03Case XDevice type 04Case XFIGURE 1. Terminal connections - Continued.

Device types 05 and 07

Case E



Device types 06 and 08

Case E

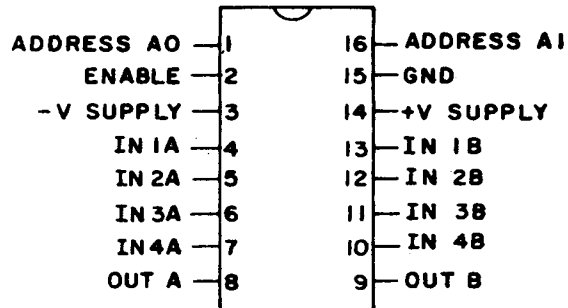


FIGURE 1. Terminal connections - Continued.

Device types 01 and 02

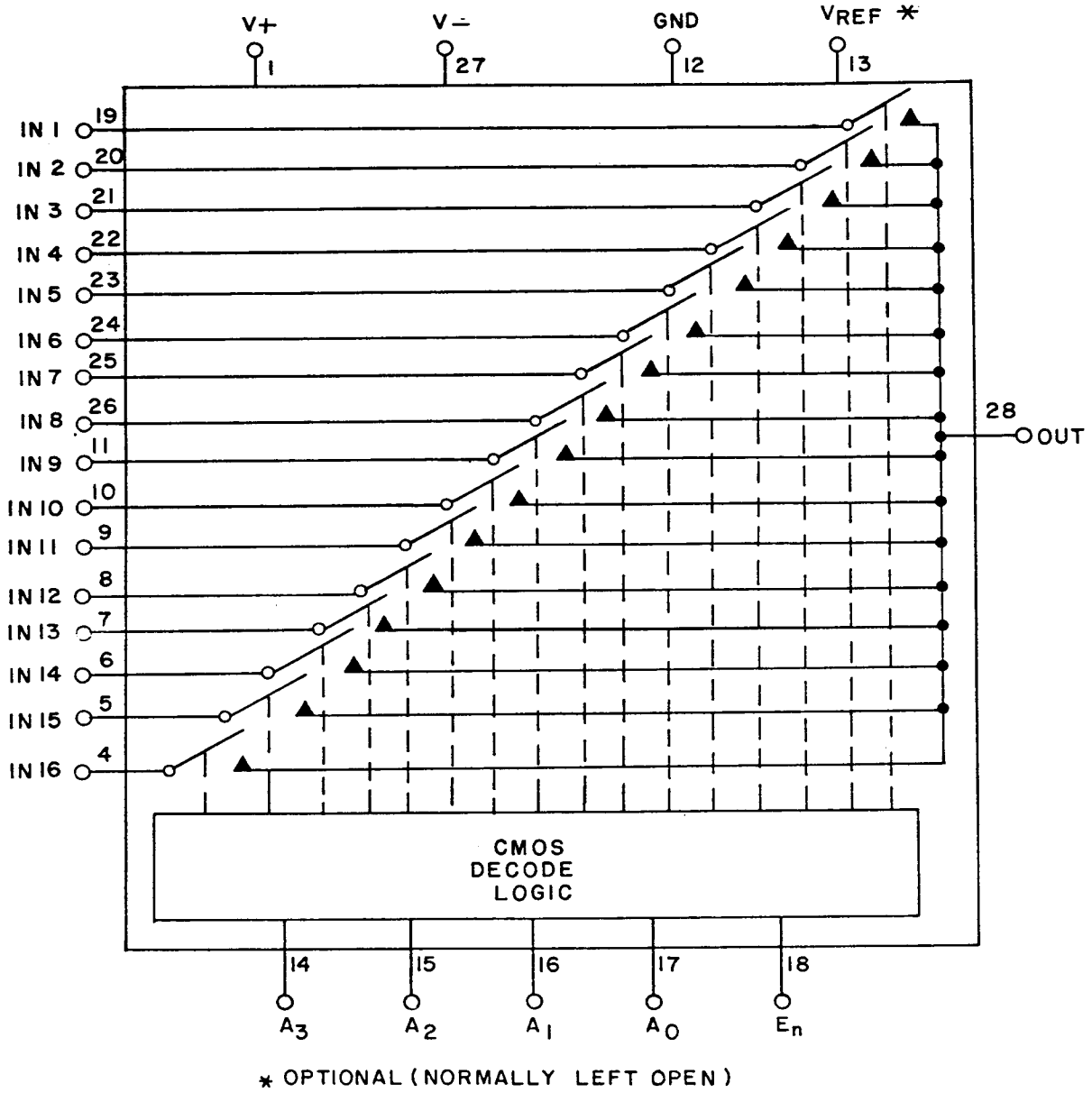


FIGURE 2. Functional diagrams.

Device types 03 and 04

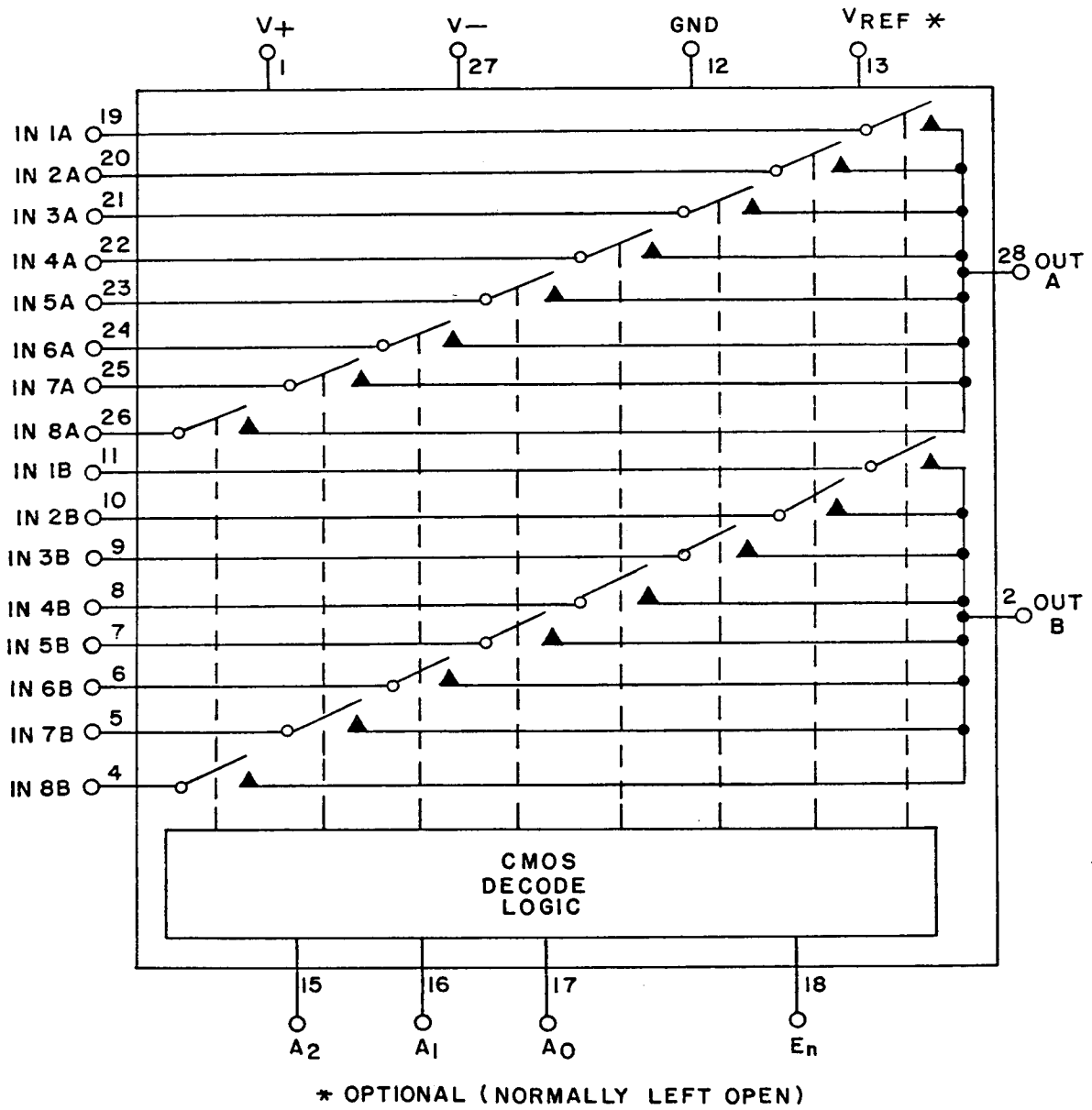
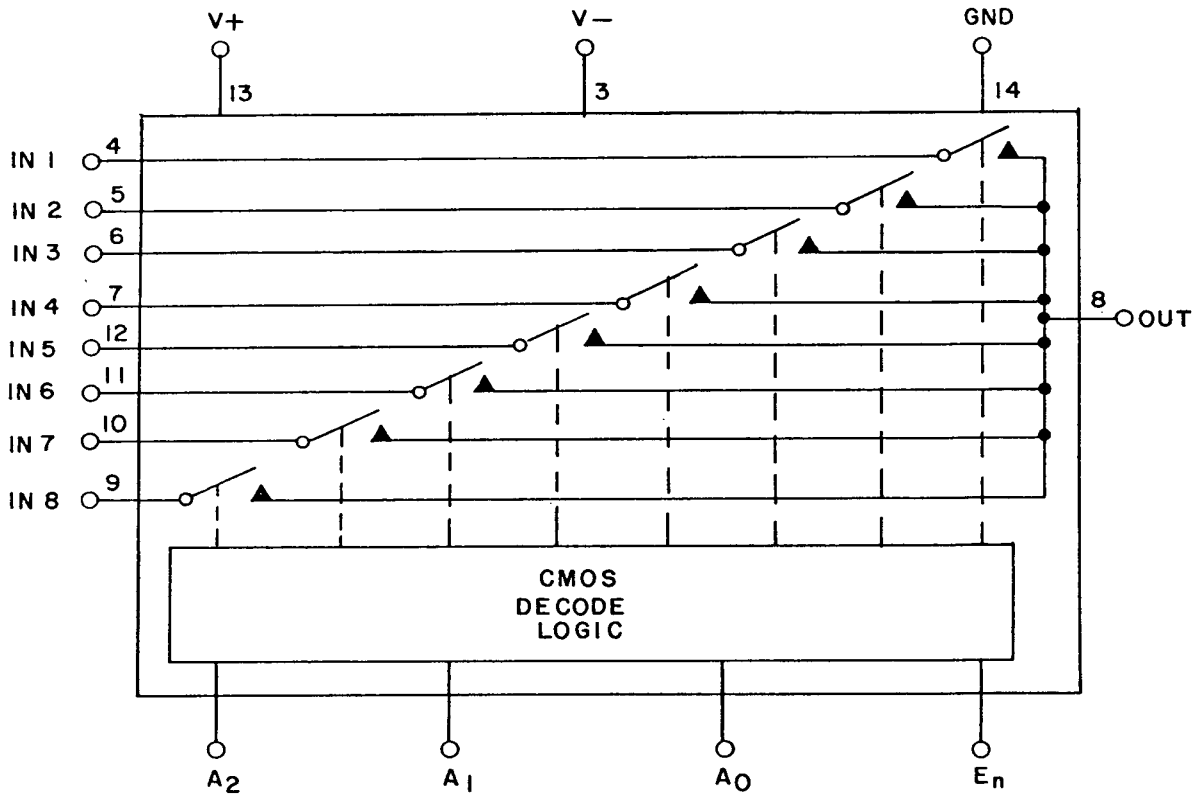


FIGURE 2. Functional diagrams - Continued.

Device types 05 and 07



Device types 06 and 08

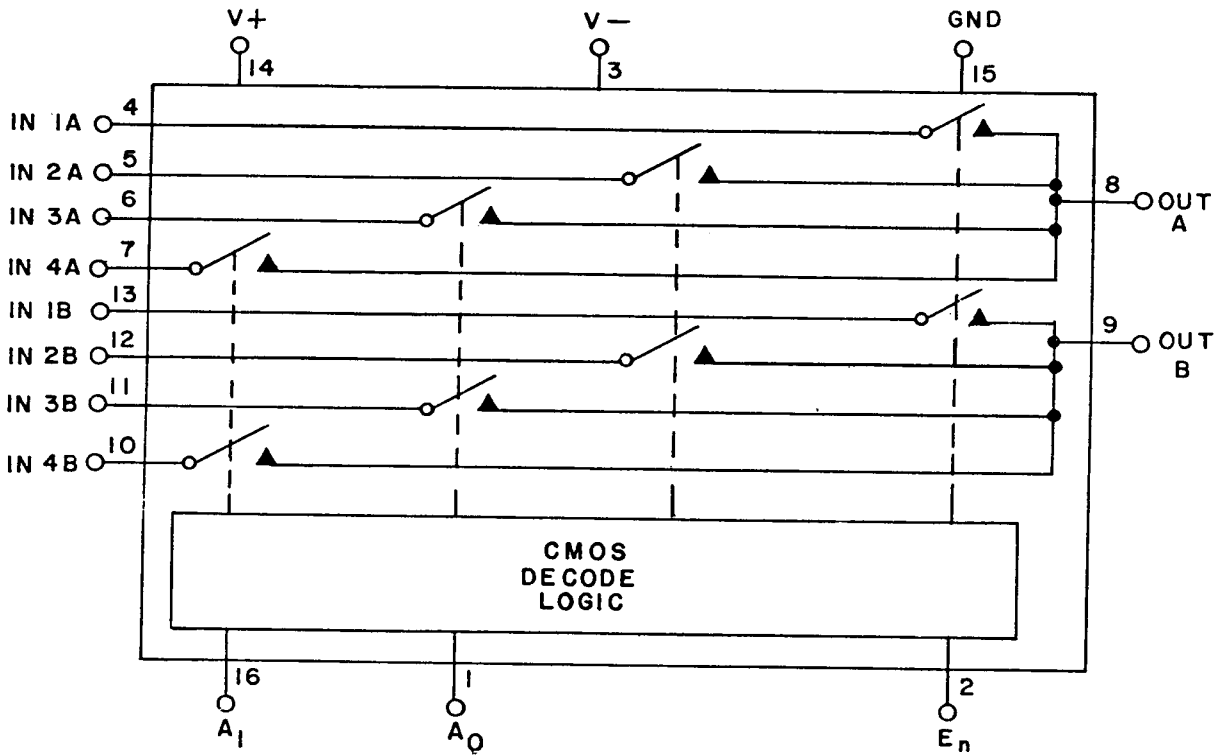


FIGURE 2. Functional diagrams - Continued.

Device types 01 and 02

A3	A2	A1	A0	EN	CHANNEL SELECTED
X	X	X	X	L	NONE
L	L	L	L	H	1
L	L	L	H	H	2
L	L	H	L	H	3
L	L	H	H	H	4
L	H	L	L	H	5
L	H	L	H	H	6
L	H	H	L	H	7
L	H	H	H	H	8
H	L	L	L	H	9
H	L	L	H	H	10
H	L	H	L	H	11
H	L	H	H	H	12
H	H	L	L	H	13
H	H	L	H	H	14
H	H	H	L	H	15
H	H	H	H	H	16

Device types 03 and 04

A2	A1	A0	EN	CHANNEL SELECTED
X	X	X	L	NONE
L	L	L	H	1A,1B
L	L	H	H	2A,2B
L	H	L	H	3A,3B
L	H	H	H	4A,4B
H	L	L	H	5A,5B
H	L	H	H	6A,6B
H	H	L	H	7A,7B
H	H	H	H	8A,8B

Device types 05 and 07

A2	A1	A0	EN	CHANNEL SELECTED
X	X	X	L	NONE
L	L	L	H	1
L	L	H	H	2
L	H	L	H	3
L	H	H	H	4
H	L	L	H	5
H	L	H	H	6
H	H	L	H	7
H	H	H	H	8

Device types 06 and 08

A1	A0	EN	CHANNEL SELECTED
X	X	L	NONE
L	L	H	1A,1B
L	H	H	2A,2B
H	L	H	3A,3B
H	H	H	4A,4B

FIGURE 3. Truth tables.

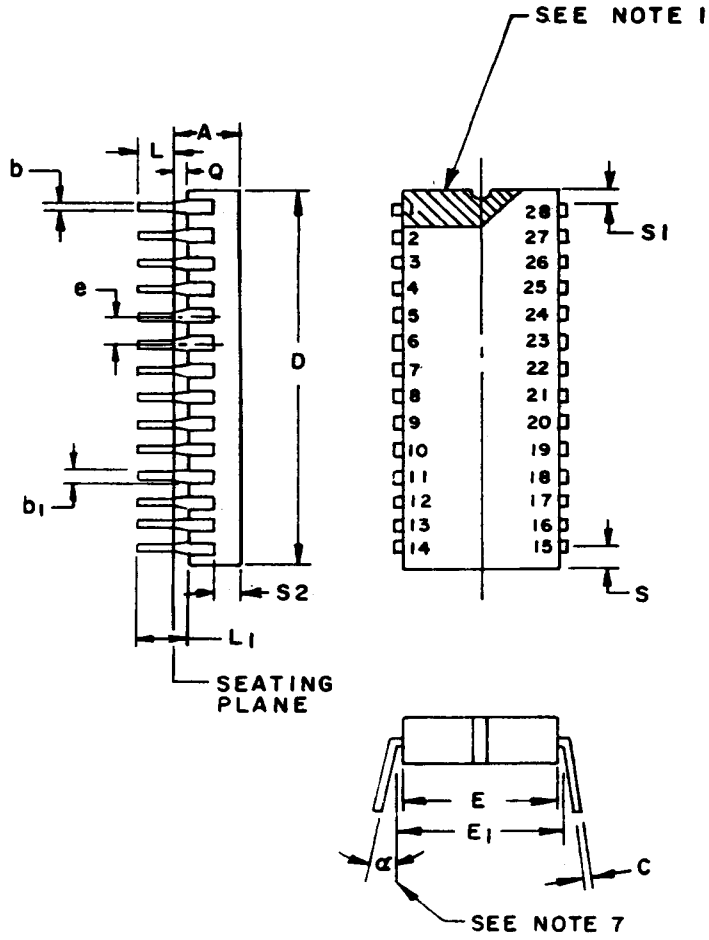


FIGURE 4. Case outline X (28-lead, 9/16" x 1-7/16").

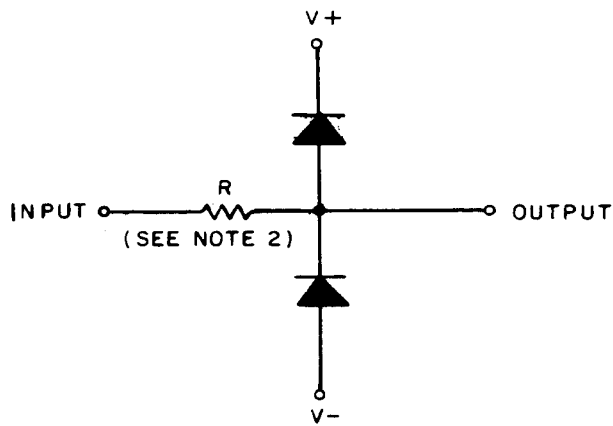
Symbol	Inches		Millimeters		Notes
	Min	Max	Min	Max	
A	---	.200	---	5.08	
b	.014	.023	0.36	0.58	8
b ₁	.040	.070	1.02	1.78	2,8
C	.008	.014	.20	0.36	8
D	---	1.48	---	37.6	4
E	.520	.610	13.21	13.97	4
E ₁	.585	.620	14.86	15.75	7
E ₂	N/A	N/A	N/A	N/A	
E ₃	N/A	N/A	N/A	N/A	
e	.100 BSC		2.54 BSC		5,9
L	.125	.200	3.18	5.08	
L ₁	.150		3.81	5.08	
Q	.015	.060	0.51	1.52	3
Q ₁	N/A	N/A	N/A	N/A	
S	---	.098	---	2.49	6
S ₁	.005	---	0.13	---	6
S ₂	.005	---	0.13	N/A	
α	0°	15°	0°	15°	

NOTES:

1. Index area; a notch or a pin one identification mark shall be located adjacent to pin one and shall be located within the shaded area shown. The manufacturer's identification shall not be used as a pin one identification mark.
2. The minimum limit for dimension b₁ may be .023 (.58 mm) for leads number 1, 14, 15, and 28 only.
3. Dimension Q shall be measured from the seating plane to the base plane.
4. This dimension allows for off-center lid, meniscus and glass overrun.
5. The basic pin spacing is .100 (2.54 mm) between centerlines. Each pin centerline shall be located within ±.010 (.25 mm) of its exact longitudinal position relative to pins 1 and 28.
6. Applies to all four corners (leads number 1, 14, 15, and 28), and 40.5 appendix C of MIL-M-38510 shall apply.
7. Lead center when α=0°. E₁ shall be measured at the centerline of the leads (see 40.4 appendix C of MIL-M-38510).
8. All leads - Increase maximum limit by .003 (.08 mm) measured at the center of the flat, when lead finish A or B is applied.
9. Twenty six spaces.
10. If this configuration is used, no organic or polymeric materials shall be molded to the bottom of the package to cover the leads.

FIGURE 4. Case outline x (28-lead, 9/16" x 1-7/16") - Continued.

Network A

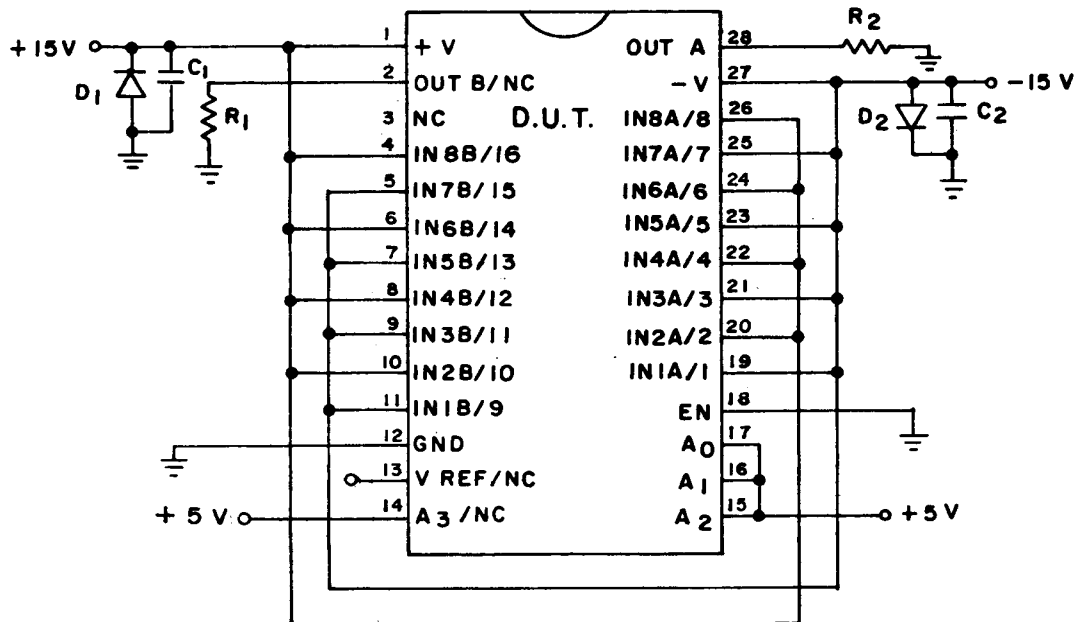


NOTES:

1. All device inputs shall be protected from transients such as electrostatic discharge. This circuit is intrinsic to the device.
2. This resistance is 200 to 2,000 ohms depending on device type.

FIGURE 5. Address and Enable input protection circuit for device types 02, 04, 05 and 06.

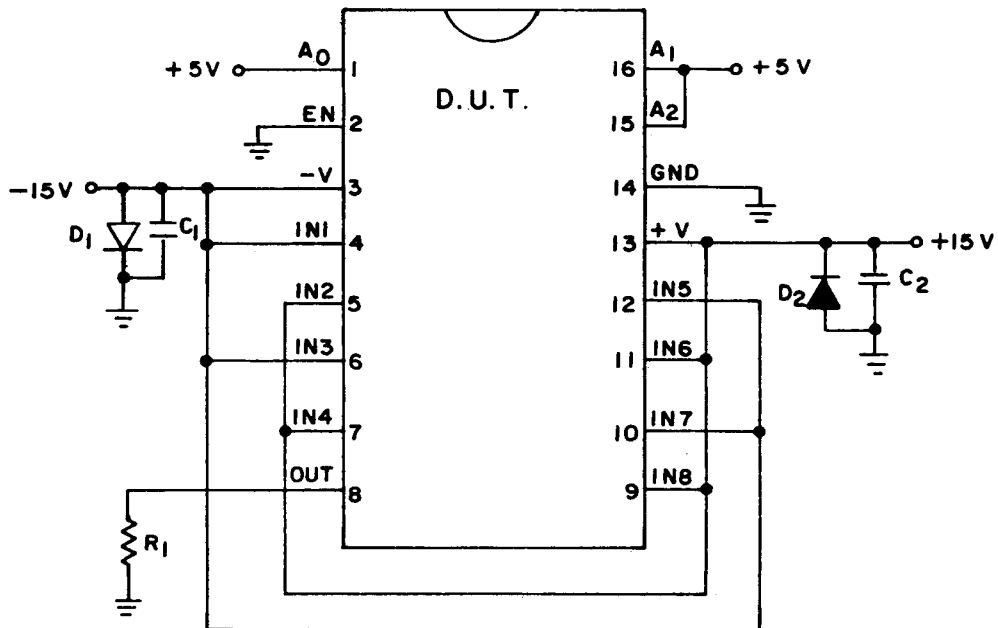
Device types 01, 02, 03, and 04



NOTE: $R_1, R_2 = 10\text{ k}\Omega \pm 10\%$, 1/2 or 1/4 W.
 $C_1, C_2 = .01\ \mu\text{f}$.
 $D_1, D_2 = 1\text{N}4002$ (or equivalent).

FIGURE 6. Static burn-in test circuits.

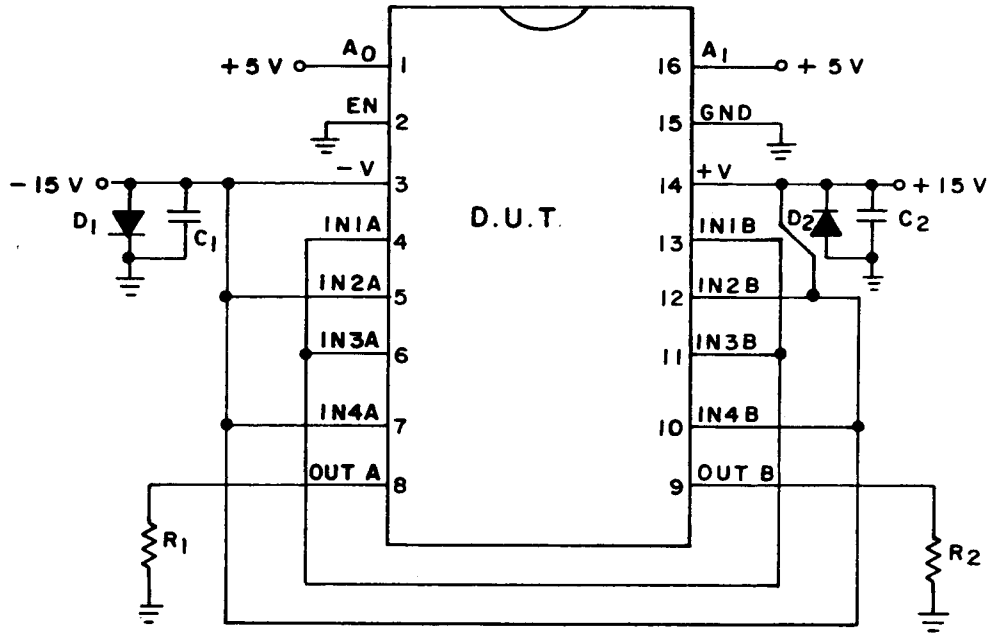
Device types 05 and 07



NOTE: $R_1 = 10\text{ k}\Omega \pm 10\%$, 1/4 or 1/2 W.
 $C_1, C_2 = .01\ \mu\text{f}$.
 $D_1, D_2 = 1\text{N}4002$ (or equivalent).

FIGURE 6. Static burn-in test circuits - Continued.

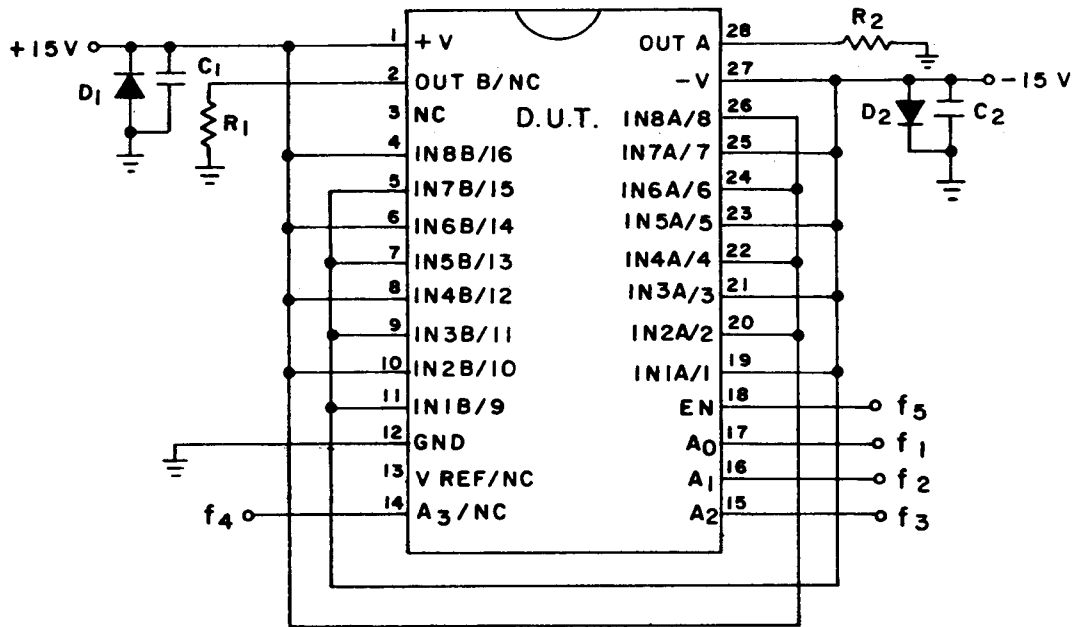
Device types 06 and 08



NOTE: $R_1, R_2 = 10 \text{ k}\Omega \pm 10\%, 1/2 \text{ or } 1/4 \text{ W.}$
 $C_1, C_2 = .01 \mu\text{f.}$
 $D_1, D_2 = 1\text{N}4002 \text{ (or equivalent).}$

FIGURE 6. Static burn-in test circuits - Continued.

Device types 01, 02, 03, and 04

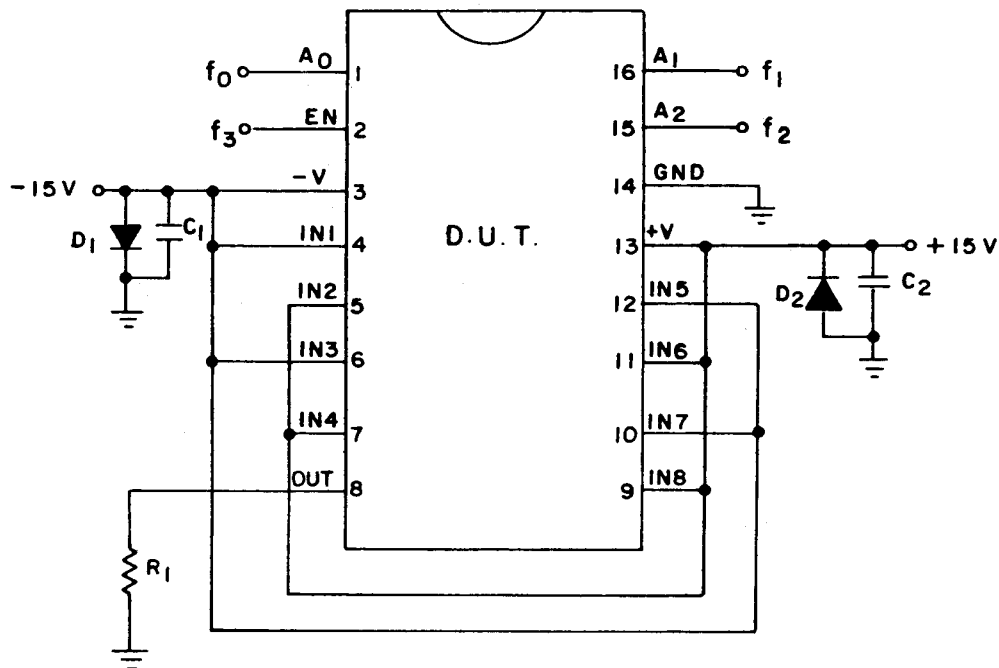


NOTES:

1. $R_1, R_2 = 10 \text{ k}\Omega \pm 10\%, 1/2 \text{ or } 1/4 \text{ W.}$
 $C_1, C_2 = .01 \text{ }\mu\text{f.}$
 $D_1, D_2 = 1\text{N}4002 \text{ (or equivalent).}$
2. Input signal requirements:
 - a. Square wave, 50% duty cycle.
 - b. $f_1 = 100 \text{ kHz.}$
 $f_2 = 50 \text{ kHz.}$
 $f_3 = 25 \text{ kHz.}$
 $f_4 = 12.5 \text{ kHz.}$
 $f_5 = 6.25 \text{ kHz.}$
 - c. t_{TLH} and $t_{THL} < 1 \text{ }\mu\text{s.}$
 - d. Voltage = 0 to 15 V peak minimum.

FIGURE 7. Dynamic and steady state life test circuits.

Device types 05 and 07

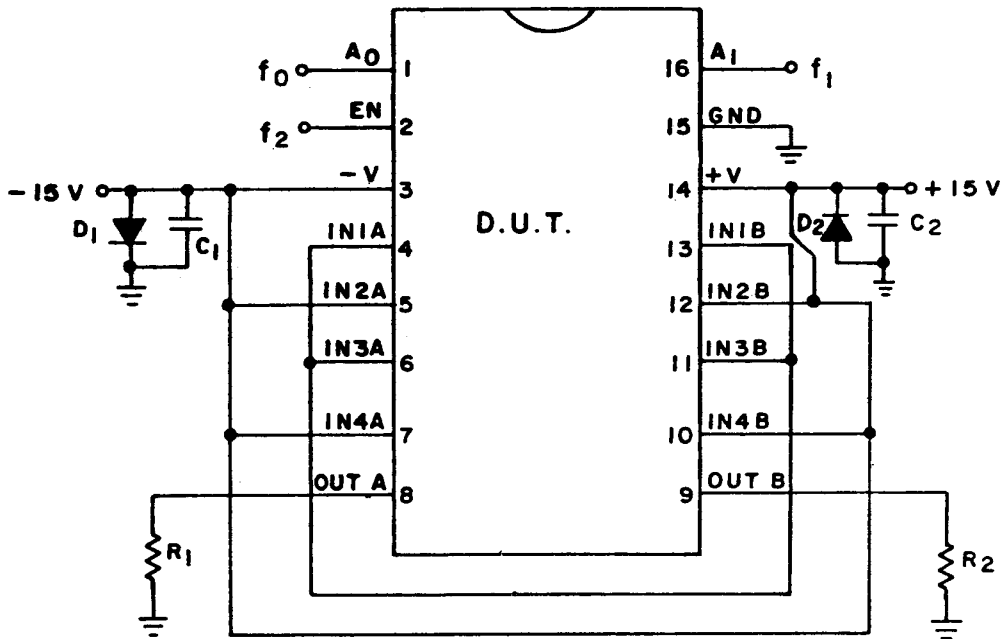


NOTES:

1. $R_1 = 10 \text{ k}\Omega \pm 10\%$, 1/2 or 1/4 W.
 $C_1, C_2 = .01 \text{ }\mu\text{f}$.
 $D_1, D_2 = 1\text{N}4002$ (or equivalent).
2. Input signal requirements:
 - a. Square wave, 50% duty cycle.
 - b. $f_0 = 100 \text{ kHz}$.
 $f_1 = 50 \text{ kHz}$.
 $f_2 = 25 \text{ kHz}$.
 $f_3 = 12.5 \text{ kHz}$.
 - c. t_{TLH} and $t_{\text{THL}} < 1 \text{ }\mu\text{s}$.
 - d. Voltage = 0 to 15 V peak minimum.

FIGURE 7. Dynamic and steady state life test circuits - Continued.

Device types 06 and 08

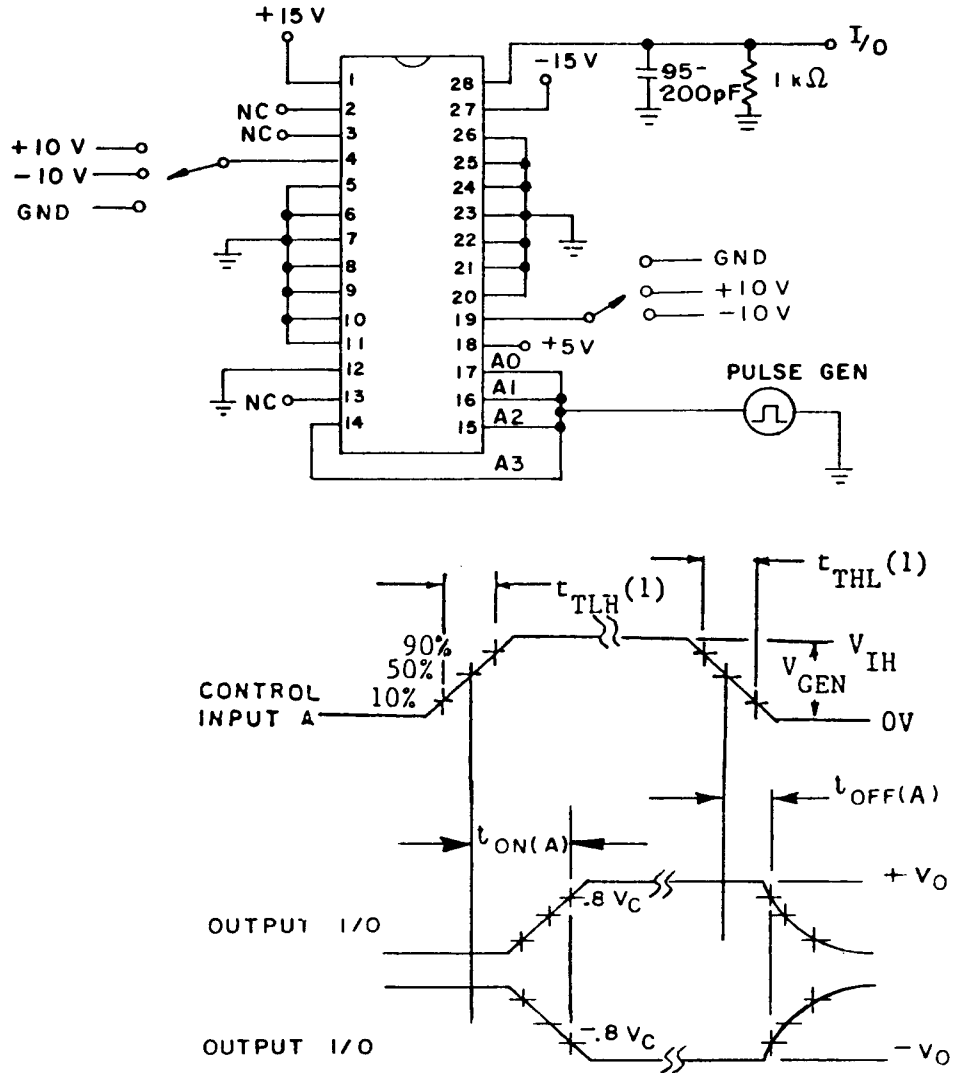


NOTES:

1. $R_1, R_2 = 10 \text{ k}\Omega \pm 10\%$, 1/2 or 1/4 W.
 $C_1, C_2 = .01 \text{ }\mu\text{f}$.
 $D_1, D_2 = 1\text{N}4002$ (or equivalent).
2. Input signal requirements:
 - a. Square wave, 50% duty cycle.
 - b. $f_0 = 100 \text{ kHz}$.
 $f_1 = 50 \text{ kHz}$.
 $f_2 = 25 \text{ kHz}$.
 - c. t_{TLH} and $t_{\text{THL}} = 1 \text{ }\mu\text{s}$.
 - d. Voltage = 0 to 15 V peak minimum.

FIGURE 7. Dynamic and steady state life test circuits - Continued.

Device types 01 and 02

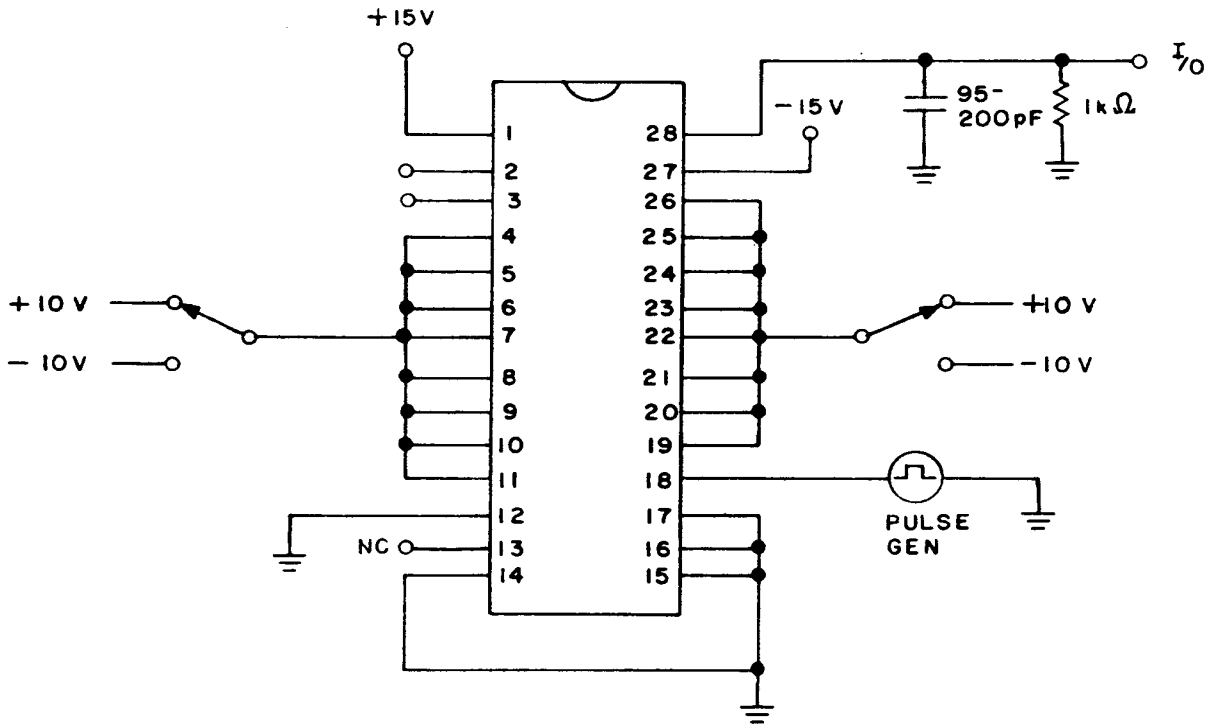


Input pulse requirements:
 $V_{GEN} = 4V$
 $t_{THL(1)} = t_{TLH(1)} \leq 20 \text{ ns.}$

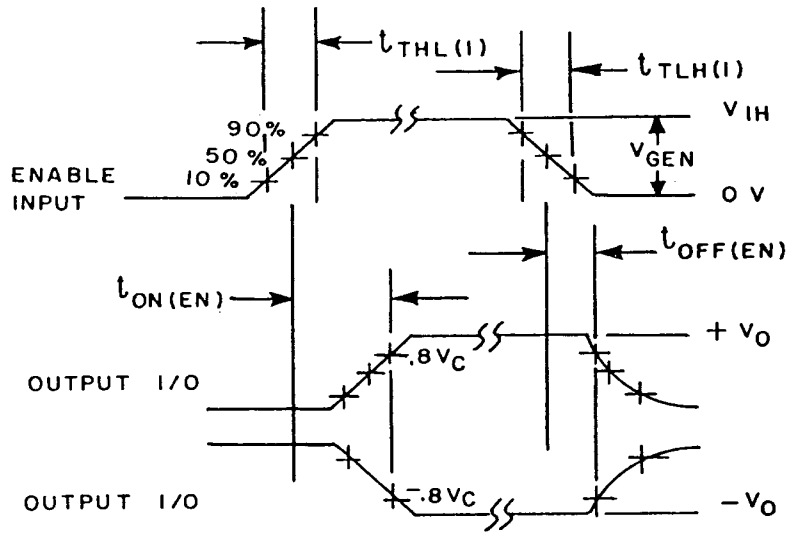
DYNAMIC TEST WAVEFORMS

FIGURE 8. Switching times test circuit and waveforms.
 (Address inputs to I/O)

Device types 01 and 02



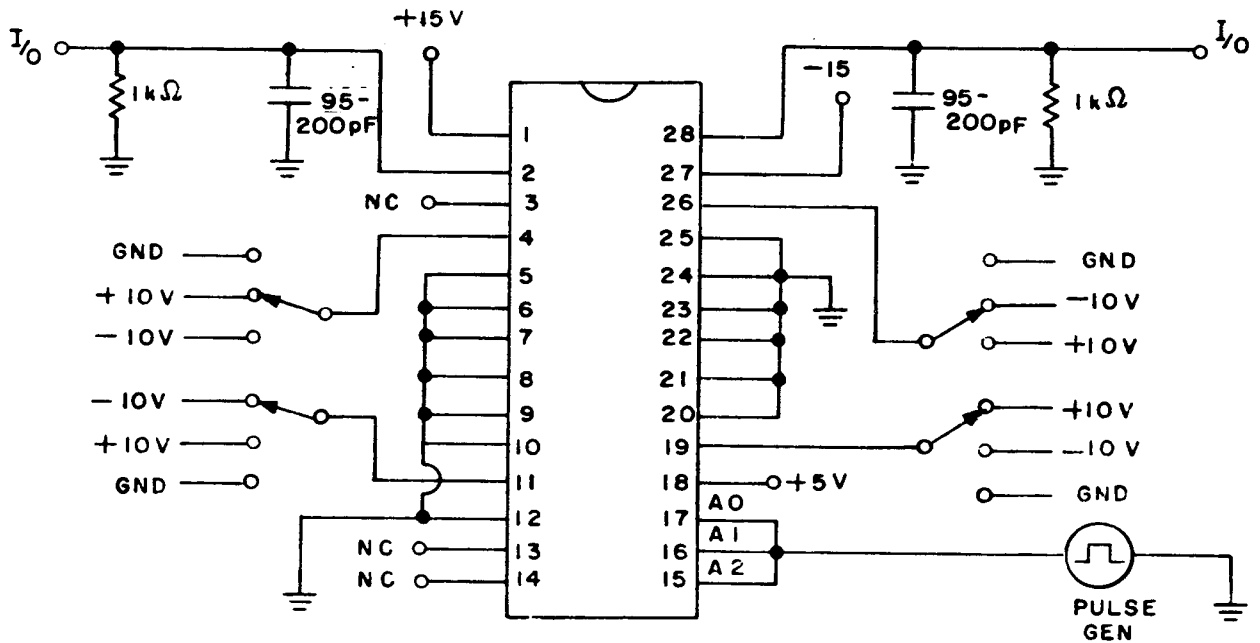
Input pulse requirements:
 $V_{GEN} = 4 \text{ V.}$
 $t_{THL(1)} = t_{TLH(1)} \leq 20 \text{ ns.}$



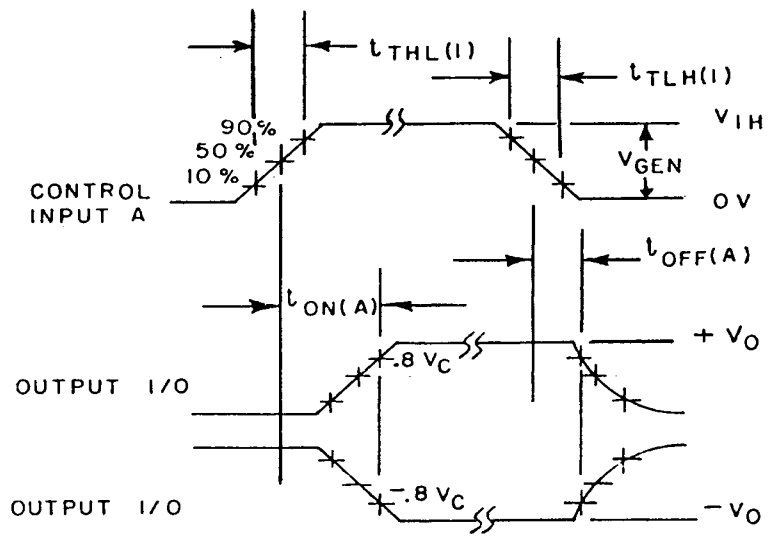
DYNAMIC TEST WAVEFORMS

FIGURE 9. Switching times test circuit and waveforms.
 (Enable to I/O)

Device types 03 and 04



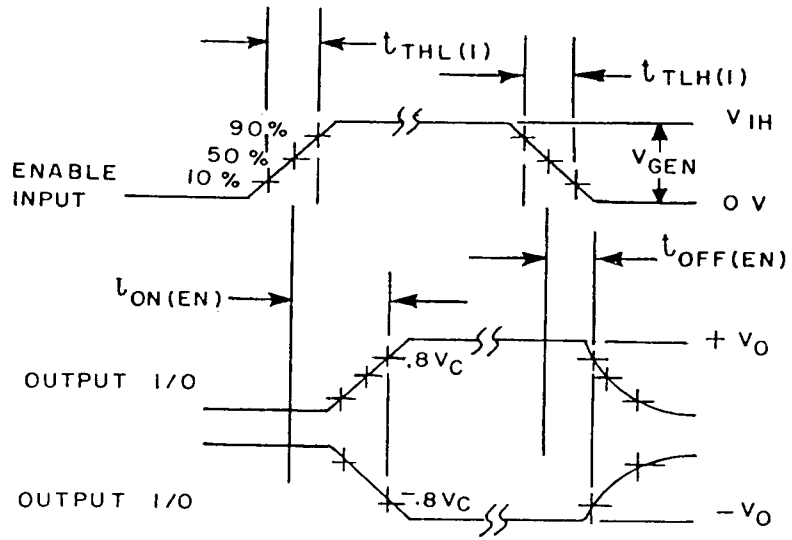
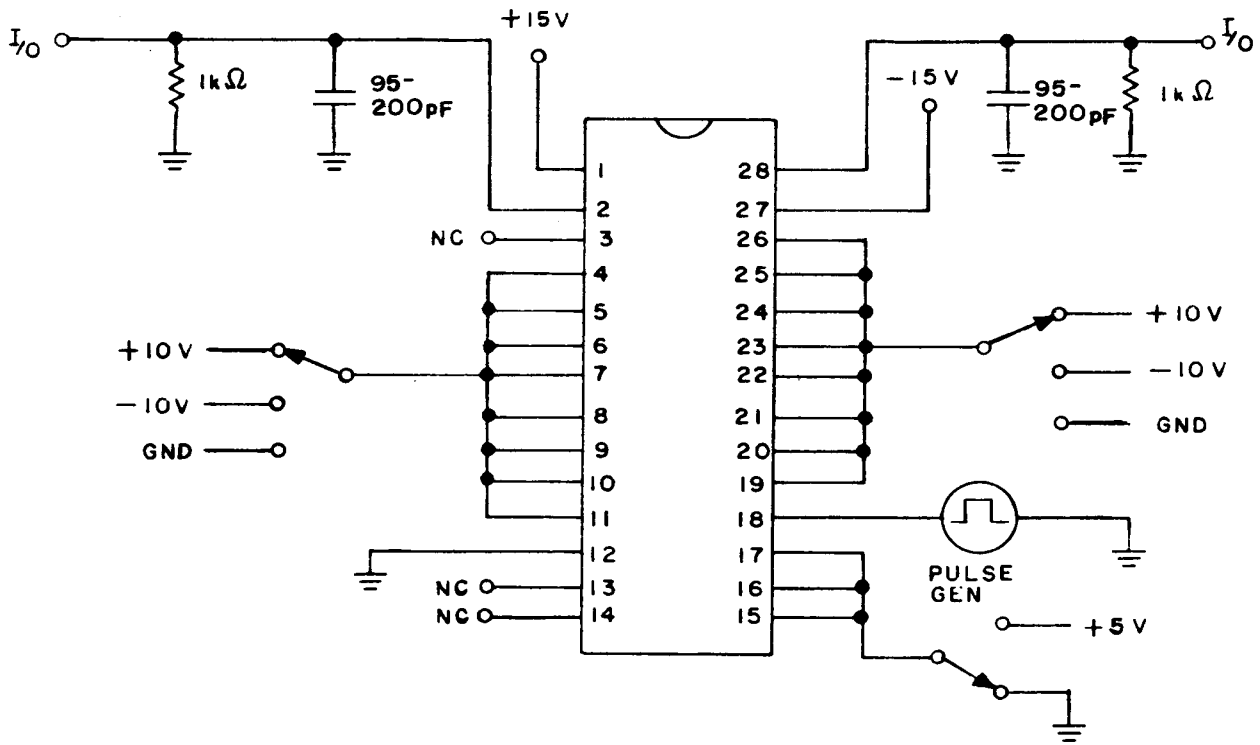
Input pulse requirements:
 $V_{GEN} = 4 V.$
 $t_{THL(1)} = t_{TLH(1)} \leq 20 ns.$



DYNAMIC TEST WAVEFORMS

FIGURE 10. Switching times test circuit and waveforms.
 (Address inputs to I/O)

Device types 03 and 04



Input pulse requirements:
 $V_{GEN} = 4 \text{ V.}$
 $t_{THL(1)} = t_{TLH(1)} \leq 20 \text{ ns.}$

DYNAMIC TEST WAVEFORMS

FIGURE 11. Switching times test circuit and waveforms.
 (Enable to I/O)

Device types 05 and 07

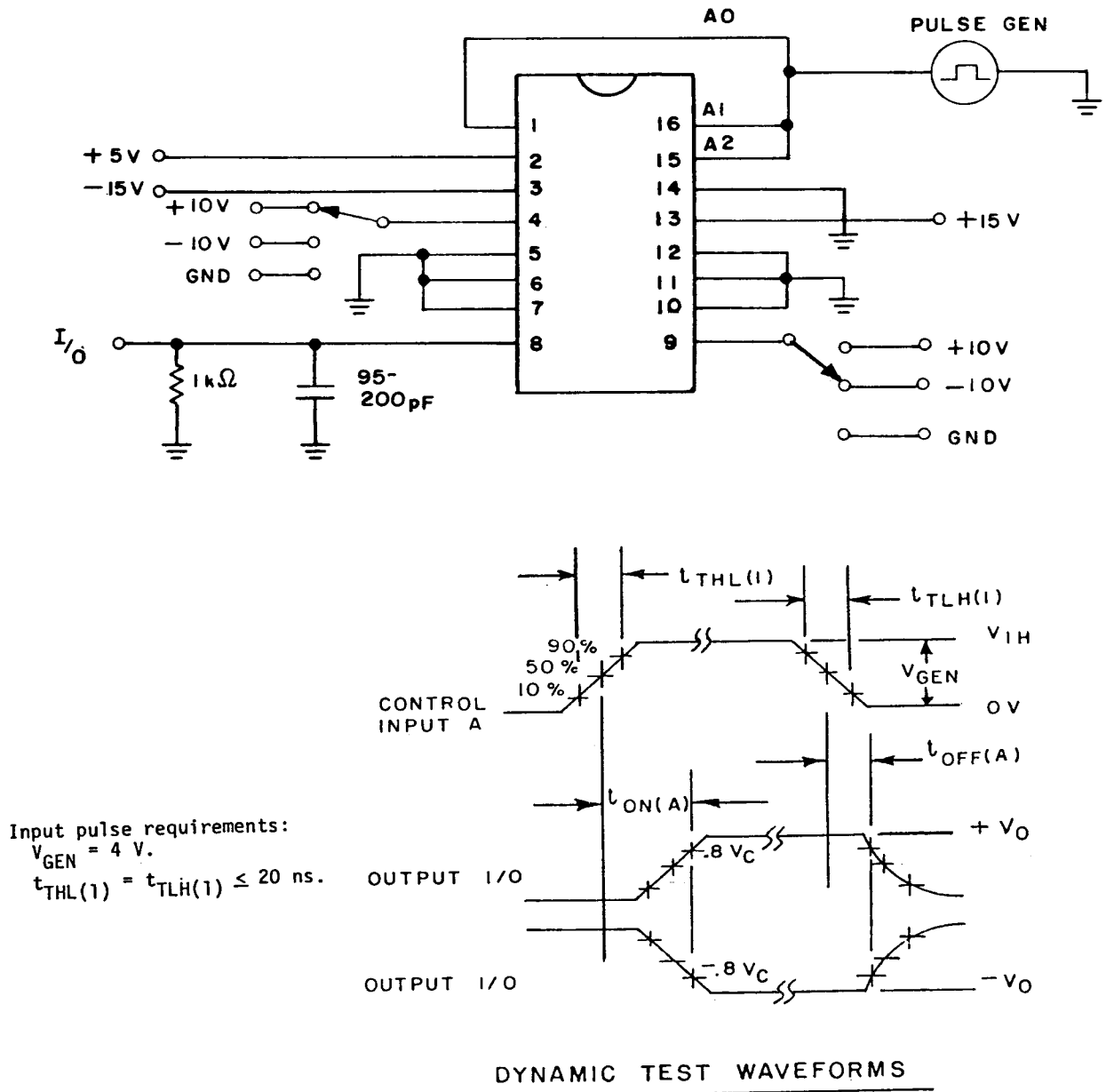
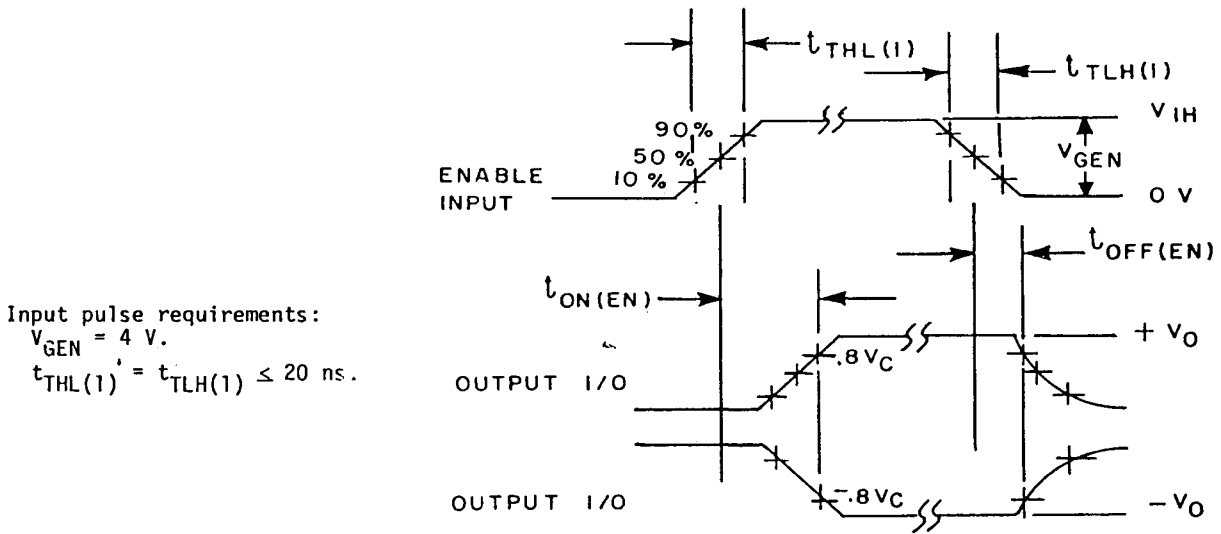
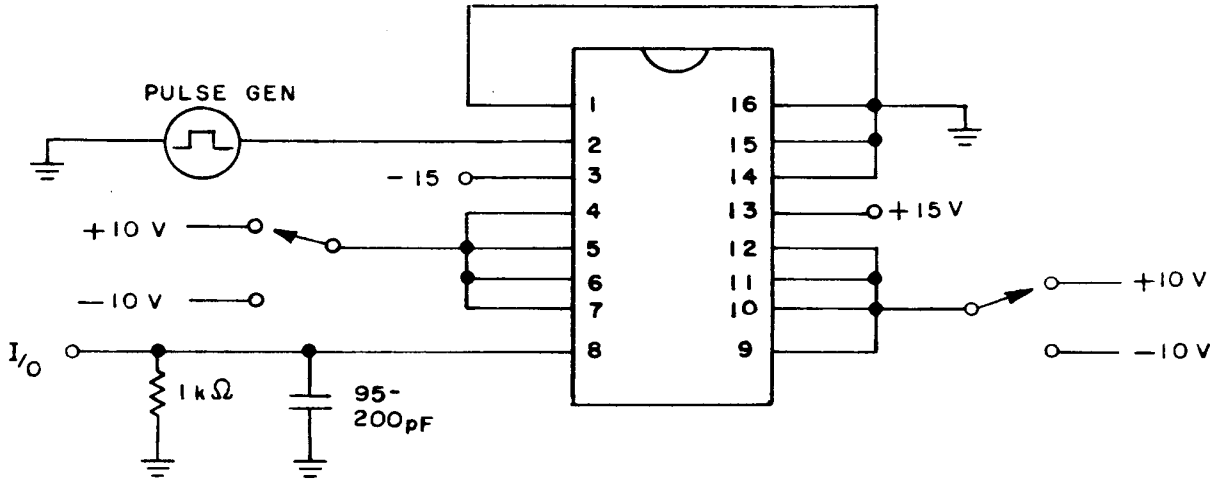


FIGURE 12. Switching times test circuit and waveforms.
(Address inputs to I/O)

Device types 05 and 07

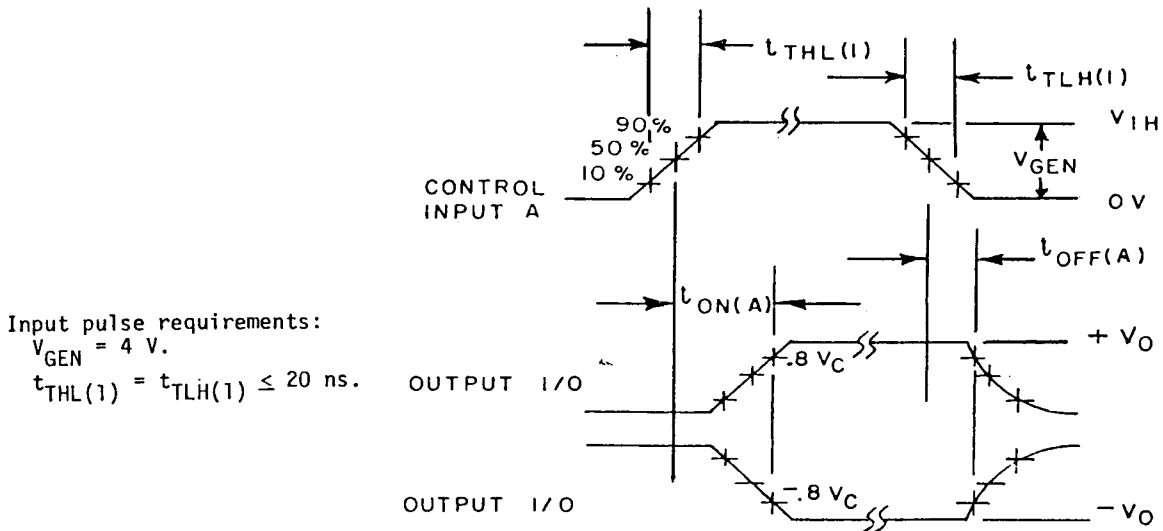
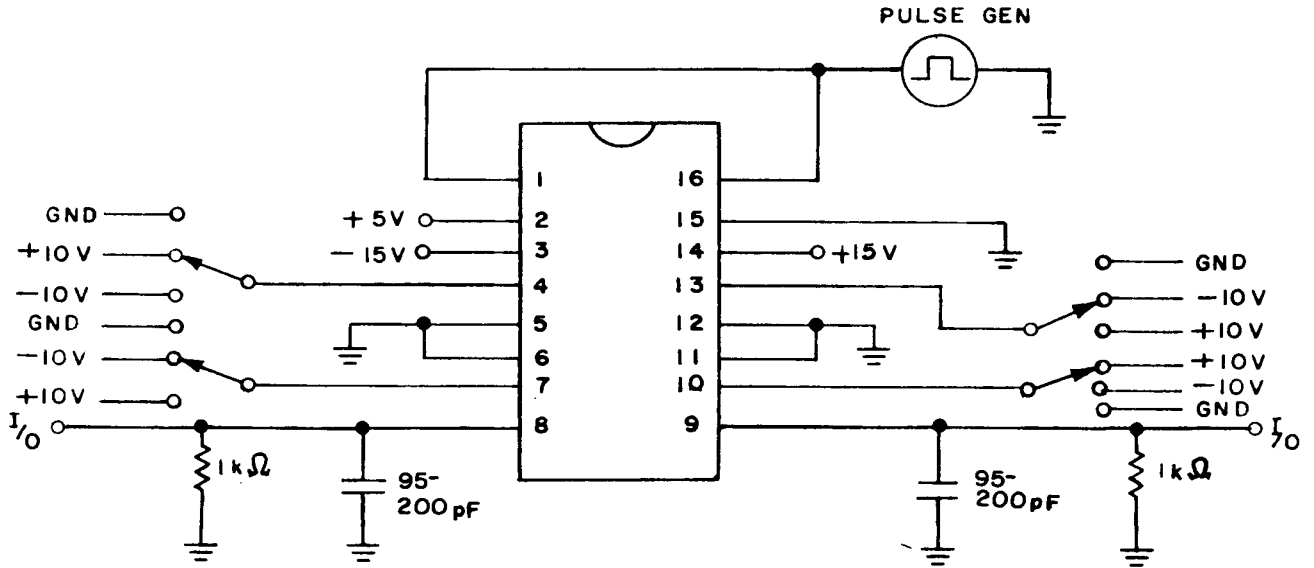


Input pulse requirements:
 $V_{GEN} = 4 \text{ V.}$
 $t_{THL(1)} = t_{TLH(1)} \leq 20 \text{ ns.}$

DYNAMIC TEST WAVEFORMS

FIGURE 13. Switching times test circuit and waveforms.
 (Enable to I/O)

Device types 06 and 08



DYNAMIC TEST WAVEFORMS

FIGURE 14. Switching times test circuit and waveforms.
 (Address inputs to I/O)

Device types 06 and 08

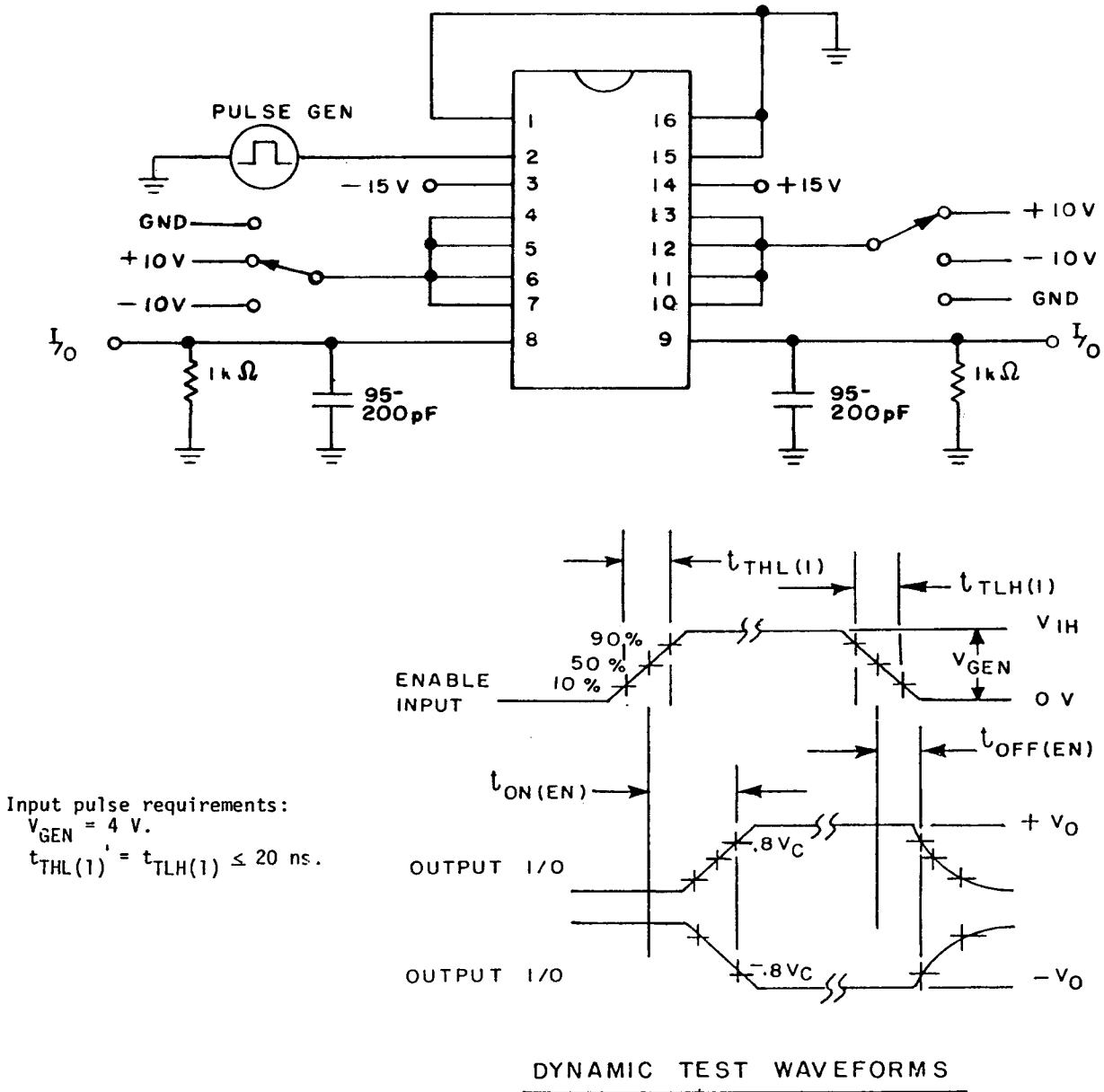


FIGURE 15. Switching times test circuit and waveforms.
(Enable to I/O)

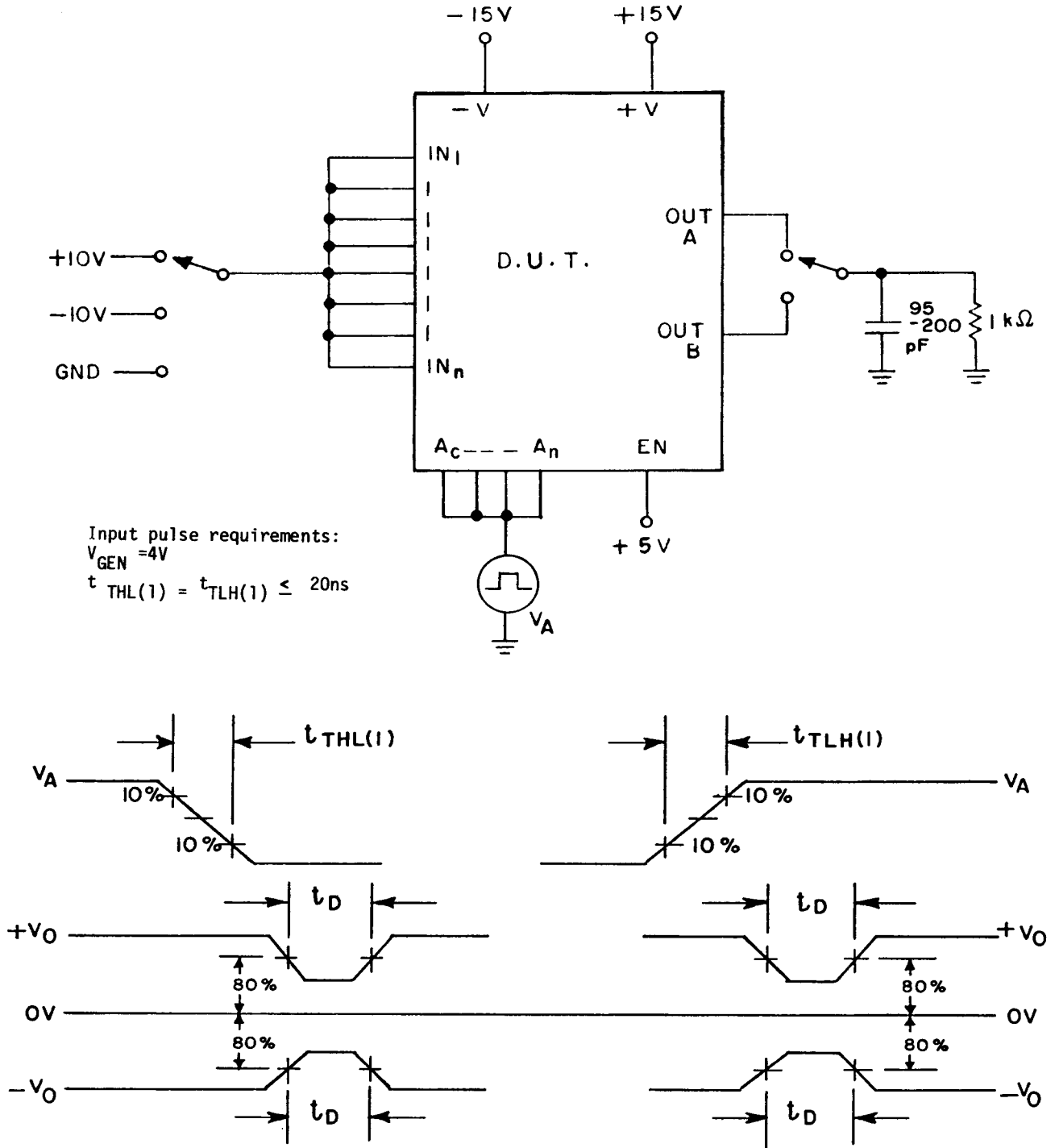


FIGURE 16. Break before make test circuit and waveforms.

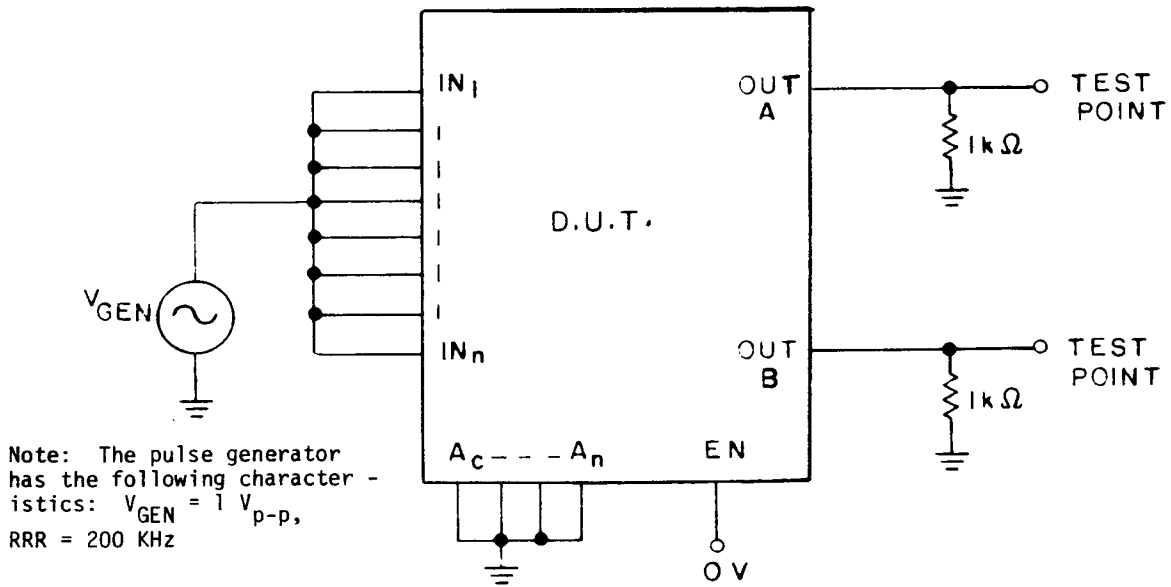
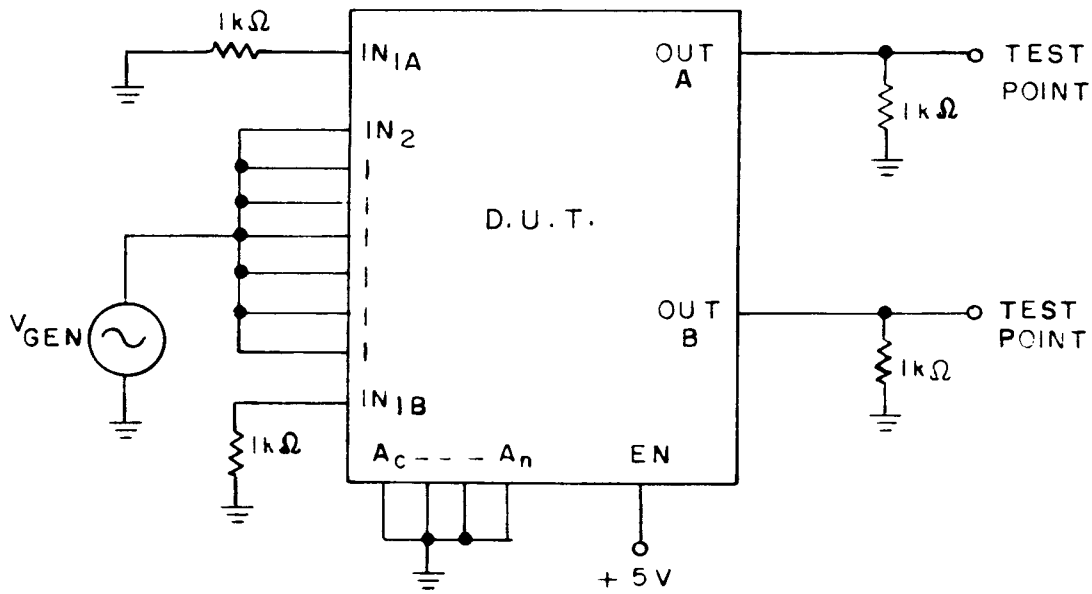
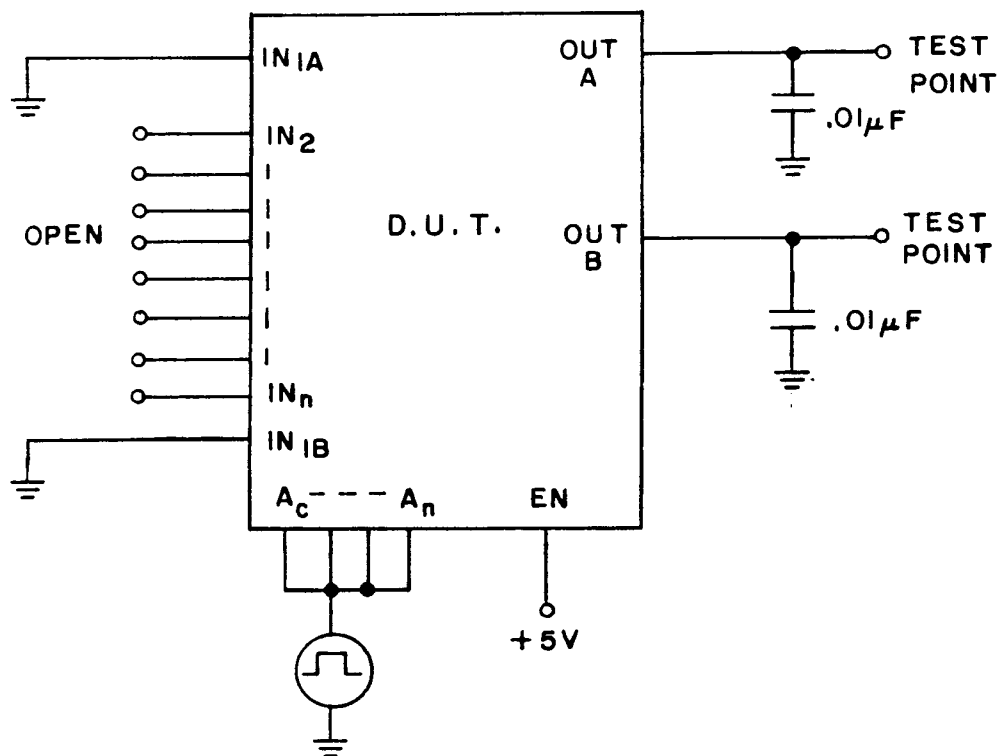


FIGURE 17. Single channel isolation test circuit.



Note: The pulse generator has the following characteristics: $V_{GEN} = 1V_{p-p}$; $PRR = 200\text{KHz}$.

FIGURE 18. Crosstalk test circuit.



NOTE: The pulse generator has the following characteristics:
 $V_{GEN} = 0 - 5V$

FIGURE 19. Charge transfer error test circuit.

TABLE III. Group A inspection for device type 01.

Symbol	MIL-STD-883 method	Case X	Terminal conditions 1/																Measured terminal	Test limits						Unit
																				Subgroup 1 T _A = 25°C		Subgroup 2 T _A = 125°C		Subgroup 3 T _A = -55°C		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	Min	Max		Min	Max	Min	Max			
I _{IH} 2/	3010	1	V+	NC	NC	INI6	INI5	INI4	INI3	INI2	INI1	INI0	IN9	GND	NC	A3	2.4 V	A3	-0.1	1.0	-0.1	1.0	-0.1	1.0	μA	
	"	2	"	"	"	"	"	"	"	"	"	"	"	"	"	"	GND	A2	"	"	"	"	"	"	"	
	"	3	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1	"	"	"	"	"	"	"	
	"	4	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A0	"	"	"	"	"	"	"	
	"	5	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	EN	"	"	"	"	"	"	"	
I _{IL} 2/	3009	6	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V	A3	-1.0	0.1	-1.0	0.1	-1.0	0.1	"	
	"	7	"	"	"	"	"	"	"	"	"	"	"	"	"	"	5 V	A2	"	"	"	"	"	"	"	
	"	8	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1	"	"	"	"	"	"	"	
	"	9	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A0	"	"	"	"	"	"	"	
	"	10	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	EN	"	"	"	"	"	"	"	
I _S (OFF) 2/		11	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V	IN1	-1	1	-50	50	-50	50	nA	
		12	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN2	"	"	"	"	"	"	"	
		13	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN3	"	"	"	"	"	"	"	
		14	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN4	"	"	"	"	"	"	"	
		15	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN5	"	"	"	"	"	"	"	
		16	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN6	"	"	"	"	"	"	"	
		17	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN7	"	"	"	"	"	"	"	
		18	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN8	"	"	"	"	"	"	"	
		19	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN9	"	"	"	"	"	"	"	
		20	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN10	"	"	"	"	"	"	"	
		21	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN11	"	"	"	"	"	"	"	
		22	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN12	"	"	"	"	"	"	"	
		23	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN13	"	"	"	"	"	"	"	
		24	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN14	"	"	"	"	"	"	"	
		25	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN15	"	"	"	"	"	"	"	
		26	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN16	"	"	"	"	"	"	"	
		27	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN1	"	"	"	"	"	"	"	
		28	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN2	"	"	"	"	"	"	"	
		29	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN3	"	"	"	"	"	"	"	
		30	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN4	"	"	"	"	"	"	"	
		31	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN5	"	"	"	"	"	"	"	
		32	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN6	"	"	"	"	"	"	"	
		33	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN7	"	"	"	"	"	"	"	
		34	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN8	"	"	"	"	"	"	"	
		35	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN9	"	"	"	"	"	"	"	
		36	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN10	"	"	"	"	"	"	"	
		37	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN11	"	"	"	"	"	"	"	
		38	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN12	"	"	"	"	"	"	"	
		39	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN13	"	"	"	"	"	"	"	
		40	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN14	"	"	"	"	"	"	"	
		41	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN15	"	"	"	"	"	"	"	
		42	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN16	"	"	"	"	"	"	"	
I _D -(OFF)		43	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V	OUT	-20	20	-500	500	-500	500	"	
I _D *(OFF)		44	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	OUT	"	"	"	"	"	"	"	
I _D *(ON)		45	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN1 & OUT	"	"	"	"	"	"	"	
		46	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN2 & OUT	"	"	"	"	"	"	"	
		47	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN3 & OUT	"	"	"	"	"	"	"	
		48	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN4 & OUT	"	"	"	"	"	"	"	
		49	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN5 & OUT	"	"	"	"	"	"	"	
		50	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN6 & OUT	"	"	"	"	"	"	"	
		51	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	IN7 & OUT	"	"	"	"	"	"	"	

See footnotes at end of table.

TABLE III. Group A inspection for device type 01 - Continued.

Symbol	MIL-STD-883 method	Case X	Terminal conditions I/														Test limits						Unit
			Terminal conditions I/														Subgroup 1 T _A = 25°C		Subgroup 2 T _A = 125°C		Subgroup 3 T _A = -55°C		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	Min	Max	Min	Max	Min	Max	
		Test no.	V+	NC	NC	IN16	IN15	IN14	IN13	IN12	IN11	IN10	IN9	GND	NC	A3							
I _{D+} (ON)		52	15 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	GND		0.8 V	-20	-500	500	-500	500	nA	
		53	"			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V			2.4 V	"	"	"	"	"	"	
		54	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		55	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		56	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		57	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		58	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		59	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		60	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
I _{D-} (ON)		61	"			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V			0.8 V	"	"	"	"	"	"	
		62	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		63	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		64	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		65	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		66	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		67	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		68	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		69	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		70	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		71	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		72	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		73	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		74	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		75	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
		76	"			"	"	"	"	"	"	"	"			"	"	"	"	"	"	"	
I+		77	"													0 V	14	14	14	14	14	mA	
I-		78	"													"	-14	-14	-14	-14	-14	"	
I+SBY		79	"													"	3.0	3.0	3.0	3.0	3.0	"	
I-SBY		80	"													"	-4.0	-4.0	-4.0	-4.0	-4.0	"	
R _{DS1}		81	"													"	600	600	600	600	600	Ω	
		82	"													"	"	"	"	"	"	"	
		83	"													"	"	"	"	"	"	"	
		84	"													"	"	"	"	"	"	"	
		85	"													"	"	"	"	"	"	"	
		86	"													"	"	"	"	"	"	"	
		87	"													"	"	"	"	"	"	"	
		88	"													"	"	"	"	"	"	"	
		89	"													"	"	"	"	"	"	"	
		90	"													"	"	"	"	"	"	"	
		91	"													"	"	"	"	"	"	"	
		92	"													"	"	"	"	"	"	"	
		93	"													"	"	"	"	"	"	"	
		94	"													"	"	"	"	"	"	"	
		95	"													"	"	"	"	"	"	"	
		96	"													"	"	"	"	"	"	"	
		97	"													"	"	"	"	"	"	"	
		98	"													"	"	"	"	"	"	"	
		99	"													"	"	"	"	"	"	"	
		100	"													"	"	"	"	"	"	"	
		101	"													"	"	"	"	"	"	"	



See footnotes at end of table.

TABLE III. Group A inspection for device type 01 - Continued.

Symbol	MIL-STD-883 method	Case X	terminal conditions 1/														Measured terminal	Test limits						Unit		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		Subgroup 1 T _A = 25 °C		Subgroup 2 T _A = 125 °C		Subgroup 3 T _A = -55 °C				
			V*	NC	NC	IN16	IN15	IN14	IN13	IN12	IN11	IN10	IN9	GND	NC	A3		Min	Max	Min	Max	Min	Max			
RDS1		102 103 104 105 106 107 108 109 110 111 112	15 V " " " " " " " " " "	NC	NC	NC	IN16	IN15	IN14	IN13	IN12	IN11	IN10	IN9	GND	NC	A3	0.8 V " " 2.4 V " " " " " " " "	IN6 & OUT IN7 & OUT IN8 & OUT IN9 & OUT IN10 & OUT IN11 & OUT IN12 & OUT IN13 & OUT IN14 & OUT IN15 & OUT IN16 & OUT	600 " " " " " " " " " " "	700 " " " " " " " " " " "	600 " " " " " " " " " " "	Ω			
RDS2		113-128	Same terminal conditions as for tests 81 thru 96, except V* = ±10 V, V _S = +7.5 V and limits as shown.															1	1	1	1	kΩ				
RDS2		129-144	Same terminal conditions as for tests 97 thru 112, except V* = ±10 V, V _S = -7.5 V and limits as shown.															1	1	1	1	kΩ				
CA	3012	145 146 147 148	GND " " "												GND		A3 A2 A1 A0	4/ " " "	10 " " "					PF		
COS		149	"												"		OUT	0 V	90						"	
C15		150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165	" " " " " " " " " " " " " " "												"		IN1 IN2 IN3 IN4 IN5 IN6 IN7 IN8 IN9 IN10 IN11 IN12 IN13 IN14 IN15 IN16	" " " " " " " " " " " " " " " "	10 " " " " " " " " " " " " " "							"
CEN		166	"												"		EN	"	"						"	

See footnotes at end of table.

TABLE III. Group A Inspection for device type 01 - Continued.

Symbol	MIL-STD-883 method	Case X	Terminal conditions I														Measured terminal	Test Limits						Unit
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		Subgroup 9 T _A = 25 °C		Subgroup 10 T _A = 125 °C		Subgroup 11 T _A = -55 °C		
			V*	NC	NC	IM16	IM15	IM14	IM13	IM12	IM11	IM10	IM9	GND	NC	A3		Min	Max	Min	Max	Min	Max	
t _{ON} (A) and t _{OFF} (A)	3003 fig. 8	167 " 168 " 169 " 170 " 171 " 172 " 173 " 174	15 V " " " " " " " "	NC	NC	IM16 -10 V 10 V -10 V 10 V GND "	IM15 GND " " " " "	IM14 GND " " " " "	IM13 GND " " " " "	IM12 GND " " " " "	IM11 GND " " " " "	IM10 GND " " " " "	IM9 GND " " " " "	GND	A3 	ADDRESS IN TO OUT " " " " "	1,000 " " " " "	1,500 " " " " "	1,000 " " " " "	1,000 " " " " "	ns " " " " "			
t _{ON} (EN) and t _{OFF} (EN)	fig. 9	175 " 176 " 177 " 178	" " " "			IM16 -10 V 10 V -10 V 10 V	IM15 -10 V 10 V -10 V 10 V	IM14 -10 V 10 V -10 V 10 V	IM13 -10 V 10 V -10 V 10 V	IM12 -10 V 10 V -10 V 10 V	IM11 -10 V 10 V -10 V 10 V	IM10 -10 V 10 V -10 V 10 V	IM9 -10 V 10 V -10 V 10 V	GND	GND " "	ENABLE TO OUT " " "	" " " "	" " " "	" " " "	" " " "	" " " "	" " " "		
V _{ISO}	fig. 17	179	15 V			IN	IN	IN	IN	IN	IN	IN	IN	IN	GND	GND	OUT	50					dB	
V _{CT}	fig. 18	180	15 V			IN	IN	IN	IN	IN	IN	IN	IN	IN	GND	GND	OUT	50					dB	
V _{CTE}	fig. 19	181	15 V												GND	GND	IN	10					mV	
t _D	fig. 16	182 " 183 " 184 " 185	15 V " " "			10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	10 V -10 V 10 V -10 V	GND		OUT " " "	5 " " "						ns " " "	

See footnotes at end of table.

TABLE III. Group A inspection for device type 02 - Continued.

Symbol	MIL-STD-883 method	Case X test no.	Terminal conditions I/														Measured terminal	Test limits						Unit
																		Subgroup 1 T _A = 25°C		Subgroup 2 T _A = 125°C		Subgroup 3 T _A = -55°C		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		Min	Max	Min	Max	Min	Max	
I ₀₊ (OFF) overvoltage		101	V+	NC	NC	IN14	IN15	IN16	IN17	IN18	IN19	GND	VREF	A3	4.0 V	OUT	-2.0	2.0	-2.0	2.0	-2.0	2.0	μA	
		102							33 V							"	"	"	"	"	"	"	"	
		103							33 V							"	"	"	"	"	"	"	"	
		104						33 V								"	"	"	"	"	"	"	"	
		105					33 V									"	"	"	"	"	"	"	"	
		106														"	"	"	"	"	"	"	"	
I ₀₋ (OFF) overvoltage		107													0.8 V	"	"	"	"	"	"	"	"	
		108														"	"	"	"	"	"	"	"	
		109														"	"	"	"	"	"	"	"	
		110														"	"	"	"	"	"	"	"	
		111														"	"	"	"	"	"	"	"	
		112														"	"	"	"	"	"	"	"	
		113														"	"	"	"	"	"	"	"	
		114														"	"	"	"	"	"	"	"	
		115														"	"	"	"	"	"	"	"	
		116														"	"	"	"	"	"	"	"	
		117														"	"	"	"	"	"	"	"	
		118														"	"	"	"	"	"	"	"	
119														"	"	"	"	"	"	"	"			
120														"	"	"	"	"	"	"	"			
121														"	"	"	"	"	"	"	"			
122														"	"	"	"	"	"	"	"			
R ₀ S1		123																						
		124																						
		125																						
		126																						
		127																						
		128																						
		129																						
		130																						
		131																						
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144																								
145																								
146																								
147																								
148																								
149																								
150																								
151																								
152																								
153																								
154																								
R ₀ S2		155 thru 170	Same terminal conditions as tests 123 thru 138, except V _A = ±10 V, V _S = ±7.5 V, and limits as shown.															2.4	2.4	2.4	2.4	2.4	μA	
R ₀ S2		171 thru 186	Same terminal conditions as tests 139 thru 154, except V _A = ±10 V, V _S = ±7.5 V, and limits as shown.															2.4	2.4	2.4	2.4	2.4	μA	

See footnotes at end of table.

TABLE III. Group A Inspection for device type 02 - Continued.

Symbol	Case X Test no.	Terminal conditions																Measured terminal	Test limits						Unit
																			Subgroup 4 TA = 25 C						
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	Min	Max		Min	Max	Min	Max	Min	Max	
CA	187	AZ	AI	AO	EN	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	Y-	OUT	GND	A3	10						pF	
	188	4/	4/	4/												"	A2	"						"	
	189															"	A1	"						"	
	190															"	A0	"						"	
																"	OUT	85						"	
CIS	191	0 V	0 V	0 V	0 V										5/	"	OUT							"	
	192	"	"	"	"	4/	4/	4/	4/	4/	4/	4/	4/	4/		"	IN1	10						"	
	193	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN2	"						"	
	194	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN3	"						"	
	195	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN4	"						"	
	196	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN5	"						"	
	197	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN6	"						"	
	198	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN7	"						"	
	199	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN8	"						"	
	200	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN9	"						"	
	201	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN10	"						"	
	202	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN11	"						"	
	203	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN12	"						"	
	204	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN13	"						"	
	205	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN14	"						"	
	206	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN15	"						"	
207	"	"	"	"	"	"	"	"	"	"	"	"	"		"	IN16	"						"		
CEN	208	"	"	"	4/											GND	EN	"						"	
tON(A) and tOFF(A)	209				5 V	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	-15 V	ADDRESS IN TO OUT	1,000	1,500	1,000	1,500	1,000	1,500	ns	
	210				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	211				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	212				"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	213				-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"
	214				10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"
	215				-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"
216				10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	
tON(EN) and tOFF(EN)	217	GND	GND	GND	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	
	218	"	"	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	
	219	"	"	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	
	220	"	"	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	

TABLE III. Group A inspection for device type 02 - Continued.

Symbol	Case X Test no.	terminal conditions																	Measured terminal	Subgroup 12 T _A = 25 °C		Unit				
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	Min	Max									
V _I SO	221	GND	GND	A0	EN	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	V-	OUT	50		OUT	50		dB					
V _C T	222	GND	GND	GND	0 V	IN	IN	IN	IN	IN	IN	IN	IN	-15 V	OUT	50		OUT	50		dB					
V _C TE	223	IN	IN	IN	5 V	GND									OUT	10		OUT	10		mV					
t _D	224				5 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	OUT	5		ns
	225				"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"		"
	226				"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"		"
	227				"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	
																								Subgroup 13 T _A = 25 °C	Max	

See footnotes at end of table.

TABLE III. Group A inspection for device type 03.

Symbol	MIL-STD-883 method	Case X	Terminal conditions I'														Measured terminal	Test limits						Unit		
			Terminal conditions I'															Subgroup 1 T _A = 25 C		Subgroup 2 T _A = 125 C		Subgroup 3 T _A = -55 C				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14		Min	Max	Min	Max	Min	Max			
I _{IH} 2/	3010	1	V*	OUTB	NC	IN8B	IN7B	IN6B	IN5B	IN4B	IN3B	IN2B	IN1B	GND	NC	NC	A2	-0.1	1.0	-0.1	1.0	-0.1	1.0	1.0	μA	
	"	2	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1	"	"	"	"	"	"	"	"	
	"	3	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A0	"	"	"	"	"	"	"	"	
	"	4	"	"	"	"	"	"	"	"	"	"	"	"	"	"	EN	"	"	"	"	"	"	"	"	
I _{IL} 2/	3009	5	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A2	-1.0	0.1	-1.0	0.1	-1.0	0.1	0.1	"	
	"	6	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A1	"	"	"	"	"	"	"	"	
	"	7	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A0	"	"	"	"	"	"	"	"	
	"	8	"	"	"	"	"	"	"	"	"	"	"	"	"	"	EN	"	"	"	"	"	"	"	"	
I _S (OFF)		9	"	-10 V	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	10 V	"	"	IN1B	-1	1	-50	50	-50	50	50	nA	
		10	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN2B	"	"	"	"	"	"	"	"	
		11	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN3B	"	"	"	"	"	"	"	"	
		12	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN4B	"	"	"	"	"	"	"	"	
		13	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN5B	"	"	"	"	"	"	"	"	
		14	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN6B	"	"	"	"	"	"	"	"	
		15	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN7B	"	"	"	"	"	"	"	"	
		16	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		17	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		18	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		19	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		20	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		21	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		22	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		23	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		24	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		25	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		26	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		27	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		28	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		29	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		30	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		31	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		32	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		33	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		34	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		35	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		36	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		37	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		38	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		39	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
		40	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN8B	"	"	"	"	"	"	"	"	
I _D (OFF)		41	"	"	"	"	"	"	"	"	"	"	"	"	"	"	OUTA	-10	10	-250	250	-250	250	250	"	
		42	"	-10 V	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	10 V	"	"	OUTA	"	"	"	"	"	"	"	"	"
		43	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	OUTA	"	"	"	"	"	"	"	"	
		44	"	10 V	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	-10 V	"	"	OUTB	"	"	"	"	"	"	"	"	"
		45	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	OUTB	"	"	"	"	"	"	"	"	"
		46	"	-10 V	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	10 V	"	"	IN1A & OUTA	"	"	"	"	"	"	"	"	"
		47	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN2A & OUTA	"	"	"	"	"	"	"	"	
		48	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN3A & OUTA	"	"	"	"	"	"	"	"	
		49	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN4A & OUTA	"	"	"	"	"	"	"	"	
		50	"	"	"	"	"	"	"	"	"	"	"	-10 V	"	"	IN5A & OUTA	"	"	"	"	"	"	"	"	
		50	"	"	"	"	"	"	"	"	"	"	"	10 V	"	"	IN6A & OUTA	"	"	"	"	"	"	"	"	

See footnotes at end of table.

TABLE III. Group A inspection for device type 03 - Continued.

Symbol	Case X	Terminal conditions																	Test Limits						Unit			
		Terminal conditions																	Subgroup 1		Subgroup 2		Subgroup 3					
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	TA = 25°C	TA = 25°C	TA = 125°C	TA = 125°C	TA = -55°C	TA = -55°C							
RD51	Test no.	A2	A1	A0	EN	IN1A	IN2A	IN3A	IN4A	IN5A	IN6A	IN7A	IN8A	V-	OUTA	Min	Max	Min	Max	Min	Max	IN5A & OUTA IN6A & OUTA IN7A & OUTA IN8A & OUTA IN1B & OUTB IN2B & OUTB IN3B & OUTB IN4B & OUTB IN5B & OUTB IN6B & OUTB IN7B & OUTB IN8B & OUTB	Ω "					
	101	2.4 V	0.8 V	0.8 V	2.4 V					-10 V	-10 V	-10 V		-15 V	-1 mA		600		700		600							
	102	"	0.8 V	2.4 V	"										"		"		"		"							
	103	"	2.4 V	0.8 V	"										"		"		"		"							
	104	"	2.4 V	2.4 V	"										"		"		"		"							
	105	0.8 V	0.8 V	0.8 V	"										"		"		"		"							
	106	"	0.8 V	2.4 V	"										"		"		"		"							
	107	"	2.4 V	0.8 V	"										"		"		"		"							
	108	"	2.4 V	2.4 V	"										"		"		"		"							
	109	2.4 V	0.8 V	0.8 V	"										"		"		"		"							
	110	"	0.8 V	2.4 V	"										"		"		"		"							
	111	"	2.4 V	0.8 V	"										"		"		"		"							
112	"	2.4 V	2.4 V	"										"		"		"		"								
RD52	113 thru 128 - Same terminal conditions as for tests 81 thru 96, except V± = ±10 V, V _S = +7.5 V, and limits as shown.																											
RD52	129 thru 144 - Same terminal conditions as for tests 97 thru 112, except V± = ±10V, V _S = -7.5 V, and limits as shown.																											
CA	Test no.	Terminal conditions																	Subgroup 4		Measured terminal	Unit						
		Terminal conditions																	TA = 25°C									
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max									
145	4/																					A2						
146																							A1					
147																							A0					
COS	148	0 V	0 V	0 V	0 V																		OUTA					
	149	"	"	"	"																		OUTB					
CIS	150	"	"	"	"	4/																	IN1A					
	151	"	"	"	"		4/																IN2A					
	152	"	"	"	"			4/															IN3A					
	153	"	"	"	"				4/														IN4A					
	154	"	"	"	"					4/													IN5A					
	155	"	"	"	"						4/												IN6A					
	156	"	"	"	"							4/											IN7A					
	157	"	"	"	"								4/										IN8A					
	158	"	"	"	"									4/									IN1B					
	159	"	"	"	"										4/								IN2B					
160	"	"	"	"											4/							IN3B						
161	"	"	"	"												4/							IN4B					
162	"	"	"	"													4/							IN5B				
163	"	"	"	"														4/							IN6B			
164	"	"	"	"															4/							IN7B		
165	"	"	"	"																4/							IN8B	
CEN	166																						EN					

See footnotes at end of table.

TABLE III. Group A inspection for device type 03 - Continued.

Symbol	MIL-STD-883 method	Case X	Terminal conditions														Test Limits						Unit		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	Subgroup 9 TA = 25 C		Subgroup 10 TA = 125 C		Subgroup 11 TA = -55 C				
																	Min	Max	Min	Max	Min	Max			
t _{ON} (A) and t _{OFF} (A)	3003 fig. 10	Test no.	V*	OUTB	NC	IN8B	IN7B	IN6B	IN5B	IN4B	IN3B	IN2B	IN1B	GND	NC	NC	Measured terminal	Min	Max	Min	Max	Min	Max		
		167	15 V		GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND		ADDRESS IN TO OUTA	11,000	1,500	1,000	1,000		1,000	ns	
		168	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		169	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		170	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		171	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		172	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		173	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		174	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		175	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
176	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
177	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
178	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
179	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
180	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
181	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
182	"		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
t _{ON} (EN) and t _{OFF} (EN)	3003 fig. 11	183	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		184	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		185	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		186	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		187	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		188	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
189	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
190	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
V _{ISO}	fig. 17 fig. 17	191	15 V	OUT		IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN
		192	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		193	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
V _{CT}	fig. 18 fig. 18	194	"	OUT		"	"	"	"	"	"	"	6/ 5/	"	"	"	"	"	"	"	"	"	"	"	
		195	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
V _{CTE}	fig. 19 fig. 19	196	"	OUT		"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		197	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
t _p	fig. 16	198	15 V			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		199	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		200	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		201	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		202	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		203	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		204	"			"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	

See footnotes at end of table.

TABLE III. Group A inspection for device type 04 - Continued.

Symbol	Case X Test no.	Terminal conditions														Measured terminal	Test limits						Unit
		V															Subgroup 1 T _A = 25°C		Subgroup 2 T _A = 125°C		Subgroup 3 T _A = -55°C		
		15	16	17	18	19	20	21	22	23	24	25	26	27	28		Min	Max	Min	Max	Min	Max	
I _Q (OFF) over-voltage	101	0.8 V	0.8 V	0.8 V	0.8 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-15 V	-2.0	2.0	-2.0	2.0	-2.0	2.0	2.0	μA
	102	0.8 V	0.8 V	4.0 V	0.8 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	-33 V	"	"	"	"	"	"	"	"
	103	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	104	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	105	4.0 V	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	106	"	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	107	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	108	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	109	0.8 V	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	110	"	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	111	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	112	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	113	4.0 V	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	114	"	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	115	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	116	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
I*	117	0 V	0 V	0 V	5 V										"	"	"	"	"	"	"	mA	
I-	118	"	"	"	5 V										"	"	"	"	"	"	"	"	
I+S _{BY}	119	"	"	"	0 V										"	"	"	"	"	"	"	"	
I-S _{BY}	120	"	"	"	0 V										"	"	"	"	"	"	"	"	
R _{DS1}	121	0.8 V	0.8 V	0.8 V	4.0 V	10 V									"	"	"	"	"	"	"	"	
	122	"	4.0 V	0.8 V	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	100 μA	1.5	2.0	1.5	2.0	1.5	2.0	1.5	kΩ
	123	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	124	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	125	4.0 V	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	126	"	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	127	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	128	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	129	0.8 V	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	130	"	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	131	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	132	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	133	4.0 V	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	134	"	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	135	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
136	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
137	0.8 V	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
138	"	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
139	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
140	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
141	"	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
142	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
143	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
144	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
145	0.8 V	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
146	"	0.8 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
147	"	4.0 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
148	"	4.0 V	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
149	4.0 V	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
150	4.0 V	0.8 V	4.0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	

TABLE III. Group A inspection for device type 04 - Continued.

Symbol	Case X Test no.	Terminal conditions																		Measured terminal	Test limits						Unit
																					Subgroup 9 T _A = 25°C		Subgroup 10 T _A = 125°C		Subgroup 11 T _A = -55°C		
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	Min	Max	Min	Max		Min	Max					
t _{ON} (EN) and t _{OFF} (EN)	223 224 225 226 227 228 229 230	AZ	A1	A0	EN	IN1A	IN2A	IN3A	IN4A	IN5A	IN6A	IN7A	IN8A	V-	OUTA	11,000	1,500	11,000	1,500	11,000	1,500	ns					
V _{ISO}	231 232	GND	GND	GND	0 V 0 V	IN	IN	IN	IN	IN	IN	IN	IN	-15 V	OUT OUTB	50						dB					
V _{CT}	233 234	"	"	"	5 V	6/ 6/	"	"	"	"	"	"	"	"	OUT OUTB	"		"		"		"					
V _{CTE}	235 236	IN IN	IN IN	IN IN	" "	GND GND	"	"	"	"	"	"	"	"	OUT OUTB	10 10		10 10				mV mV					
t _D	237 238 239 240 241 242 243 244				5 V	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	10 V -10 V 10 V -10 V GND	-15 V	OUT OUTB	5						ns					

See footnotes at end of table.

TABLE III. Group A inspection for device type 05.

Symbol	MIL-STD-883 test method	Case E	terminal conditions V																test limits					
																			Subgroup 1		Subgroup 2		Subgroup 3	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	TA = 25 °C	TA = 125 °C	TA = -55 °C		
			AO	EN	V-	IN1	IN2	IN3	IN4	OUT	IN8	IN7	IN6	IN5	V+	GND	AZ	AI	Min	Max	Min	Max	Min	Max
VIC (POS)		1																						
		2	1 mA																					
		3	1 mA																					
		4	1 mA																					
VIC (NEG)		5																						
		6			GND																			
		7	-1 mA																					
		8	-1 mA																					
I _{IH} 2/	3010	9	GND	5 V	-15 V																			
		10	GND																					
		11	4.0 V																					
		12	GND	4.0 V																				
I _{IL} 2/	3009	13	5 V	5 V																				
		14	5 V	5 V																				
		15	0.8 V	5 V																				
		16	5 V	0.8 V																				
I _S (OFF)		17	0.8 V			10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		18	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		19	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		20	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		21	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		22	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		23	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		24	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		25	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		26	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		27	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		28	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		29	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		30	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		31	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		32	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
I _D (OFF)		33	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
I _D (OFF)		34	0.8 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V
I _D (ON)		35	0.8 V	4.0 V		10 V	-10 V	-10 V	-10 V	10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		36	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		37	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		38	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		39	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		40	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		41	0.8 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V
		42	4.0 V			-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V

See footnotes at end of table.

TABLE III. Group A inspection for device type 05 - Continued.

Symbol	MIL-STD-883 test method	Case E	Terminal conditions																Test limits							
			Terminal conditions																Subgroup 1 T _A = 25°C		Subgroup 2 T _A = 125°C		Subgroup 3 T _A = -55°C			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Min	Max	Min	Max	Min	Max		
I _D (ON)	43	0.8 V	4.0 V	-15 V	-10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	15 V	GND	0.8 V	0.8 V	IN1 & OUT	-10	10	-250	250	-250	250	nA		
	44	4.0 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				0.8 V	IN2 & OUT									
	45	0.8 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN3 & OUT									
	46	4.0 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN4 & OUT									
	47	0.8 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN5 & OUT									
	48	4.0 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN6 & OUT									
	49	0.8 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN7 & OUT									
	50	4.0 V			10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V				4.0 V	IN8 & OUT									
	I ₊		0 V	5.0 V												0 V	0 V	V+	2.0	2.0	2.0	2.0	2.0	2.0	mA	
	I ₋			5.0 V														V-	-1	-1	-1	-1	-1	-1		
I*SBY			0 V														V+	2.0	2.0	2.0	2.0	2.0	2.0			
II-SBY			0 V														V-	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0			
I _D (OFF) lower voltage	55	0.8 V	0.8 V														0.8 V	OUT	-2.0	2.0	-2.0	2.0	-2.0	2.0	μA	
	56	4.0 V	0.8 V														0.8 V									
	57	0.8 V															4.0 V									
	58	4.0 V															4.0 V									
	59	0.8 V															15 V									
	60	4.0 V															0.8 V									
	61	0.8 V															0.8 V									
	62	4.0 V															4.0 V									
	I _D (OFF) lower voltage	63	0.8 V															0.8 V								
		64	4.0 V															0.8 V								
65		0.8 V															4.0 V									
66		4.0 V															4.0 V									
67		0.8 V															15 V									
68		4.0 V															0.8 V									
69		0.8 V															0.8 V									
70		4.0 V															4.0 V									
R _D S1		71	0.8 V	4.0 V														0.8 V	IN1 & OUT	1.5	1.5	1.5	1.5	1.5	1.5	kΩ
		72	4.0 V															0.8 V	IN2 & OUT							
	73	0.8 V															4.0 V	IN3 & OUT								
	74	4.0 V															4.0 V	IN4 & OUT								
	75	0.8 V															4.0 V	IN5 & OUT								
	76	4.0 V															0.8 V	IN6 & OUT								
	77	0.8 V															4.0 V	IN7 & OUT								
	78	4.0 V															0.8 V	IN8 & OUT								
	79	0.8 V															0.8 V	IN1 & OUT								
	80	4.0 V															4.0 V	IN2 & OUT								
R _D S2	81	0.8 V															4.0 V	IN3 & OUT	2.2	2.2	2.2	2.2	2.2	2.2		
	82	4.0 V															4.0 V	IN4 & OUT								
	83	0.8 V															0.8 V	IN5 & OUT								
	84	4.0 V															4.0 V	IN6 & OUT								
	85	0.8 V															4.0 V	IN7 & OUT								
	86	4.0 V															4.0 V	IN8 & OUT								

87 thru 102 - Same terminal conditions as for tests 71 thru 86, except V* = ±10 V, V_S = ±7.5, and limits as shown.

TABLE III. Group A Inspection for device type 06.

Symbol	MIL-STD-883 test method	Case E	Terminal conditions 1/																Test limits					
			Terminal conditions 1/																Subgroup 1		Subgroup 2		Subgroup 3	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Min	Max	Min	Max	Min
V _{IC} (POS)	AO	EN	V-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	A1	1.5	1.5	1.5	V			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
V _{IC} (NEG)	AO	EN	V-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	A1	-1.5	-1.5	-1.5	V			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
I _{TH} 2/	GND	5 V	-15 V	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	A1	-0.1	-0.1	-0.1	1.0			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
I _{IL} 2/	GND	5 V	5 V	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	A1	-1.0	-1.0	-1.0	0.1			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
I _S (OFF)	GND	5 V	5 V	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	IN1A	-1	-1	-1	50			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
I _D (OFF)	GND	5 V	5 V	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	OUTA	-10	-10	-10	125			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
I _D (ON)	GND	5 V	5 V	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI	IN1A & OUTA	-10	-10	-10	125			
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								
				IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI								

See footnotes at end of table.

TABLE III. Group A inspection for device type D6 - Continued.

Symbol	MIL-STD-883C test method	Case E	terminal conditions																Measured terminal	test limits			Unit				
			1																	Subgroup 4							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		Min	Max	Min		Max			
C _A	3012	101	4/	GND	"	Y-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	A1	A0	A1	10	10	"	"	pF	
	"	102	4/	GND	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
C _{OS}	"	103	0 V	"	"	"	"	"	"	"	5/	5/	"	"	"	"	"	"	"	"	0 V	"	"	"	"	"	
	"	104	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
C _{IS}	"	105	"	"	"	"	4/	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	106	"	"	"	"	4/	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	107	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	108	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	109	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	110	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	111	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	112	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	"	113	"	4/	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
	t _{ON} (A) and t _{OFF} (A)	3003	114	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
		"	115	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
"		116	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		117	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		118	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		119	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		121	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		122	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		123	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"		124	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"	125	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
"	126	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
"	127	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
"	128	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
"	129	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
t _{ON} (EN) and t _{OFF} (EN)	3003	130	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	131	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	132	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	133	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	134	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	135	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	136	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"	137	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
t _{EN}	"	113	"	4/	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	113	"	4/	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
t _{ON} (A) and t _{OFF} (A)	3003	114	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	115	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
t _{ON} (EN) and t _{OFF} (EN)	3003	130	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	131	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	

See footnotes at end of table.

TABLE III. Group A Inspection for device type 07.

Symbol	MIL-STD-883 test method	Case E	terminal conditions																test limits						Unit		
																			Subgroup 1 TA = 25 C		Subgroup 2 TA = 125 C		Subgroup 3 TA = -55 C				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Min	Max	Min	Max	Min	Max			
I _{IH} 2/	3010	1	AO	EN	V-	IN1	IN2	IN3	IN4	OUT	IN8	IN7	IN6	IN5	V+	GND	AZ	A1									
			2	5.0 V	-15 V																						
			3	5.0 V																							
			4	5.0 V																							
I _{IL} 2/	3009	5	AO	EN	5.0 V																						
			6	5.0 V																							
			7	0.8 V																							
			8	5.0 V	0.8 V																						
I _{S(OFF)}		9	AO	EN		10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V								
			10	0.8 V																							
			11	0.8 V																							
			12	2.4 V																							
			13	0.8 V																							
			14	2.4 V																							
			15	0.8 V																							
			16	2.4 V																							
			17	0.8 V																							
			18	2.4 V																							
			19	0.8 V																							
			20	2.4 V																							
			21	0.8 V																							
			22	2.4 V																							
			23	0.8 V																							
			24	2.4 V																							
I _{Q(OFF)} I _{Q(OFF)}		25	AO	EN		10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V								
			26	0.8 V																							
I _{Q(ON)}		27	AO	EN	4.0 V	10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V							
			28	2.4 V																							
			29	0.8 V																							
			30	2.4 V																							
			31	0.8 V																							
			32	2.4 V																							
			33	0.8 V																							
			34	2.4 V																							
			35	0.8 V																							
			36	2.4 V																							
			37	0.8 V																							
			38	2.4 V																							
			39	0.8 V																							
			40	2.4 V																							
			41	0.8 V																							
			42	2.4 V																							

See footnotes at end of table.

TABLE III. Group A Inspection for device type 07 - Continued.

Symbol	MIL-STD-883 test method	Case E	Terminal conditions 1/																Test limits											
			Terminal conditions 1/																Subgroup 1 T _A = 25 °C				Subgroup 2 T _A = 125 °C				Subgroup 3 T _A = -55 °C			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Min	Max	Min	Max	Min	Max	Min	Max			
I _{T+}		43	0 V	5.0 V	-15 V								15 V	GND	0 V	0 V	V+		12		12		12		12	mA				
I _{T-}		44	"	5.0 V	"								"	"	"	"	V-		-12		-12		-12		-12	"				
I _{T+SBY}		45	"	0 V	"								"	"	"	"	V+		3.5		3.5		3.5		3.5	"				
I _{T-SBY}		46	"	0 V	"								"	"	"	"	V-		-3.5		-3.5		-3.5		-3.5	"				
R _{DS1}		47	0.8 V	4.5 V	"	10 V							1 mA						0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	400	Ω			
		48	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		49	0.8 V	"	"	10 V	10 V												2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		50	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		51	0.8 V	"	"	10 V						10 V							0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		52	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		53	0.8 V	"	"	10 V						10 V							0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		54	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		55	0.8 V	"	"	10 V													0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		56	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		57	0.8 V	"	"	10 V													0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		58	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		59	0.8 V	"	"	10 V													0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		60	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
		61	0.8 V	"	"	10 V													0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	0.8 V	"				
		62	2.4 V	"	"	10 V													2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	2.4 V	"				
R _{DS2}		63 thru 78	Same terminal conditions as tests 47 thru 62, except V _s = ±10 V, V _S = +7.5 V and limits as shown.																1,000		1,000		1,000		1,000	"				
R _{DS2}		79 thru 94	Same terminal conditions as tests 47 thru 62, except V _s = ±10 V, V _S = -7.5 V and limits as shown.																1,000		1,000		1,000		1,000	"				
I _{CA}		95																	GND								DF			
		96																	"								"			
		97	4/																"								"			
I _{CS}		98	0 V										5/						"								"			
		99	"	0 V															"								"			
		100	"	"															"								"			
		101	"	"															"								"			
		102	"	"															"								"			
		103	"	"															"								"			
		104	"	"															"								"			
		105	"	"															"								"			
		106	"	"															"								"			
I _{EN}		107	"	4/															"								"			

See footnotes at end of table.

TABLE III. Group A inspection for device type 07 - Continued.

Symbol	MIL-STD-883 test method	Case E	Terminal conditions 1/																Test limits						
			Terminal conditions 1/																Test limits						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Subgroup 9 TA = 25 C	Subgroup 10 TA = 125 C	Subgroup 11 TA = -55 C			
			EN	V-	IN1	IN2	IN3	IN4	OUT	IN8	IN7	IN6	IN5	V+	GND	AZ	AI		Min	Max	Min	Max	Min	Max	
t _{ON} (A) and t _{OFF} (A)	3003 fig. 12	108	5 V	-15 V	GND	GND	GND	GND	OUT	10 V -10 V	GND	GND	GND	15 V	GND			OUT	1,000	1,500	1,000	ns			
	"	110	"	"	"	"	"	"	"	10 V -10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	111	"	"	"	"	"	"	"	GND	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	112	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	113	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	114	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
	"	115	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
t _{ON} (EN) and t _{OFF} (EN)	3003 fig. 13	116		10 V	10 V	10 V	10 V	10 V	"	10 V	10 V	10 V	10 V	"	"	GND	"	"	"	"	"	"	"	"	
	"	117	"	-10 V	-10 V	-10 V	-10 V	-10 V	"	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"
	"	118	"	10 V	10 V	10 V	10 V	10 V	"	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	"	"	"	"	"
	"	119	"	-10 V	-10 V	-10 V	-10 V	-10 V	"	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"
V _{ISO}	fig. 17	120	GND	0 V	-15 V	IN	IN	IN	IN	IN	IN	IN	IN	15 V	GND	GND	GND	OUT	50						
V _{CT}	fig. 18	121	GND	5 V	-15 V	6/	IN	IN	IN	IN	IN	IN	IN	15 V	GND	GND	GND	OUT	50						
V _{CTE}	fig. 19	122	IN	5 V	-15 V	GND			OUT					15 V	GND	IN	IN	OUT	10						
t ₀	fig. 16	123		5 V	-15 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	15 V	GND	GND	GND	OUT	5						
	"	124		"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"
	"	125		"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	"	"	"	"	"
	"	126		"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"

See footnotes at end of table.

TABLE III. Group A inspection for device type 08.

Symbol	MIL-STD-883 test method	Case E	terminal conditions I																test limits								
																			Subgroup 1 T _A = 25 °C		Subgroup 2 T _A = 125 °C		Subgroup 3 T _A = -55 °C				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Min	Max	Min	Max	Min	Max			
I _{IH} 2/	3010 3010 3010	1 2 3	AO	EN	V-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI									
			GND	GND	-15 V																						
			2.4 V	GND	"																						
			GND	4.5 V	"																						
I _{IL} 2/	3009 3009 3009	4 5 6	5 V	5 V	"																						
			0.8 V	5 V	"																						
			5 V	0.8 V	"																						
I _{S(OFF)}			0.8 V	"	"	10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"									
			2.4 V	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			I _{Q(OFF)}			0.8 V	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"						
						"	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"					
"	"	"				10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"								
"	"	"				10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"								
"	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"								
"	"	"				"	"	"	"	"	"	"	"	"	"	"	"	"	"								
I _{Q(ON)}			"	4.0 V	"	10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"									
			2.4 V	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								
			2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"								

See footnotes at end of table.

TABLE III. Group A inspection for device type 08 - Continued.

Symbol	MIL-STD-883 test method	Case E	terminal conditions 1/																Test limits						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Subgroup 1 I _A = 25 C		Subgroup 2 I _A = 125 C		Subgroup 3 I _A = -55 C	
			AO	EN	V-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	AI		Min	Max	Min	Max	Min	Max
I+		43	0 V	5.0 V	-15 V										15 V	GND	0 V	V+	12	12	12	12	12	12	mA
I-		44	"	5.0 V	"										"	"	"	V-	-12	-12	-12	-12	-12	-12	"
I+SBY		45	"	0 V	"										"	"	"	V+	3.5	3.5	3.5	3.5	3.5	3.5	"
I-SBY		46	"	0 V	"										"	"	"	V-	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	"
R0S1		47	0.8 V	4.5 V	"	10 V	"	"	"	"	"	"	"	"	"	"	"	0.8 V IN1A & OUTA	400	400	500	400	400	400	Ω
		48	2.4 V	"	"	"	"	1 mA	"	"	"	"	"	"	"	"	"	0.8 V IN2A & OUTA	"	"	"	"	"	"	"
		49	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN3A & OUTA	"	"	"	"	"	"	"
		50	2.4 V	"	"	"	10 V	"	"	"	"	"	"	"	"	"	"	2.4 V IN4A & OUTA	"	"	"	"	"	"	"
		51	0.8 V	"	"	"	"	"	1 mA	"	"	"	10 V	"	"	"	"	0.8 V IN1B & OUTB	"	"	"	"	"	"	"
		52	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V IN2B & OUTB	"	"	"	"	"	"	"
		53	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN3B & OUTB	"	"	"	"	"	"	"
		54	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN4B & OUTB	"	"	"	"	"	"	"
		55	0.8 V	"	"	"	"	"	-1 mA	"	"	"	"	"	"	"	"	0.8 V IN1A & OUTA	"	"	"	"	"	"	"
		56	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V IN2A & OUTA	"	"	"	"	"	"	"
		57	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN3A & OUTA	"	"	"	"	"	"	"
		58	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V IN1B & OUTB	"	"	"	"	"	"	"
		59	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0.8 V IN2B & OUTB	"	"	"	"	"	"	"
		60	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN3B & OUTB	"	"	"	"	"	"	"
	61	0.8 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2.4 V IN4B & OUTB	"	"	"	"	"	"	"	
	62	2.4 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
R0S2			63 thru 78 - Same terminal conditions as tests 47 thru 62, except V* = ±10 V, V _S = ±7.5 V and limits as shown.																1,000	1,000	1,000	1,000	1,000	"	
C _A	3012	79	4/															A0	10						μF
		80	"															A1	10						
C _{0S}		81	0 V															OUTA	25						"
		82	"															OUTB	25						"
C _{1S}		83	"															IN1A	10						"
		84	"															IN2A	"						"
		85	"															IN3A	"						"
		86	"															IN4A	"						"
		87	"															IN1B	"						"
		88	"															IN2B	"						"
		89	"															IN3B	"						"
C _{EN}		90	"															IN4B	"						"
		91	4/															EN	"						"

See footnotes at end of table.

TABLE III. Group A inspection for device type 08 - Continued.

Symbol	MIL-STD-883 Test method	Case E	Terminal conditions 1/																test limits							
			Terminal conditions 1/																Subgroup 9		Subgroup 10		Subgroup 11			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Min	Max	Min	Max	Min	Max		
t _{ON} (A) and t _{OFF} (A)	3003 fig. 14	E	A0	EN	V-	IN1A	IN2A	IN3A	IN4A	OUTA	OUTB	IN4B	IN3B	IN2B	IN1B	V+	GND	A1	1,000	11,500	1,000	11,000	1,000	11,000		
			92	5 V	-15 V	GND	GND	GND	10 V	OUT	GND	OUT	GND	GND	GND	GND	1.5 V	GND	WAVEFORM	"	"	"	"	"	"	
			93	"	"	"	"	"	-10 V	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			94	"	"	"	"	"	10 V	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			95	"	"	"	"	"	-10 V	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			96	"	"	"	"	"	GND	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			97	"	"	"	"	"	10 V	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			98	"	"	"	"	"	-10 V	"	"	"	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			99	"	"	"	"	"	GND	"	"	OUT	"	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			100	"	"	"	"	"	"	"	"	"	10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			101	"	"	"	"	"	"	"	"	"	-10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			102	"	"	"	"	"	"	"	"	"	GND	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			103	"	"	"	"	"	"	"	"	"	10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			104	"	"	"	"	"	"	"	"	"	-10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
			105	"	"	"	"	"	"	"	"	"	GND	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"	
106	"	"	"	"	"	"	"	"	"	10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"				
107	"	"	"	"	"	"	"	"	"	-10 V	"	"	"	"	"	WAVEFORM	"	"	"	"	"	"				
t _{ON} (EN) and t _{OFF} (EN)	fig. 15	E	108	GND	"	10 V	10 V	10 V	10 V	OUT	"	"	"	"	"	"	"	GND	"	"	"	"	"	"		
			109	"	WAVEFORM	"	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			110	"	WAVEFORM	"	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			111	"	WAVEFORM	"	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			112	"	WAVEFORM	"	GND	GND	GND	GND	OUT	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			115	"	WAVEFORM	"	"	"	"	"	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	
V _{ISO}	fig. 17/116 fig. 17/117	E	116	GND	0 V	IN	IN	IN	IN	OUT	IN	IN	IN	IN	IN	15 V	GND	GND	50	"	"	"	"	"		
			117	"	0 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			"	"	-15 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
V _{CT}	fig. 18 fig. 18	E	118	"	"	6/	"	"	"	OUT	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
			119	"	"	6/	"	"	"	"	OUT	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
V _{CTE}	fig. 19 fig. 19	E	120	IN	"	GND	"	"	"	OUT	"	"	"	"	"	"	"	IN	10	"	"	"	"	"		
			121	IN	"	GND	"	"	"	"	OUT	"	"	"	"	"	"	"	IN	10	"	"	"	"	"	
t _D	fig. 16	E	122	WAVEFORM	-15 V	10 V	10 V	10 V	10 V	OUT	"	GND	GND	GND	GND	GND	1.5 V	GND	IN	5	"	"	"	"	"	
			123	WAVEFORM	"	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			124	WAVEFORM	"	10 V	10 V	10 V	10 V	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			125	WAVEFORM	"	"	"	"	"	OUT	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	
			126	WAVEFORM	"	"	"	"	"	"	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	
			127	WAVEFORM	"	"	"	"	"	"	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	
			128	WAVEFORM	"	"	"	"	"	"	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	
			129	WAVEFORM	"	"	"	"	"	"	"	"	10 V	10 V	10 V	10 V	10 V	10 V	10 V	"	"	"	"	"	"	
			"	"	"	"	"	"	"	"	"	"	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	-10 V	"	"	"	"	"	"	

See footnotes at end of table.

- 1/ Pins not designated may be high-level logic or open. Exceptions are as follows: $V_{IC(POS)}$ tests, the $V-$, GND terminal shall be open; $V_{IC(NEG)}$ tests, the $V+$ terminal shall be open.
- 2/ The device manufacturer may, at his option, measure I_{IL} and I_{IH} at $25^{\circ}C$ for each individual input or measure all inputs together.
- 3/ The I_S and I_D measurements shall be performed in sequence.
- 4/ C_A , C_{FN} , and C_{IS} - Connect capacitance bridge between measured terminal and V_{SS} , frequency = 1 MHz, see 4.4.1c.
- 5/ C_{OS} - Connect capacitance bridge between measured output and V_{SS} , frequency = 1 MHz, see 4.4.1c.
- 6/ Connect input to ground through a $1\text{ k}\Omega \pm 5\%$ resistor.

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. Electrical parameters shall be as specified in table II herein. For class S devices, delta limits shall apply only to subgroup 5 of group B inspection.
- b. Steady state life test for class S devices shall be in accordance with table IIa of method 5005 of MIL-STD-883, using an accelerated burn-in circuit approved by the qualifying activity. If the alternate burn-in conditions are used, the circuit shown on figure 7 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 and as follows:

- a. End-point electrical parameters shall be as specified in table II herein. Delta limits shall apply only to subgroup 1 of group C inspection.
- b. Steady state life test (method 1005 of MIL-STD-883) conditions:
 1. Test condition C using the circuit shown on figure 6 or test condition D using the circuit shown on figure 7.
 2. $T_A = 125^\circ\text{C}$, minimum for 1,000 hours.
- c. A special subgroup shall be added to the group C inspection requirements for class B devices, and shall consist of the tests, conditions, and limits as specified for subgroups 10 and 11 of group A.
- d. A special subgroup shall be added to group C inspection for class B devices only and it shall consist of group A, subgroup 12 as specified in table III herein. This special subgroup shall be performed on each device type that is qualified from those listed in 1.2.1 herein. After initial qualification, the special subgroup shall be performed periodically on a single device type selected from those device types previously qualified. A sample of 5 devices (of the device type to be inspected) shall be chosen and submitted to test with no failures allowed. If not more than 1 failure is found in the first sample of 5, a second sample of 5 is permitted with no further failures allowed. When more than one device type is qualified, the single device type selected shall be a different device for each subsequent periodic inspection until all qualified device types have been inspected. The sequence of single device types shall be repeated to fulfill the periodic inspection requirement.

4.4.4 Group D inspection. Group D inspection shall be in accordance with table IV of method 5005 of MIL-STD-883 and as follows:

- a. End-point electrical parameters shall be as specified in table III herein.
- b. A special subgroup shall be added to group D inspection for class S devices only and it shall consist of the group A subgroups 4 and 7 as specified in table III herein. This special subgroup shall be performed on each device type that is qualified from those listed in 1.2.1 herein. After initial qualification, the special subgroup shall be performed periodically on a single device type selected from those device types previously qualified. When more than one device type is qualified, the single device type selected shall be a different device type for each subsequent periodic inspection until all qualified device types have been inspected. The sequence of single device types shall be repeated fulfill the periodic inspection requirement.

4.5 Methods of inspection. Methods of inspection 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 Voltages and currents. All voltages values given are referenced to the ground terminal of the device under test (DUT). Current values given are for conventional current and are positive when flowing into the referenced terminal.

4.5.2 Life test and burn-in cooldown procedure. When the devices are measured at 25°C following application of the steady state life or burn-in test condition, they shall be cooled to within 10°C of their power stable condition prior to removal of the bias.

4.6 Data reporting. When specified in the contract or purchase order, a copy of the following data, as applicable, shall be supplied:

- a. Attributes data for all screening tests (see 4.2) and variables data for all static burn-in, dynamic burn-in, and operating life tests.
- b. The quality conformance inspection data (see 4.4).

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-M-38510. The devices covered by this specification require electrostatic protection.

6. NOTES

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

6.2 Ordering data. The contract or purchase 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 supplied 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 failure analysis (including required test condition of method 5003 of MIL-STD-883), corrective action, and reporting of results, if applicable.
- f. Requirements for product assurance options.
- g. Requirements special lead lengths or lead forming, if applicable. These requirements shall not affect the part number.
- h. Requirements for "JAN" marking.

6.3 Abbreviations, symbols, and definitions. The abbreviations, symbols, and definitions used herein are defined in MIL-M-38510, MIL-STD-1313, and as follows:

V _{IC} - - - - -	Input clamp voltage.
I _{IL} - - - - -	Low level (address) input current.
I _{IH} - - - - -	High level (address) input current.
I _{S(OFF)} - - - - -	Leakage current into the source terminal of an "OFF" switch.
I _{D(OFF)} - - - - -	Leakage current into the drain terminal of an "OFF" switch.

$I_D(ON)$	- - - - -	Leakage current from an "ON" driver into the switch.
$I(+)$	- - - - -	Positive supply current.
$I(-)$	- - - - -	Negative supply current.
$I(SBY)$	- - - - -	Standby supply current.
R_{ON}	- - - - -	Resistance of an "ON" switch.
C_A	- - - - -	Address capacitance.
C_{OS}	- - - - -	Output switch capacitance.
C_{IS}	- - - - -	Input switch capacitance.
C_{IOS}	- - - - -	Input to output (feedthrough) capacitance.
t_{PLH}	- - - - -	Propagation delay time: low to high level.
t_{PHL}	- - - - -	Propagation delay time: high to low level.
GND	- - - - -	Electrical ground.
VREF	- - - - -	Reference voltage.
A	- - - - -	Address input to switch.
EN	- - - - -	Enable.
O/I	- - - - -	Output/Input.
I/O	- - - - -	Input/Output.

TABLE IV. Group C end-point electrical parameters ($T_A = 25^\circ C$).

Parameter	Device types					
	01, 07	02	03, 08	04	05	06
R_{ON}	50 Ω or 10% ^{1/}	150 Ω or 10%	50 Ω or 10%	150 Ω or 10%	150 Ω or 10% ^{1/}	150 Ω or 10% ^{1/}
$I_D(OFF)$	15 nA	15 nA	15 nA	15 nA	15 nA	15 nA
$I_S(OFF)$	15 nA	15 nA	15 nA	15 nA	15 nA	15 nA

1/ Whichever is greater.

2/ Each of the above parameters shall be recorded before and after the required burn-in or life tests to determine deltas (Δ).

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

6.5 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.

<u>Military device type</u>	<u>Generic-industry type</u>
01	506, 6116
02	506A
03	507, 6216
04	507A
05	508A
06	509A
07	508, 6108
08	509, 6208

6.6 Handling. MOS devices must be handled with certain precautions to avoid damage due to accumulation of static charge. Input protective devices have been designed in the chip to minimize the effect of this static buildup. However, the following handling practices are recommended:

- a. Devices should be handled on benches with conductive and grounded surface.
- b. Ground test equipment, tools and operator.
- c. Do not handle devices by the leads.
- d. Store devices in conductive foam or carriers.
- e. Avoid use of plastic, rubber, or silk in MOS areas.
- f. Maintain relative humidity above 50 percent.

6.7 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - ER
Navy - EC
Air Force - 17

Preparing activity:
NASA - NA

Agent:
DLA - ES

Review activities:

Army - MI
Air Force - 11, 19, 80, 85, 99
DLA - ES

(Project 5962-0909)

User activities:

Army - AR, SM
Navy - AS, CG, OS, MC, SH

Civil Agency Coordinating Activity:

NASA - NA