

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, TTL, DATA DECODERS/DEMULTIPLEXERS, MONOLITHIC SILICON

Inactive for new design after 21 July 1986

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

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

1. SCOPE

1.1 Scope. This specification covers the detail requirements for monolithic silicon, TTL, data decoders/demultiplexers, logic microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided and are reflected in the complete part number. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3)

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

1.2.1 Device types. The device types should be as follows:

Device type	Circuit
01	4-line to 16-line decoder/demultiplexer
02	Dual 2-line to 4-line decoder/demultiplexer
03	Dual 2-line to 4-line decoder/demultiplexer, open collector
04	Binary-to-octal decoder
05	BCD-to-decimal decoder
06	BCD-to-decimal decoder

1.2.2 Device class. The device class is the product assurance level as defined in MIL-PRF-38535.

1.2.3 Case outlines. The case outlines are as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	Terminals	Package style
A <u>1/</u>	GDFP5-F14 or CDFP6-F14	14	Flat pack
B <u>1/</u>	GDFP4-F14	14	Flat pack
C	GDIP1-T14 or CDIP2-T14	14	Dual-in-line
D	GDFP1-F14 or CDFP2-F14	14	Flat pack
E	GDIP1-T16 or CDIP2-T16	16	Dual-in-line
F	GDFP2-F16 or CDFP3-F16	16	Flat pack
J	CDIP2-T24	24	Dual-in-line
K	GDFP2-F24 or CDFP3-F24	24	Flat pack
Z <u>1/</u>	GDFP7-F24 or CDFP8-F24	24	Flat pack

1/ Inactive package case outline.

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

1.3 Absolute maximum ratings.

Supply voltage range	-0.5 V dc to 7.0 V dc
Input voltage range	-1.5 V dc at -12 mA to 5.5 V dc
Storage temperature range	-65°C to 150°C
Maximum power dissipation per gate (P_D) <u>1/</u> :	
Device type 01	270 mW
Device type 02	195 mW
Device type 03	195 mW
Device type 04	140 mW
Device type 05	190 mW
Device type 06	190 mW
Lead temperature (soldering, 10 seconds)	+300°C
Thermal resistance, junction-to-case (θ_{JC}):	
Cases A, B, C, D, E, F, J, K, and Z	See MIL-STD-1835
Junction temperature (T_J)	+175°C <u>2/</u>

1.4 Recommended operating conditions.

Supply voltage (V_{CC})	4.5 V dc minimum to 5.5 V dc maximum
Minimum high level input voltage (V_{IH})	2.0 V dc
Maximum low level input voltage (V_{IL})	0.8 V dc
Normalized fanout (each output) <u>3/</u> :	
At low logic level	10 maximum
At high logic level	20 maximum <u>4/</u>
Case operating temperature range (T_C)	-55°C to +125°C

2. APPLICABLE DOCUMENTS

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

2.2 Government documents.

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

DEPARTMENT OF DEFENSE SPECIFICATIONS

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

DEPARTMENT OF DEFENSE STANDARDS

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

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

1/ Must withstand the added P_D due to short circuit test (e.g. I_{OS}).

2/ Maximum junction temperature shall not be exceeded except for short duration burn-in screening conditions per method 5004 of MIL-STD-883.

3/ The device will fanout in both high and low levels to the specified number of inputs on the same device type as that being tested.

4/ A fanout of 20 normalized loads is provided to facilitate connection of unused inputs to used inputs.

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

3. REQUIREMENTS

3.1 Qualification. Microcircuits furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturers list before contract award (see 4.3 and 6.4).

3.2 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-38535 and as specified herein or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

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

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

3.3.2 Logic diagrams. The logic diagrams shall be as specified on figure 2.

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

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

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

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

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

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

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55^{\circ}\text{C} \leq T_{\text{C}} \leq +125^{\circ}\text{C}$	Device type	Limits		Unit
				Min	Max	
High level output voltage	V_{OH}	$V_{\text{CC}} = 4.5 \text{ V}, I_{\text{OH}} = -0.8 \text{ mA}$	01,02, 04,05, 06	2.4		V
High level output leakage current	I_{CEX}	$V_{\text{CC}} = 4.5 \text{ V}, V_{\text{OUT}} = 5.5 \text{ V}$	03		250	μA
Low level output voltage	V_{OL}	$V_{\text{CC}} = 4.5 \text{ V}, I_{\text{OL}} = 16 \text{ mA}$	All		0.4	V
Input clamp voltage	V_{IC}	$V_{\text{CC}} = 4.5 \text{ V}, I_{\text{IN}} = -12 \text{ mA}$	All		-1.5	V
Low level input current	I_{IL}	$V_{\text{CC}} = 5.5 \text{ V}, V_{\text{IN}} = 0.4 \text{ V}$	01,02, 03,06	-0.7	-1.6	mA
			04,05	-0.4	-1.3	mA
High level input current	I_{IH1}	$V_{\text{CC}} = 5.5 \text{ V}, V_{\text{IN}} = 2.4 \text{ V}$	All		60	μA
High level input current	I_{IH2}	$V_{\text{CC}} = 5.5 \text{ V}, V_{\text{IN}} = 5.5 \text{ V}$	All		150	μA
Short circuit output current	I_{OS}	$V_{\text{CC}} = 5.5 \text{ V}, V_{\text{OUT}} = 0 \text{ V } \underline{1/}$	02	-20	-55	mA
			04,05,06	-10	-55	mA
			01	-20	-70	mA

See footnote at end of table.

TABLE I. Electrical performance characteristics – Continued.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C	Device type	Limits		Unit
				Min	Max	
Supply current	I _{CC}	V _{CC} = 5.5 V	01		62	mA
			02,03		35	mA
			04		25	mA
			05		34	mA
			06		44	mA
Propagation delay time high-to-low level output from A, B, C, or D to output	t _{PHL1}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 4)	01	5	49	ns
Propagation delay time low-to-high level output from A, B, C, or D to output	t _{PLH1}		01	5	53	ns
Propagation delay time high-to-low level output from G1 or G2 to output	t _{PHL2}		01	5	42	ns
Propagation delay time low-to-high level output from G1 or G2 to output	t _{PLH2}		01	5	45	ns
Propagation delay time low-to-high level output from 1G or 2G to output	t _{PLH1}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 5)	02	3	33	ns
Propagation delay time high-to-low level output from 1G or 2G to output	t _{PHL1}		02	3	42	ns
Propagation delay time low-to-high level output A or B to output through two levels	t _{PLH2}		02	3	33	ns
Propagation delay time high-to-low level output A or B to output through two levels	t _{PHL2}		02	3	42	ns
Propagation delay time low-to-high level output 2C to output	t _{PLH3}		02	3	33	ns
Propagation delay time high-to-low level output 2C to output	t _{PHL3}		02	3	42	ns

See footnote at end of table.

TABLE I. Electrical performance characteristics – Continued.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C	Device type	Limits		Unit
				Min	Max	
Propagation delay time low-to-high level output 1C to output	t _{PLH4}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 5)	02	3	38	ns
Propagation delay time high-to-low level output 1C to output	t _{PHL4}		02	3	46	ns
Propagation delay time low-to-high level output A or B to output	t _{PLH5}		02	3	48	ns
Propagation delay time high-to-low level output A or B to output	t _{PHL5}		02	3	48	ns
Propagation delay time low-to-high level output from 1G or 2G to output	t _{PLH1}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 6)	03	3	43	ns
Propagation delay time high-to-low level output from 1G or 2G to output	t _{PHL1}		03	3	52	ns
Propagation delay time low-to-high level output A or B to output through two levels	t _{PLH2}		03	3	43	ns
Propagation delay time high-to-low level output A or B to output through two levels	t _{PHL2}		03	3	52	ns
Propagation delay time low-to-high level output 2C to output	t _{PLH3}		03	3	43	ns
Propagation delay time high-to-low level output 2C to output	t _{PHL3}		03	3	52	ns
Propagation delay time low-to-high level output 1C to output	t _{PLH4}		03	3	48	ns
Propagation delay time high-to-low level output 1C to output	t _{PHL4}		03	3	56	ns
Propagation delay time low-to-high level output A or B to output	t _{PLH5}		03	3	57	ns

See footnote at end of table.

TABLE I. Electrical performance characteristics – Continued.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C	Device type	Limits		Unit
				Min	Max	
Propagation delay time high-to-low level output A or B to output	t _{PHL5}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 6)	03	3	57	ns
Propagation delay time high-to-low level output A, B, C, or D to output through two levels	t _{PHL1}	R _L = 390 Ω ± 5% C _L = 50 pF minimum ± 10% (figure 7)	04,05, 06	5	48	ns
Propagation delay time low-to-high level output A, B, C, or D to output through two levels	t _{PLH1}		04,05, 06	5	48	ns
Propagation delay time high-to-low level output A, B, C, or D to output	t _{PHL2}		04,05, 06	5	53	ns
Propagation delay time low-to-high level output A, B, C, or D to output	t _{PLH2}		04,05, 06	5	53	ns

1/ Not more than one output should be shorted at one time.

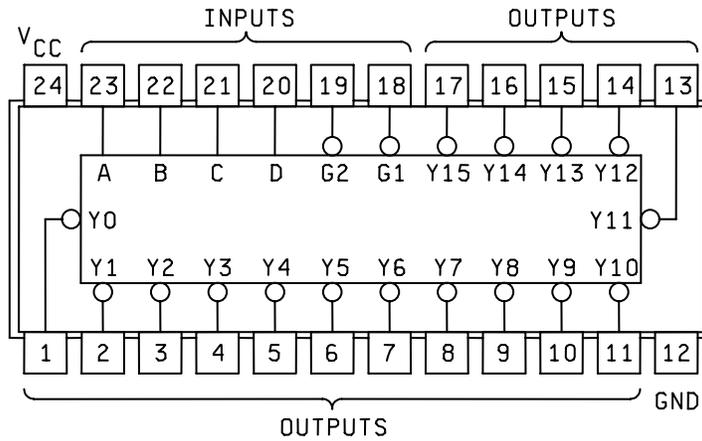
TABLE II. Electrical test requirements.

MIL-PRF-38535 test requirements	Subgroups (see table III)	
	Class S devices	Class B devices
Interim electrical parameters	1	1
Final electrical test parameters	1*, 2, 3, 7, 9, 10, 11	1*, 2, 3, 7, 9
Group A test requirements	1, 2, 3, 7, 8, 9, 10, 11	1, 2, 3, 7, 9, 10, 11
Group B electrical test parameters when using the method 5005 QCI option	1,2,3,7,8,9, 10,11	N/A
Group C end-point electrical parameters	1,2,3,7,8,9, 10,11	1, 2, 3
Group D end-point electrical parameters	1, 2, 3	1, 2, 3

*PDA applies to subgroup 1.

Device type 01

Cases J, K, and Z



Device types 02 and 03

Cases E and F

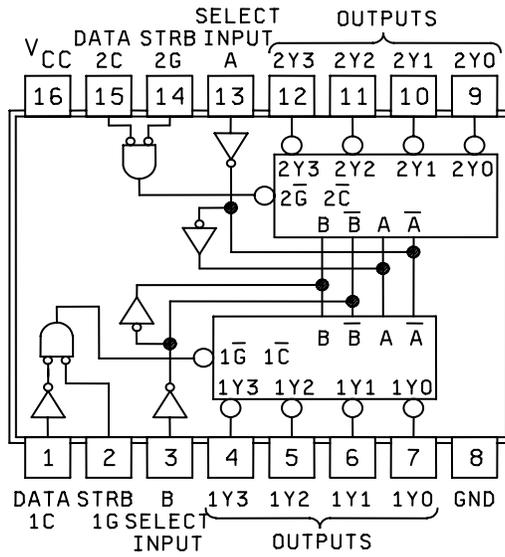
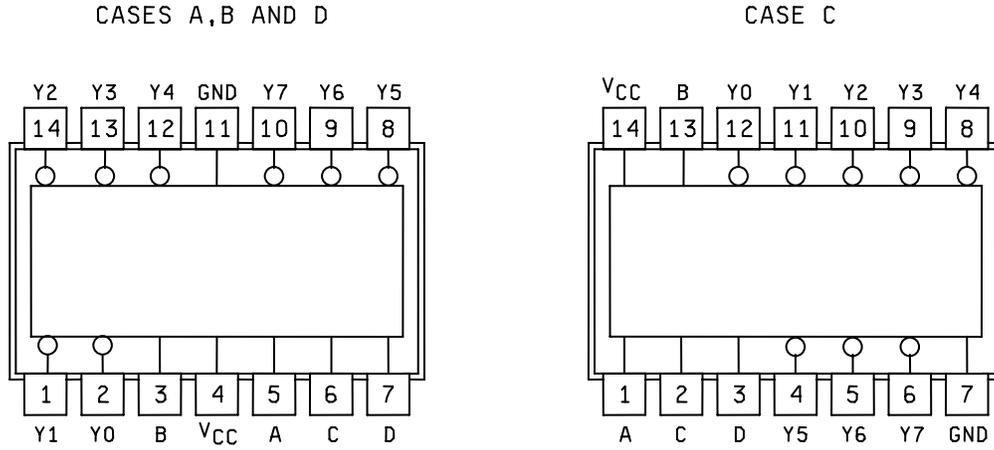


Figure 1. Terminal connections (top view).

Device type 04



Device type 05 and 06

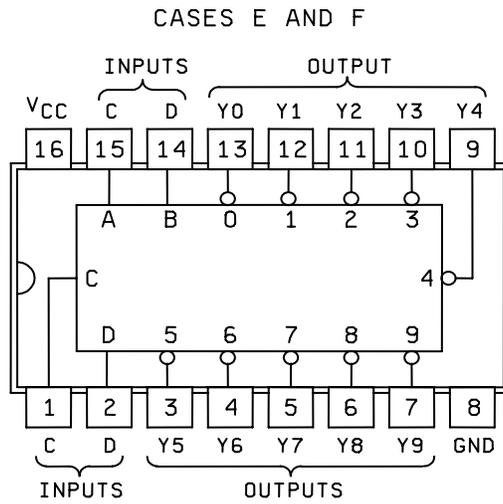


Figure 1. Terminal connections (top view) – Continued.

Device type 01

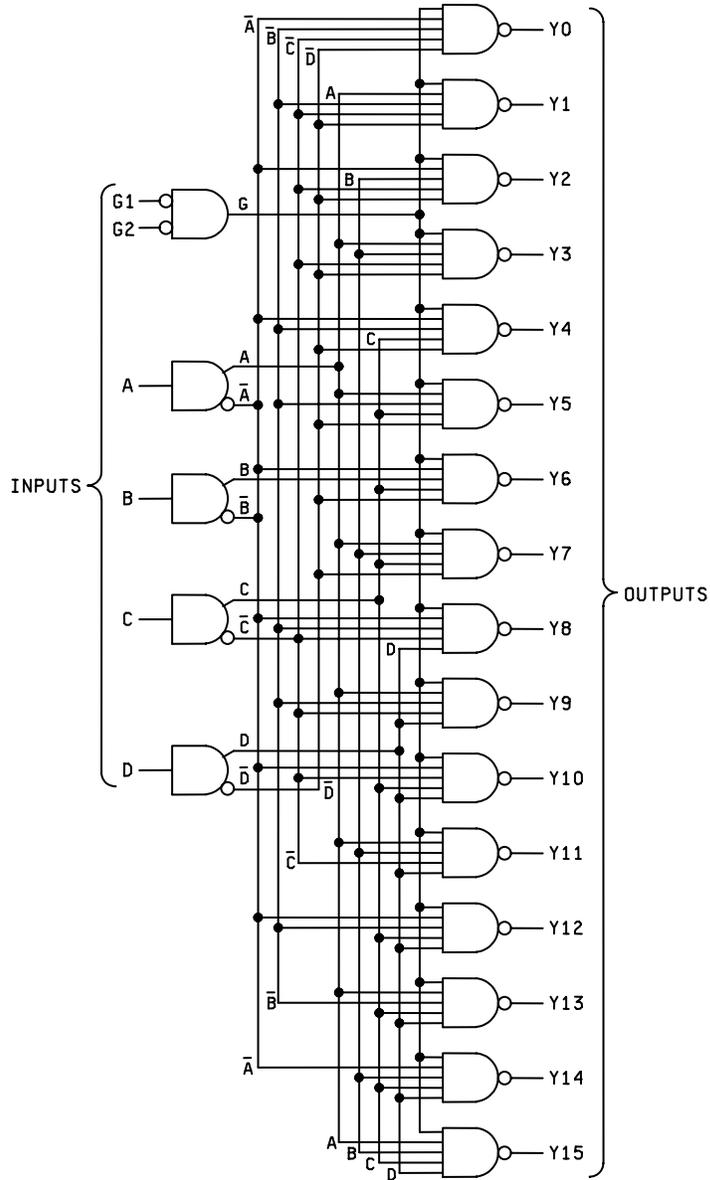


Figure 2. Logic diagrams.

Device type 02 and 03

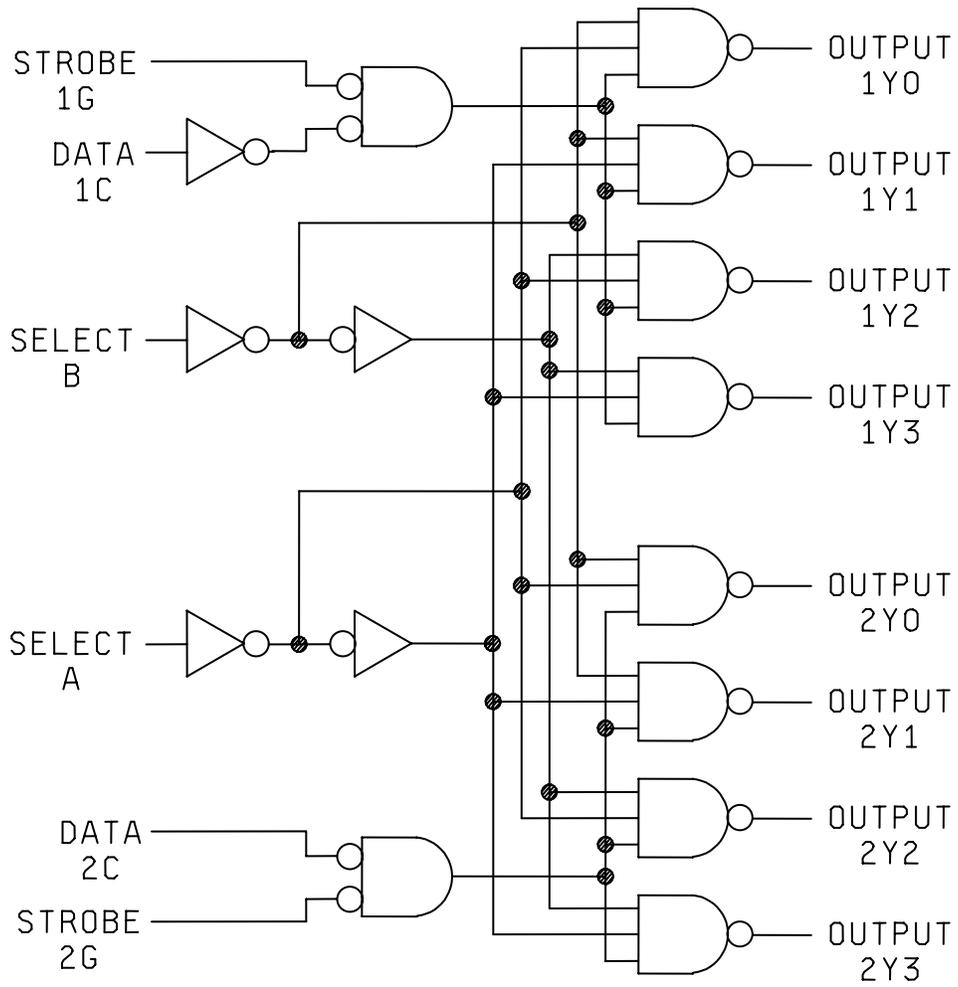
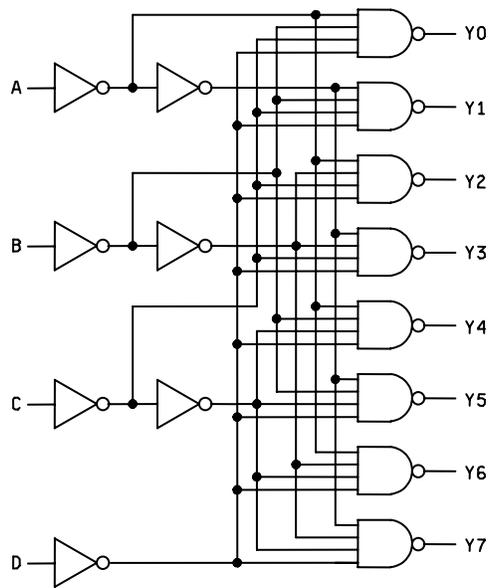


Figure 2. Logic diagrams – Continued.

Device type 04



Device type 05

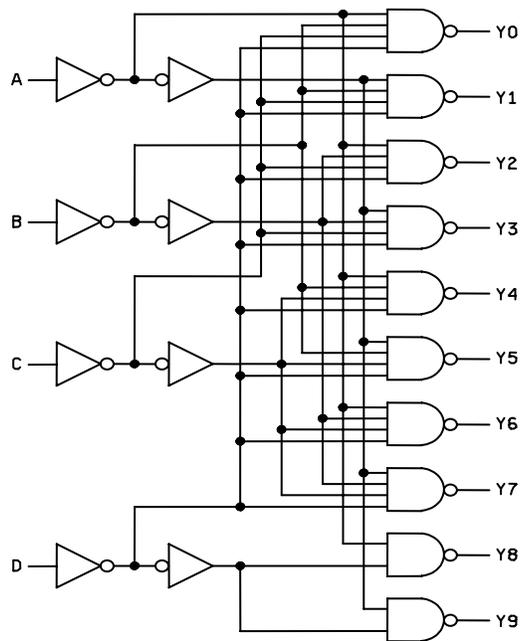


Figure 2. Logic diagrams – Continued.

Device type 06

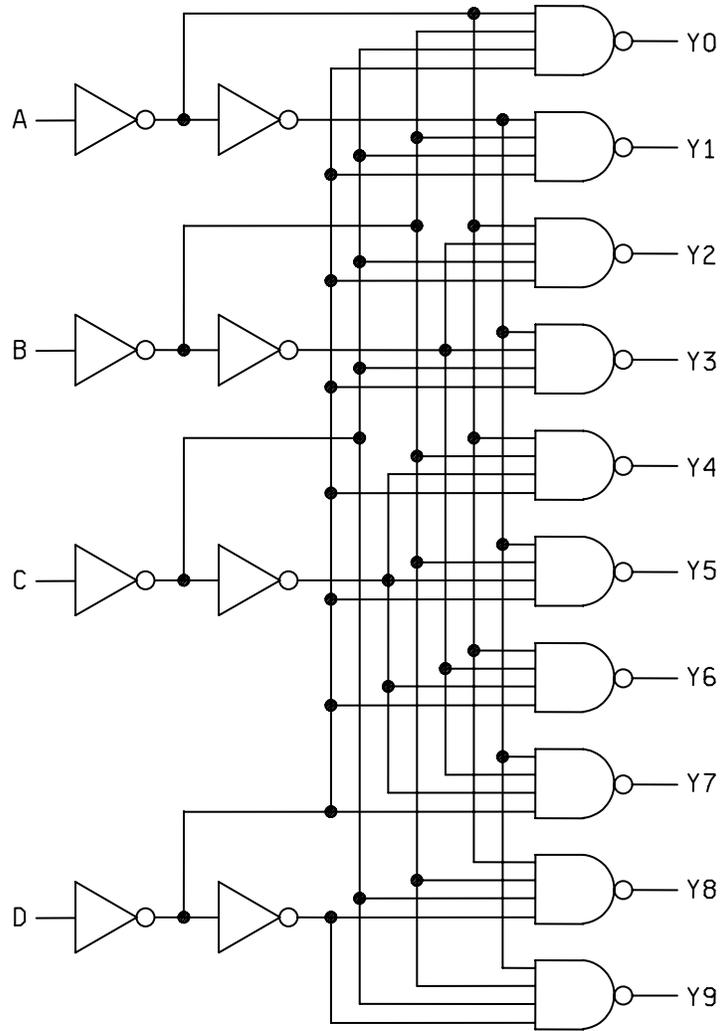


Figure 2. Logic diagrams – Continued.

Device type 01

Inputs						Outputs															
G1	G2	D	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
L	L	L	L	L	L	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
L	L	L	L	L	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H
L	L	L	L	H	L	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	H
L	L	L	L	H	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H
L	L	L	H	L	L	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H
L	L	L	H	H	L	H	H	H	H	H	H	L	H	H	H	H	H	H	H	H	H
L	L	L	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H	H	H	H
L	L	H	L	L	L	H	H	H	H	H	H	H	H	L	H	H	H	H	H	H	H
L	L	H	L	L	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H	H
L	L	H	L	H	L	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H
L	L	H	L	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H	H
L	L	H	H	L	L	H	H	H	H	H	H	H	H	H	H	H	L	H	H	H	H
L	L	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	H
L	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H
L	H	X	X	X	X	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
H	L	X	X	X	X	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
H	H	X	X	X	X	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H

H = High, L = Low, X = Irrelevant

Device types 02 and 03

2-LINE TO 4-LINE DECODER OR 1-LINE TO 4-LINE DEMULTIPLEXER

Inputs				Outputs				Inputs				Outputs			
Select		Strobe	Data					Select		Strobe	Data				
B	A	1G	1C	1Y0	1Y1	1Y2	1Y3	B	A	2G	2C	2Y0	2Y1	2Y2	2Y3
X	X	H	X	H	H	H	H	X	X	H	X	H	H	H	H
L	L	L	H	L	H	H	H	L	L	L	L	L	H	H	H
L	H	L	H	H	L	H	H	L	H	L	L	H	L	H	H
H	L	L	H	H	H	L	H	H	L	L	L	H	H	L	H
H	H	L	H	H	H	H	L	H	H	L	L	H	H	H	L
X	X	X	L	H	H	H	H	X	X	X	H	H	H	H	H

FIGURE 3. Truth tables.

Device types 02 and 03

3-LINE TO 8-LINE DECODER OR 1-LINE TO 8-LINE DEMULTIPLEXER

Inputs				Outputs							
Select			Strobe or Data	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C*	B	A	G*	2Y0	2Y1	2Y2	2Y3	1Y0	1Y1	1Y2	1Y3
X	X	X	H	H	H	H	H	H	H	H	H
L	L	L	L	L	H	H	H	H	H	H	H
L	L	H	L	H	L	H	H	H	H	H	H
L	H	L	L	H	H	L	H	H	H	H	H
L	H	H	L	H	H	H	L	H	H	H	H
H	L	L	L	H	H	H	H	L	H	H	H
H	L	H	L	H	H	H	H	H	L	H	H
H	H	L	L	H	H	H	H	H	H	L	H
H	H	H	L	H	H	H	H	H	H	H	L

C* = Inputs 1C and 2C connected together

G* = Inputs 1G and 2G connected together

H = High level, L = Low level, X = Irrelevant

Device type 04

Inputs				Outputs							
A	B	C	D	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	L	H	H	H	H	H	H
L	H	L	L	H	H	L	H	H	H	H	H
H	H	L	L	H	H	H	L	H	H	H	H
L	L	H	L	H	H	H	H	L	H	H	H
H	L	H	L	H	H	H	H	H	L	H	H
L	H	H	L	H	H	H	H	H	H	L	H
H	H	H	L	H	H	H	H	H	H	H	L
L	L	L	H	H	H	H	H	H	H	H	H
H	L	L	H	H	H	H	H	H	H	H	H
L	H	L	H	H	H	H	H	H	H	H	H
H	H	L	H	H	H	H	H	H	H	H	H
L	L	H	H	H	H	H	H	H	H	H	H
H	L	H	H	H	H	H	H	H	H	H	H
L	H	H	H	H	H	H	H	H	H	H	H
H	H	H	H	H	H	H	H	H	H	H	H

H = High voltage level

L = Low voltage level

FIGURE 3. Truth tables – Continued.

Device type 05

Inputs				Outputs									
A	B	C	D	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
L	L	L	L	L	H	H	H	H	H	H	H	H	H
H	L	L	L	H	L	H	H	H	H	H	H	H	H
L	H	L	L	H	H	L	H	H	H	H	H	H	H
H	H	L	L	H	H	H	L	H	H	H	H	H	H
L	L	H	L	H	H	H	H	L	H	H	H	H	H
H	L	H	L	H	H	H	H	H	L	H	H	H	H
L	H	H	L	H	H	H	H	H	H	L	H	H	H
H	H	H	L	H	H	H	H	H	H	H	L	H	H
L	L	L	H	H	H	H	H	H	H	H	H	L	H
H	L	L	H	H	H	H	H	H	H	H	H	H	L
L	H	L	H	H	H	H	H	H	H	H	H	L	H
H	H	L	H	H	H	H	H	H	H	H	H	H	L
L	L	H	H	H	H	H	H	H	H	H	H	L	H
H	L	H	H	H	H	H	H	H	H	H	H	H	L
L	H	H	H	H	H	H	H	H	H	H	H	L	H
H	H	H	H	H	H	H	H	H	H	H	H	H	L

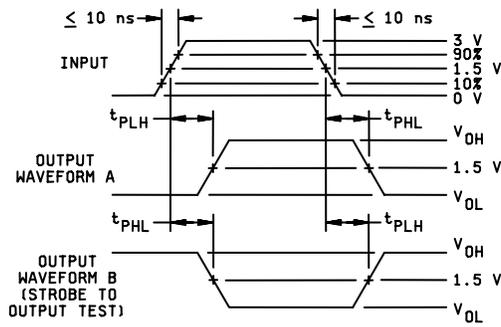
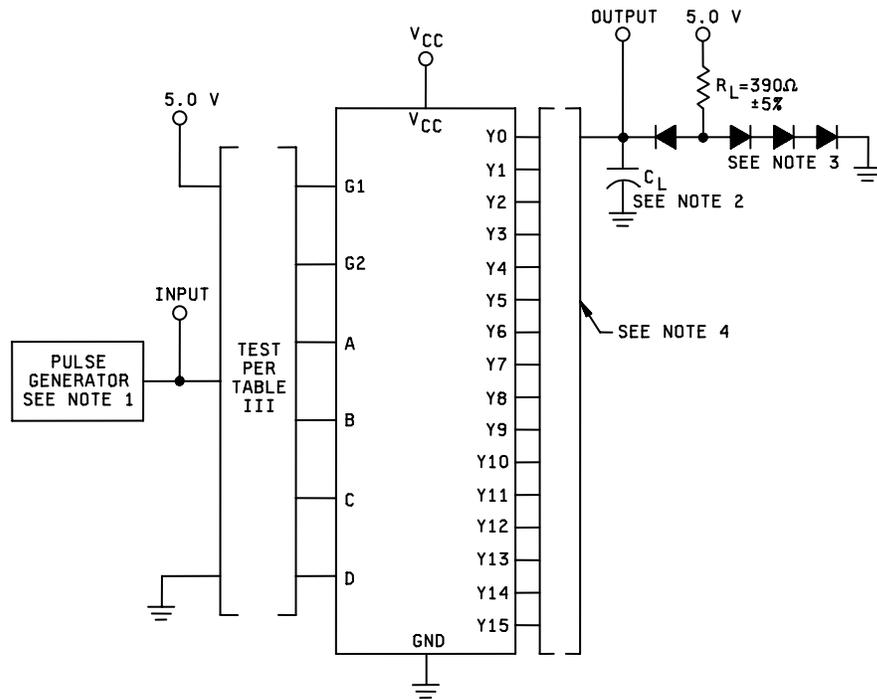
H = High voltage level
L = Low voltage level

Device type 06

Inputs				Outputs									
A	B	C	D	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
L	L	L	L	L	H	H	H	H	H	H	H	H	H
H	L	L	L	H	L	H	H	H	H	H	H	H	H
L	H	L	L	H	H	L	H	H	H	H	H	H	H
H	H	L	L	H	H	H	L	H	H	H	H	H	H
L	L	H	L	H	H	H	H	L	H	H	H	H	H
H	L	H	L	H	H	H	H	H	L	H	H	H	H
L	H	H	L	H	H	H	H	H	H	L	H	H	H
H	H	H	L	H	H	H	H	H	H	H	L	H	H
L	L	L	H	H	H	H	H	H	H	H	H	L	H
H	L	L	H	H	H	H	H	H	H	H	H	H	L
L	H	L	H	H	H	H	H	H	H	H	H	H	H
H	H	L	H	H	H	H	H	H	H	H	H	H	H
L	L	H	H	H	H	H	H	H	H	H	H	H	H
H	L	H	H	H	H	H	H	H	H	H	H	H	H
L	H	H	H	H	H	H	H	H	H	H	H	H	H
H	H	H	H	H	H	H	H	H	H	H	H	H	H

H = High voltage level
L = Low voltage level

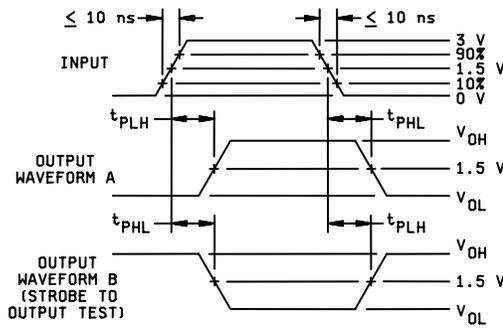
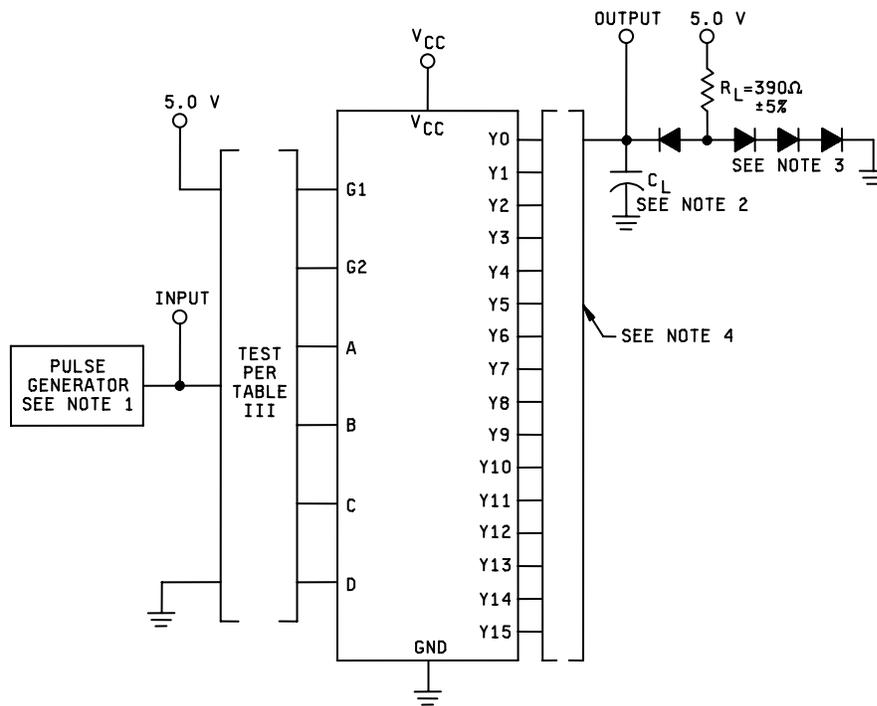
FIGURE 3. Truth tables – Continued.



NOTES:

1. The pulse generator has the following characteristics: $PRR \leq 1 \text{ MHz}$, duty cycle = 50%, and $Z_{OUT} \approx 50 \Omega$.
2. $C_L = 50 \text{ pF} \pm 10\%$ minimum and includes probe and jig capacitance.
3. All diodes are 1N3064 or equivalent.
4. Load circuit is applied separately to each output pin under test. All other outputs may be open or loaded.

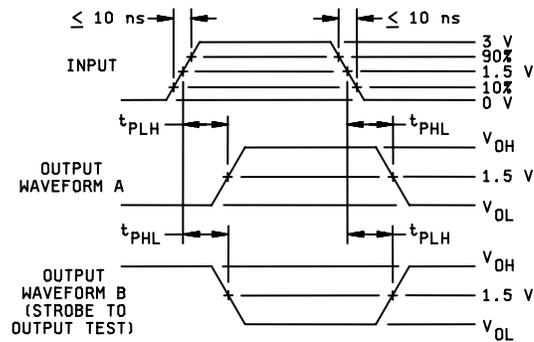
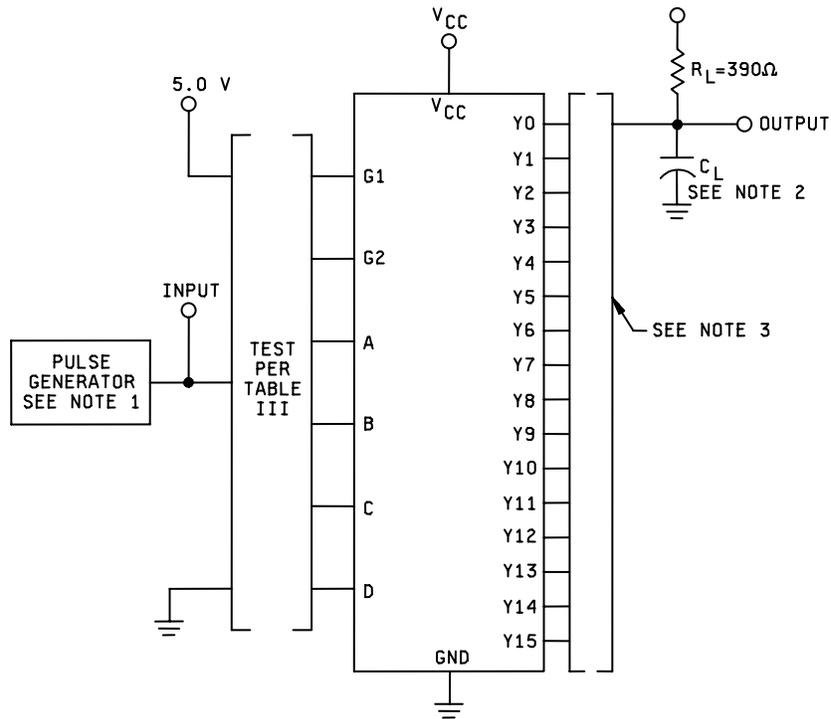
FIGURE 4. Switching test for device type 01.



NOTES:

- 1 The pulse generator has the following characteristics: PRR = 1 MHz, duty cycle = 50%, and $Z_{OUT} \approx 50 \Omega$.
- 2 $C_L = 50$ pF minimum and includes probe and jig capacitance.
- 3 All diodes are 1N3064 or equivalent.
- 4 Load circuit is applied separately to each output pin under test. All other outputs may be open or loaded.

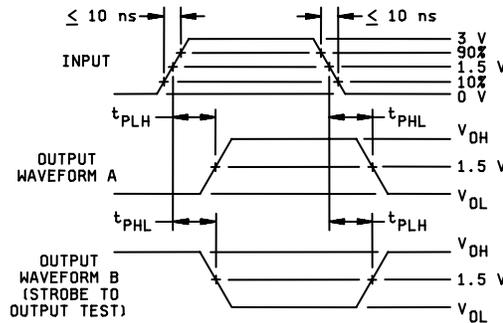
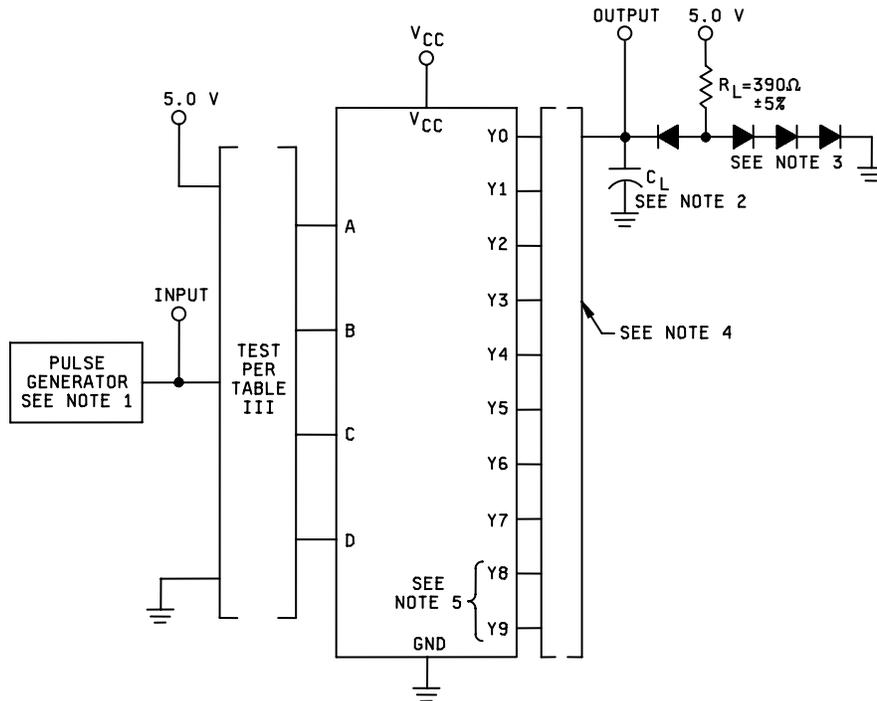
FIGURE 5. Switching test for device type 02.



NOTES:

- 1 The pulse generator has the following characteristics: PRR = 1 MHz, duty cycle = 50%, and $Z_{OUT} \approx 50 \Omega$.
- 2 $C_L = 15$ pF minimum and includes probe and jig capacitance.
- 3 Load circuit is applied separately to each output pin under test. All other outputs may be open or loaded.

FIGURE 6. Switching test for device type 03.



NOTES:

- 1 The pulse generator has the following characteristics: $PRR \leq 1 \text{ MHz}$, duty cycle = 50%, and $Z_{OUT} \approx 50 \Omega$.
- 2 $C_L = 50 \text{ pF}$ minimum and includes probe and jig capacitance.
- 3 All diodes are 1N3064 or equivalent.
- 4 Load circuit is applied separately to each output pin under test. All other outputs may be open or loaded.
- 5 Output pins Y8 and Y9 apply to device types 05 and 06 only.

FIGURE 7. Switching test for device types 04, 05, and 06 – Continued.

TABLE III. Group A inspection for device type 01.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases J,K,Z Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit		
				Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	GND	Y11	Y12	Y13	Y14	Y15	G1	G2	D	C	B	A	V _{CC}		Min	Max			
1 T _C =+25°C	V _{OH}	3006	1	-0.8mA											GND						2.0V	2.0V					4.5V	Y0	2.4		V		
			2		-0.8mA																								Y1				
			3			-0.8mA																								Y2			
			4				-0.8mA																							Y3			
			5					-0.8mA																						Y4			
			6						-0.8mA																					Y5			
			7							-0.8mA																				Y6			
			8								-0.8mA																			Y7			
			9									-0.8mA																		Y8			
			10										-0.8mA																	Y9			
			11											-0.8mA																Y10			
			12												-0.8mA															Y11			
			13													-0.8mA														Y12			
			14														-0.8mA													Y13			
			15															-0.8mA												Y14			
			16																-0.8mA											Y15			
	V _{OL}	3007	17	16mA																	0.8V	0.8V	0.8V	0.8V	0.8V	0.8V		Y0		0.4			
			18		16mA																								Y1				
			19			16mA																							Y2				
			20				16mA																						Y3				
			21					16mA																		2.0V			Y4				
			22						16mA																				Y5				
			23							16mA																			Y6				
			24								16mA																		Y7				
			25									16mA																		Y8			
			26										16mA																	Y9			
			27											16mA																Y10			
			28												16mA															Y11			
			29													16mA														Y12			
			30														16mA													Y13			
			31															16mA												Y14			
			32																16mA											Y15			
	V _{IC}		33																			-12mA	-12mA					G1		-1.5			
			34																									G2					
			35																										A				
			36																										B				
			37																										C				
38																										D							
	I _{IL}	3009	39																			0.4V	5.5V				5.5V	G1	-0.7	-1.6	mA		
			40																									G2					
			41																										A				
			42																										B				
			43																										C				
44																										D							
	I _{IH1}	3010	45																			2.4V	GND					G1		60	μA		
			46																									G2					
			47																										A				
			48																										B				
			49																										C				
			50																										D				

See footnote at end of table.

TABLE III. Group A inspection for device type 01 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases J,K,Z Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit						
				Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	GND	Y11	Y12	Y13	Y14	Y15	G1	G2	D	C	B	A	V _{CC}		Min	Max							
1 T _C =+25°C	I _{IH2}	3010	51												GND						5.5V	GND					5.5V	G1		150	μA						
			52														"					GND	5.5V					5.5V	G2		"	"					
			53																										5.5V	A		"	"				
			54																										5.5V	B		"	"				
			55																										5.5V	C		"	"				
			56																										5.5V	D		"	"				
	I _{OS}	3011	57	GND																		5.5V	5.5V						Y0	-20	-70	mA					
			58		GND																		"	"					Y1	"	"	"					
			59			GND																	"	"					Y2	"	"	"					
			60				GND																"	"					Y3	"	"	"					
			61					GND															"	"					Y4	"	"	"					
			62						GND														"	"					Y5	"	"	"					
			63							GND													"	"					Y6	"	"	"					
64								GND												"	"					Y7	"	"	"								
65									GND											"	"					Y8	"	"	"								
66										GND										"	"					Y9	"	"	"								
67											GND									"	"					Y10	"	"	"								
68												GND								"	"					Y11	"	"	"								
69													GND							"	"					Y12	"	"	"								
70														GND						"	"					Y13	"	"	"								
71															GND					"	"					Y14	"	"	"								
72																GND				"	"					Y15	"	"	"								
I _{CC}	3005	73																			GND	GND	GND	GND	GND	GND	GND	VCC		62	"						
2	Same tests, terminal conditions, and limits as subgroup 1, except T _C =+125°C and V _{IC} tests are omitted.																																				
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C =-55°C and V _{IC} tests are omitted.																																				
7 T _C =+25°C	Truth table tests	3014	74	L	H	H	H	H	H	H	H	H	H	H	H	GND	H	H	H	H	H	B	B	B	B	B	B	B	5.0V	1/							
			75	H	L	L	L	L	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			76	"	H	L	L	L	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			77	"	"	L	L	L	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			78	"	"	"	L	L	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			79	"	"	"	"	L	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
			80	"	"	"	"	"	L	L	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"		
			81	"	"	"	"	"	"	"	L	L	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			82	"	"	"	"	"	"	"	"	"	L	L	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			83	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			84	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			85	"	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			87	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
			88	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"	"
89	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	L	L	"	"	"	"	"	"	"	"	"	"	"	"	"			
90	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
91	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
92	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C.																																				

See footnote at end of table.

TABLE III. Group A inspection for device type 01 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases J,K,Z Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit	
				Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	GND	Y11	Y12	Y13	Y14	Y15	G1	G2	D	C	B	A	V _{CC}		Min	Max		
9 T _C =+25°C	t _{PHL1}	3003 (Fig 4)	93	OUT											GND						GND	GND	GND	GND	GND	IN	5.0V	Y0	5	38	ns	
			94		OUT																				GND	IN	5.0V	Y1				
			95			OUT																			GND	IN	5.0V	Y2				
			96				OUT																		GND	IN	5.0V	Y3				
			97					OUT																	GND	IN	5.0V	Y4				
			98						OUT																GND	IN	5.0V	Y5				
			99							OUT															GND	IN	5.0V	Y6				
			100								OUT														GND	IN	5.0V	Y7				
			101									OUT													GND	IN	5.0V	Y8				
			102										OUT												GND	IN	5.0V	Y9				
	103											OUT											GND	IN	5.0V	Y10						
	104												OUT										GND	IN	5.0V	Y11						
	105															OUT							GND	IN	5.0V	Y12						
		t _{PHL1}	3011 (Fig 4)	106																						IN	5.0V	Y13				
	107																									IN	5.0V	Y14				
		t _{PLH1}		108		OUT																	GND	GND	GND	IN	Y1			41		
	109					OUT																			IN	IN	5.0V	Y2				
	110						OUT																			IN	GND	Y3				
	111							OUT																		GND	GND	Y4				
	112								OUT																	GND	5.0V	Y5				
	113									OUT																5.0V	GND	Y6				
	114										OUT															5.0V	IN	Y7				
	115											OUT														GND	GND	Y8				
	116												OUT													GND	5.0V	Y9				
117													OUT												5.0V	GND	Y10					
118												OUT											5.0V	GND	Y11							
119													OUT										5.0V	GND	Y12							
120																							5.0V	GND	IN	Y13						
121																							5.0V	IN	5.0V	Y14						
122																							IN	5.0V	5.0V	Y15						
	t _{PHL2}		123	OUT																			GND	GND	GND	Y0			32			
			124																				5.0V	5.0V	5.0V	Y15			32			
	t _{PLH2}		125	OUT																						Y0			35			
			126																							Y15						
	t _{PHL3}		127						OUT															GND	GND	IN	Y5					
128										OUT															IN	GND	Y6					
129											OUT														IN	5.0V	5.0V	Y7				
130												OUT													IN	GND	GND	Y8				
10 T _C =+125°C	t _{PHL1}		131	OUT																			GND	IN	Y0			49				
			132		OUT																				IN	5.0V	Y1					
			133			OUT																			IN	GND	Y2					
			134				OUT																		GND	5.0V	5.0V	Y3				
			135					OUT																	GND	5.0V	GND	Y4				
			136						OUT																	IN	5.0V	Y5				
			137							OUT																IN	5.0V	Y6				
			138								OUT															IN	5.0V	Y7				
			139									OUT														5.0V	GND	IN	Y8			
			140										OUT													GND	IN	5.0V	Y9			
			141											OUT												IN	5.0V	GND	Y10			
			142															OUT								IN	5.0V	5.0V	Y11			
			143																							5.0V	GND	IN	Y12			
			144																							IN	5.0V	Y13				
			145																							5.0V	IN	Y14				

See footnote at end of table.

TABLE III. Group A inspection for device type 01 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases J,K,Z Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit		
				Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	GND	Y11	Y12	Y13	Y14	Y15	G1	G2	D	C	B	A	V _{CC}		Min	Max			
10 T _c =+125°C	t _{PLH1}	3003 (Fig 4)	146		OUT										GND						GND	GND	GND	GND	GND	IN	5.0V	Y1	5	53	ns		
			147			OUT																	GND	GND	GND	GND	IN		Y2				
			148					OUT																			IN	5.0V	Y3				
			149						OUT																		GND		Y4				
			150							OUT																	GND	5.0V	Y5				
			151								OUT																5.0V		Y6				
			152									OUT															5.0V	5.0V	Y7				
			153										OUT															GND	GND	Y8			
			154													OUT												GND	5.0V	Y9			
			155																								5.0V	GND	Y10				
			156																OUT								5.0V	5.0V	Y11				
			157																	OUT							5.0V	GND	Y12				
			158																								5.0V	GND	Y13				
			159																								5.0V	IN	Y14				
			160																								5.0V	5.0V	Y15				
				t _{PHL2}		161	OUT																	IN		GND	GND	GND	GND	Y0		42	
						162																		OUT	GND	IN	5.0V	5.0V	5.0V	5.0V	Y15		42
	t _{PLH2}		163	OUT																	IN	GND	GND	GND	GND	GND	Y0		45				
			164																		OUT	IN	IN	5.0V	5.0V	5.0V	Y15						
			165																							GND	IN	Y5					
			166					OUT																		IN	GND	Y6					
			167							OUT																	GND	Y7					
			168									OUT														IN	5.0V	Y8					
11	Same tests, terminal conditions, and limits as subgroup 10, except T _c = -55°C.																																

See footnote at end of table.

TABLE III. Group A inspection for device type 02.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit	
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max		
1 T _C =+25°C	V _{OH}	3006	1		2.0V						GND								4.5V	1Y0	2.4		V	
			2		"							"								"	1Y1	"		"
			3		"							"								"	1Y2	"		"
			4		"							"								"	1Y3	"		"
			5						-0.8mA	-0.8mA	-0.8mA	-0.8mA	"						2.0V	"	2Y0	"		"
			6									"		-0.8mA	-0.8mA				"	"	2Y1	"		"
			7									"				-0.8mA			"	"	2Y2	"		"
			8									"					-0.8mA			"	2Y3	"		"
	V _{OL}	3007	9	2.0V	0.8V	0.8V											0.8V			"	1Y0		0.4	"
			10	"	"	0.8V											2.0V			"	1Y1	"	"	"
			11	"	"	2.0V											0.8V			"	1Y2	"	"	"
			12	"	"	2.0V			16mA	16mA	16mA	16mA					2.0V			"	1Y3	"	"	"
			13	"	"	0.8V								16mA			0.8V		0.8V	"	2Y0	"	"	"
			14	"	"	0.8V									16mA	16mA	2.0V		0.8V	"	2Y1	"	"	"
			15	"	"	2.0V										16mA	0.8V		"	"	2Y2	"	"	"
			16	"	"	2.0V											2.0V		"	"	2Y3	"	"	"
	V _{IC}		17														-12mA			"	A		-1.5	"
			18																	"	B		"	"
			19	-12mA																"	1C		"	"
			20		-12mA															"	1G		"	"
			21																	-12mA	2C		"	"
			22																		2G		"	"
	I _{IL}	3009	23														0.4V			5.5V	A	-0.7	-1.6	mA
			24																	"	B	"	"	"
25			0.4V		0.4V														"	1C	"	"	"	
26			GND																"	1G	"	"	"	
27																			0.4V	2C	"	"	"	
28																				2G	"	"	"	
I _{IH1}	3010	29			2.4V											2.4V			"	A		60	μA	
		30																	"	B		"	"	
		31	2.4V																"	1C		"	"	
		32	5.5V	2.4V															2.4V	1G		"	"	
I _{IH2}		33																	"	2C		"	"	
		34																	"	2G		"	"	
		35														5.5V			"	A		150	"	
		36																	"	B		"	"	
I _{OS}	3011	37	5.5V		5.5V														"	1C		"	"	
		38	5.5V	5.5V															"	1G		"	"	
		39																	"	2C		"	"	
		40																	"	2G		"	"	
		41		5.5V																"	1Y0	-20	-55	mA
		42		"																"	1Y1	"	"	"
		43		"																"	1Y2	"	"	"
		44		"				GND	GND	GND	GND									"	1Y3	"	"	"
I _{CC}	3005	45																	"	2Y0	"	"	"	
		46																	"	2Y1	"	"	"	
		47																	"	2Y2	"	"	"	
		48																	"	2Y3	"	"	"	
			49																VCC		35	"		

See footnote at end of table.

TABLE III. Group A inspection for device type 02 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max			
2	Same tests, terminal conditions, and limits as subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																								
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																								
7 T _C =+25°C	Truth table test	3014	50	X	A	X	H	H	H	H	GND	H	H	H	H	X	A	X	5.0V	1/					
			51	A	B	B	"	"	H	L	"	"	H	H	"	"	B	B	B	"	"				
			52	"	"	B	"	"	"	"	"	"	"	L	L	"	"	A	"	"	"	"			
			53	"	"	A	"	L	H	"	"	"	"	"	"	"	B	"	"	"	"	"			
			54	"	"	A	L	H	"	"	"	"	"	"	"	"	A	"	"	"	"	"			
			55	B	X	X	H	"	"	"	"	"	"	"	"	"	X	X	A	"	"	"			
			56	X	A	X	"	"	"	"	"	"	"	"	"	"	X	A	B	"	"	"			
			57	B	B	B	"	"	"	"	"	"	"	"	L	"	B	A	B	"	"	"			
			58	"	"	B	"	"	"	"	"	"	"	"	H	L	A	B	"	"	"	"			
			59	"	"	A	"	"	"	"	"	"	"	"	"	"	L	"	"	"	"	"			
			60	"	"	A	"	"	"	"	"	"	"	"	"	"	H	L	A	"	"	"			
			61	A	"	B	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"	"			
			62	"	"	B	"	"	"	"	"	"	"	"	"	"	"	A	"	"	"	"			
			63	"	"	A	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"	"			
64	"	"	A	L	H	H	"	"	"	"	"	"	"	"	A	"	"	"	"						
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C																								
9 T _C =+25°C	t _{PLH1}	3003 (Fig 5)	65	5.0V	IN	GND				OUT	GND					GND			5.0V	1Y0	3	25	ns		
			66	"	"	GND				OUT	"					GND			"	"	1Y1	"	"	"	
			67	"	"	5.0V	OUT	OUT	OUT	"						GND			"	"	1Y2	"	"	"	
			68	"	"	5.0V	OUT	OUT	OUT	"						GND			"	"	1Y3	"	"	"	
			69	"	"	GND						OUT				GND	IN	GND	"	"	2Y0	"	"	"	
			70	"	"	GND						OUT	OUT			GND	"	"	"	"	2Y1	"	"	"	
			71	"	"	5.0V								OUT		GND	"	"	"	"	2Y2	"	"	"	
			72	"	"	5.0V									OUT	OUT	GND	"	"	"	2Y3	"	"	"	
	t _{PHL1}			73	5.0V	IN	GND				OUT	"				GND			"	"	1Y0	"	32	"	
				74	"	"	GND					"				GND			"	"	1Y1	"	"	"	
				75	"	"	5.0V	OUT	OUT	OUT	"					GND			"	"	1Y2	"	"	"	
				76	"	"	5.0V	OUT	OUT	OUT	"					GND			"	"	1Y3	"	"	"	
	t _{PLH2}			77	"	"	GND					OUT				GND	IN	GND	"	"	2Y0	"	"	"	
				78	"	"	GND							OUT		GND	"	"	"	"	2Y1	"	"	"	
				79	"	"	5.0V								OUT	OUT	GND	"	"	"	"	2Y2	"	"	"
				80	"	"	5.0V									OUT	OUT	GND	"	"	"	2Y3	"	"	"
	t _{PLH3}			81	5.0V	GND	IN				OUT	"				GND			"	"	1Y0	"	25	"	
				82	"	"	IN					"		OUT		GND	GND	GND	"	"	2Y0	"	"	"	
				83	5.0V	GND	5.0V			OUT		"				GND	IN	GND	"	"	1Y2	"	"	"	
	t _{PHL2}			84	"	"	5.0V								OUT	IN	GND	GND	"	"	2Y2	"	"	"	
85				5.0V	GND	IN					OUT	"				GND	GND	GND	"	"	1Y0	"	32	"	
86				"	"	IN					"		OUT			GND	GND	GND	"	"	2Y0	"	"	"	
t _{PHL3}			87	5.0V	GND	5.0V			OUT	"					IN	GND	GND	"	"	1Y2	"	"	"		
			88	"	"	5.0V				"				OUT		IN	GND	GND	"	"	2Y2	"	"	"	
t _{PHL3}			89	"	"	GND				"				OUT	GND	GND	IN	"	"	2Y0	"	25	"		
			90	"	"	GND				"				OUT		GND	GND	IN	"	"	2Y0	"	32	"	

See footnote at end of table.

TABLE III. Group A inspection for device type 02 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max			
9 T _c =+25°C	t _{PLH4}	3003 (Fig 5)	91	IN	GND	GND					OUT	GND				GND			5.0V	1Y0	3	29	ns		
	t _{PHL4}		92	IN	GND	GND					OUT	"					GND			"	1Y0	"	35	"	
	t _{PLH5}		93	5.0V	GND	IN				OUT							GND				"	1Y2	"	37	"
			94			IN											GND		GND	GND	"	2Y2	"	"	"
			95	5.0V	GND	GND				OUT							IN				"	1Y1	"	"	"
			96			GND								OUT			IN		GND	GND	"	2Y1	"	"	"
	t _{PHL5}		97	5.0V	GND	IN				OUT							GND				"	1Y2	"	"	"
			98			IN											GND		GND	GND	"	2Y2	"	"	"
			99	5.0V	GND	GND				OUT							IN				"	1Y1	"	"	"
			100			"								OUT			IN		GND	GND	"	2Y1	"	"	"
10 T _c =+125°C	t _{PHL1}	101	5.0V	IN	"					OUT	"					GND			"	1Y0	"	33	"		
		102	"	"	"						"					GND			"	1Y1	"	"	"		
		103	"	"	5.0V			OUT	OUT	OUT	"					GND			"	1Y2	"	"	"		
		104	"	"	5.0V						"					5.0V			"	1Y3	"	"	"		
		105	"	"	GND						"		OUT			GND		IN	GND	"	2Y0	"	"	"	
		106	"	"	GND						"			OUT		5.0V		"	"	"	2Y1	"	"	"	
		107	"	"	5.0V						"				OUT	GND		"	"	"	2Y2	"	"	"	
		108	"	"	5.0V						"				OUT	5.0V		"	"	"	2Y3	"	"	"	
	t _{PHL1}	109	5.0V	IN	GND						OUT	"				GND				"	1Y0	"	42	"	
		110	"	"	GND						"					5.0V				"	1Y1	"	"	"	
		111	"	"	5.0V				OUT	OUT	"					GND				"	1Y2	"	"	"	
		112	"	"	5.0V			OUT	OUT	OUT	"					5.0V		IN	GND	"	1Y3	"	"	"	
	t _{PLH2}	113	"	"	GND						"					GND				"	2Y0	"	"	"	
		114	"	"	GND						"		OUT			5.0V		"	"	"	2Y1	"	"	"	
		115	"	"	5.0V						"					GND		"	"	"	2Y2	"	"	"	
		116	"	"	5.0V						"				OUT	5.0V		"	"	"	2Y3	"	"	"	
	t _{PLH2}	117	5.0V	GND	IN						OUT	"				GND				"	1Y0	"	33	"	
		118	"		IN						"					GND		GND	GND	"	2Y0	"	"	"	
		119	5.0V	GND	5.0V				OUT		"					IN				"	1Y2	"	"	"	
		120	"		5.0V						"				OUT	IN		GND	GND	"	2Y2	"	"	"	
t _{PHL2}	121	5.0V	GND	IN						OUT	"				GND				"	1Y0	"	42	"		
	122	"		IN						"					GND		GND	GND	"	2Y0	"	"	"		
	123	5.0V	GND	5.0V				OUT		"					IN				"	1Y2	"	"	"		
	124	"		5.0V						"					IN		GND	GND	"	2Y2	"	"	"		
	125	"		GND						"		OUT			GND			IN	"	2Y0	"	33	"		
	126	"		"						"		OUT			"			IN	"	2Y0	"	42	"		
	127	"	IN	GND	"					OUT	"				"				"	1Y0	"	38	"		
	128	IN	GND	"						OUT	"				"				"	1Y0	"	46	"		

See footnote at end of table.

TABLE III. Group A inspection for device type 02 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max	
10 T _C =+125°C	t _{PLH5}	3003 (Fig 4)	129	5.0V	GND	IN		OUT			GND			OUT		GND	GND	GND	5.0V	1Y2	3	48	ns
			130	5.0V	GND	IN			OUT		"			OUT		GND	GND	GND	"	2Y2	"	"	"
			131			GND						"			OUT		GND	GND	GND	"	1Y1	"	"
	132				GND						"			OUT		GND	GND	GND	"	2Y2	"	"	"
	t _{PHL5}		133	5.0V	GND	IN		OUT			"		OUT		GND	GND	GND	"	1Y2	"	"	"	
			134			IN					"				GND	GND	GND	"	2Y2	"	"	"	
			135	5.0V	GND	IN		OUT			"			OUT		GND	GND	GND	"	1Y1	"	"	"
			136			GND					"		OUT		GND	GND	GND	"	2Y2	"	"	"	
11	Same tests, terminal conditions, and limits as subgroup 10, except T _C = -55°C.																						

See footnote at end of table.

TABLE III. Group A inspection for device type 03.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit			
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max				
1 T _C =+25°C	I _{CEX}		1		2.0V						GND								4.5V	1Y0		250	μA			
			2		"							"								"	1Y1		"	"		
			3		"							"								"	1Y2		"	"		
			4		"							"								"	1Y3		"	"		
			5						5.5V	5.5V	5.5V									"	2Y0		"	"		
			6											5.5V						"	2Y1		"	"		
			7												5.5V	5.5V				"	2Y2		"	"		
			8														5.5V			"	2Y3		"	"		
	V _{OL}	3007		9	2.0V	0.8V	0.8V										0.8V				1Y0		0.4	V		
				10	"	"	0.8V											2.0V				1Y1		"	"	
				11	"	"	2.0V											0.8V				1Y2		"	"	
				12	"	"	2.0V			16mA	16mA	16mA						2.0V				1Y3		"	"	
				13	"	"	0.8V											0.8V		0.8V	0.8V	2Y0		"	"	
				14	"	"	0.8V								16mA	16mA		2.0V		"	"	2Y1		"	"	
				15	"	"	2.0V									16mA	16mA	0.8V		"	"	2Y2		"	"	
				16	"	"	2.0V											2.0V		"	"	2Y3		"	"	
	V _{IC}			17													-12mA				A		-1.5	"		
				18																		B		"	"	
				19	-12mA																	1C		"	"	
				20			-12mA																1G		"	"
				21																			2C		"	"
				22																			2G		"	"
I _{IL}	3009		23																	5.5V	A	-0.7	-1.6	mA		
			24																		B		"	"		
			25	0.4V		0.4V																1C		"	"	
			26	GND																		1G		"	"	
			27																			2C		"	"	
			28																			2G		"	"	
I _{IH1}	3010		29																		A		60	μA		
			30																		B		"	"		
			31	2.4V		2.4V																1C		"	"	
			32	5.5V																		1G		"	"	
I _{IH2}			33																		2C		"	"		
			34																			2G		"	"	
			35																			A		150	"	
			36																			B		"	"	
I _{CC}	3005	41	37	5.5V		5.5V															1C		"	"		
			38	5.5V																		1G		"	"	
			39																			2C		"	"	
			40																			2G		"	"	
2		3005	41		GND															VCC		35	mA			
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																									
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																									

See footnote at end of table.

TABLE III. Group A inspection for device type 03 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max			
7 T _C =+25°C	Truth table test	3014	42	X	A	X	H	H	H	H	GND	H	H	H	H	X	A	X	5.0V	1/					
			43	A	B	B	"	"	H	L	"	"	L	H	"	"	A	B	B	"	"				
			44	"	"	B	"	"	"	"	"	"	"	"	"	"	B	"	"	"	"	"			
			45	"	"	A	"	"	"	"	"	"	"	"	"	"	A	"	"	"	"	"			
			46	"	"	A	"	"	L	H	"	"	"	"	"	"	A	"	"	"	"	"			
			47	B	X	X	H	"	"	"	"	"	"	"	"	"	X	X	A	"	"	"			
			48	X	A	X	"	"	"	"	"	"	"	"	"	"	X	X	A	"	"	"			
			49	B	B	B	"	"	"	"	"	"	"	"	"	"	B	A	B	"	"	"			
			50	"	"	B	"	"	"	"	"	"	"	"	"	"	A	"	"	"	"	"			
			51	"	"	A	"	"	"	"	"	"	"	"	"	"	B	"	"	"	"	"			
			52	"	"	A	"	"	"	"	"	"	"	"	"	"	A	"	"	"	"	"			
			53	A	"	B	"	"	"	"	"	"	"	"	"	"	H	"	"	"	"	"			
			54	"	"	B	"	"	"	"	"	"	"	"	"	"	H	"	"	"	"	"			
			55	"	"	A	"	"	"	"	L	H	"	"	"	"	"	"	"	"	"	"			
56	"	"	A	"	"	"	L	H	H	"	"	"	"	"	A	"	"	"	"						
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C.																								
9 T _C =+25°C	t _{PLH1}	3003 (Fig 6)	57	5.0V	IN	GND				OUT	GND					GND			5.0V	1Y0	3	33	ns		
			58	"	"	GND				OUT	"	"				5.0V	GND			"	1Y1	"	"	"	
			59	"	"	5.0V				OUT	"	"				5.0V	GND			"	1Y2	"	"	"	
			60	"	"	5.0V				OUT	"	"				5.0V	GND			"	1Y3	"	"	"	
			61	"	"	GND					"	"	OUT			5.0V	GND			"	2Y0	"	"	"	
			62	"	"	GND					"	"		OUT		5.0V	GND			"	2Y1	"	"	"	
	63	"	"	5.0V					"	"			OUT	5.0V	GND			"	2Y2	"	"	"			
	64	"	"	5.0V					"	"			OUT	5.0V	GND			"	2Y3	"	"	"			
	65	5.0V	IN	GND						OUT	"				GND			"	1Y0	"		40	"		
	66	"	"	GND						OUT	"				5.0V	GND			"	1Y1	"	"	"		
	67	"	"	5.0V						OUT	"				5.0V	GND			"	1Y2	"	"	"		
	68	"	"	5.0V						OUT	"				5.0V	GND			"	1Y3	"	"	"		
	69	"	"	GND							"	OUT			GND				"	2Y0	"	"	"		
	70	"	"	GND							"		OUT		5.0V	GND			"	2Y1	"	"	"		
71	"	"	5.0V							"			OUT	GND				"	2Y2	"	"	"			
72	"	"	5.0V							"			OUT	5.0V	GND			"	2Y3	"	"	"			
73	5.0V	GND	IN							OUT	"			GND				"	1Y0	"		33	"		
74	"	"	IN								"			IN				"	2Y0	"	"	"			
75	5.0V	GND	5.0V						OUT	"					GND			"	1Y2	"	"	"			
76	"	"	5.0V							"				IN				"	2Y2	"	"	"			
77	5.0V	GND	IN							OUT	"				GND			"	1Y0	"		40	"		
78	"	"	IN								"			GND				"	2Y0	"	"	"			
79	5.0V	GND	5.0V						OUT	"					GND			"	1Y2	"	"	"			
80	"	"	5.0V							"				IN				"	2Y2	"	"	"			
81			GND							"		OUT			GND			"	2Y0	"		33	"		
82			"							"		OUT			"			"	2Y0	"		40	"		
83			"							"			OUT		"			"	1Y0	"		37	"		
84			IN							"		OUT			"			"	1Y0	"		43	"		

See footnote at end of table.

TABLE III. Group A inspection for device type 03 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit	
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max		
9 T _C =+25°C	t _{PLH5}	3003 (Fig 6)	85	5.0V	GND	IN		OUT			GND					GND	GND	GND	5.0V	1Y2	3	44	ns	
			86	5.0V	GND	IN											GND	GND	GND	"	2Y2	"	"	"
			87			GND				OUT			"							"	"	1Y1	"	"
	88				GND							"		OUT					"	"	2Y1	"	"	"
	t _{PHL5}		89	5.0V	GND	IN				OUT			"				GND	GND	GND	"	1Y2	"	"	"
			90			IN							"				GND	GND	GND	"	2Y2	"	"	"
91		5.0V	GND	IN				OUT			"							"	"	1Y1	"	"	"	
92			GND							"		OUT					"	"	2Y1	"	"	"		
10 T _C =+125°C	t _{PLH1}	93	5.0V	IN	"				OUT	OUT	"					GND			"	1Y0	"	43	"	
		94	"	"	"						"					5.0V			"	1Y1	"	"	"	
		95	"	"	5.0V				OUT	OUT	OUT	"				GND			"	1Y2	"	"	"	
		96	"	"	5.0V			OUT			"					5.0V			"	1Y3	"	"	"	
		97	"	"	GND						"		OUT			GND		IN	GND	"	2Y0	"	"	"
		98	"	"	GND						"			OUT		5.0V		"	"	"	2Y1	"	"	"
		99	"	"	5.0V						"				OUT	GND		"	"	"	2Y2	"	"	"
		100	"	"	5.0V						"					5.0V		"	"	"	2Y3	"	"	"
		t _{PHL1}	101	5.0V	IN	GND					OUT	OUT	"				GND			"	1Y0	"	52	"
			102	"	"	GND						"					5.0V			"	1Y1	"	"	"
	103		"	"	5.0V				OUT	OUT	OUT	"				GND			"	1Y2	"	"	"	
	104		"	"	5.0V			OUT			"					5.0V		IN	GND	"	1Y3	"	"	"
	105		"	"	GND						"		OUT			GND		"	"	"	2Y0	"	"	"
	106		"	"	GND						"			OUT		5.0V		"	"	"	2Y1	"	"	"
	107		"	"	5.0V						"				OUT	GND		"	"	"	2Y2	"	"	"
	108		"	"	5.0V						"					5.0V		"	"	"	2Y3	"	"	"
	t _{PLH2}	109	5.0V	GND	IN					OUT		"				GND			"	1Y0	"	43	"	
		110			IN						"		OUT			GND		GND	"	2Y0	"	"	"	
		111	5.0V	GND	5.0V				OUT		"					IN		GND	"	1Y2	"	"	"	
		112			5.0V						"					IN		GND	"	2Y2	"	"	"	
t _{PHL2}	113	5.0V	GND	IN					OUT		"				GND			"	1Y0	"	52	"		
	114			IN						"		OUT			GND		GND	"	2Y0	"	"	"		
	115	5.0V	GND	5.0V				OUT		"					IN		GND	"	1Y2	"	"	"		
	116			5.0V						"					IN		GND	"	2Y2	"	"	"		
t _{PLH3}	117			GND					"		OUT				GND	GND	IN	"	2Y0	"	43	"		
t _{PHL3}	118			"					"						GND	GND	IN	"	2Y0	"	52	"		
t _{PHL4}	119	IN	GND	"						"		OUT			GND			"	1Y0	"	48	"		
t _{PHL4}	120	IN	GND	"						"		OUT			GND			"	1Y0	"	56	"		

See footnote at end of table.

TABLE III. Group A inspection for device type 03 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit
				1C	1G	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G	2C	V _{CC}		Min	Max	
10 T _C =+125°C	t _{PLH5}	3003 (Fig 6)	121	5.0V	GND	IN		OUT			GND			OUT		GND	GND	GND	5.0V	1Y2	3	57	ns
			122	5.0V	GND	IN						"			OUT		GND	GND	"	2Y2	"	"	"
			123			GND	IN					"					GND	GND	"	1Y1	"	"	"
			124			GND	GND					"			OUT		GND	GND	"	2Y1	"	"	"
10 T _C =+125°C	t _{PHL5}	3003 (Fig 6)	125	5.0V	GND	IN		OUT			"			OUT		GND	GND	GND	"	1Y2	"	"	"
			126	5.0V	GND	IN						"			OUT		GND	GND	"	2Y2	"	"	"
			127			GND	IN					"					GND	GND	"	1Y1	"	"	"
			128			GND	GND					"			OUT		GND	GND	"	2Y1	"	"	"
11	Same tests, terminal conditions, and limits as subgroup 10, except T _C = -55°C.																						

See footnote at end of table.

TABLE III. Group A inspection for device type 04.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases A,B,D	5	6	7	8	9	10	11	12	13	14	1	2	3	4	Measured terminal	Limits		Unit		
				Case C	1	2	3	4	5	6	7	8	9	10	11	12	13		14	Min		Max	
				Test no.	A	C	D	Y5	Y6	Y7	GND	Y4	Y3	Y2	Y1	Y0	B		V _{CC}				
1 T _C =+25°C	V _{OH}	3006	1	2.0V	2.0V	2.0V				GND								Y0	2.4		V		
			2	"	"	"				"									Y1	"		"	
			3	"	"	"				"									Y2	"		"	
			4	"	"	"				"									Y3	"		"	
			5	"	"	"				"									Y4	"		"	
			6	"	"	"				"									Y5	"		"	
			7	"	"	"				"									Y6	"		"	
			8	"	"	"				"									Y7	"		"	
	V _{OL}	3007	9	9	0.8V	0.8V	0.8V				"								Y0		0.4	"	
				10	2.0V	"	"				"									Y1	"	"	"
				11	0.8V	"	"				"									Y2	"	"	"
				12	2.0V	"	"				"									Y3	"	"	"
				13	0.8V	2.0V	"				"									Y4	"	"	"
				14	2.0V	"	"	16mA			"									Y5	"	"	"
				15	0.8V	"	"	"	16mA		"									Y6	"	"	"
				16	2.0V	"	"	"	"	16mA		"								Y7	"	"	"
	V _{IC}			17	-12mA					"									A		-1.5	"	
				18		-12mA				"									B		"	"	
				19			-12mA			"									C		"	"	
				20						"									D		"	"	
I _{IL}	3009		21	0.4V					"									A	-4	-1.3	mA		
			22							"								B	"	"	"		
			23		0.4V					"									C	"	"	"	
			24			0.4V				"									D	"	"	"	
I _{IH1}	3010		25	2.4V					"									A		60	μA		
			26							"								B		"	"		
			27		2.4V					"									C		"	"	
			28			2.4V				"									D		"	"	
I _{IH2}			29	5.5V					"									A		150	"		
			30							"								B		"	"		
			31		5.5V					"									C		"	"	
			32			5.5V				"									D		"	"	
I _{OS}	3011		33	5.5V	5.5V	"			"									Y0	-10	-55	mA		
			34	"	"	"				"								Y1	"	"	"		
			35	"	"	"				"									Y2	"	"	"	
			36	"	"	"				"									Y3	"	"	"	
			37	"	"	"				"									Y4	"	"	"	
			38	"	"	"	GND			"			GND	GND	GND				Y5	"	"	"	
			39	"	"	"		GND		"									Y6	"	"	"	
40	"	"	"			GND		"								Y7	"	"	"				
I _{CC}	3005	41				GND													25	"			

See footnote at end of table.

TABLE III. Group A inspection for device type 04 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases A,B,D	5	6	7	8	9	10	11	12	13	14	1	2	3	4	Measured terminal	Limits		Unit		
			Case C	1	2	3	4	5	6	7	8	9	10	11	12	13	14		Min	Max			
			Test no.	A	C	D	Y5	Y6	Y7	GND	Y4	Y3	Y2	Y1	Y0	B	V _{CC}						
2	Same tests, terminal conditions, and limits as subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																						
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																						
7	Truth table test	3014	42	B	B	B	H	H	H	GND	H	H	H	H	L	B	5.0V	1/					
			43	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			44	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			45	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"				
			46	B	A	"	"	"	"	"	"	"	L	H	"	"	"	"	"				
			47	A	"	"	"	"	L	"	"	"	H	"	"	"	"	"	"				
			48	B	"	"	"	H	"	"	"	"	"	"	"	"	"	"	"				
			49	A	"	"	"	"	"	L	H	"	"	"	"	"	"	"	"				
			50	B	B	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			51	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			52	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			53	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			54	B	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
			55	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
56	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"						
57	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"						
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C.																						
9	t _{PHL1}	3003 (Fig 7)	58	IN	GND	GND				GND					OUT		5.0V	Y0	5	37	ns		
			59	5.0V	GND	"				"					OUT			"	Y1	"	"	"	
			60	GND	IN	"				"					OUT			"	Y2	"	"	"	
			61	5.0V	GND	IN				"					OUT			"	Y3	"	"	"	
			62	IN	5.0V	GND				"		OUT	OUT					"	Y4	"	"	"	
			63	5.0V	"	"			OUT			"						"	Y5	"	"	"	
			64	IN	"	"			OUT			"						"	Y6	"	"	"	
	65		5.0V	"	"			OUT			"						"	Y7	"	"	"		
	t _{PLH1}		66	IN	GND	GND					"					OUT		"	Y0	"	"	"	
			67	5.0V	GND	"					"					OUT		"	Y1	"	"	"	
			68	GND	IN	"					"					OUT		"	Y2	"	"	"	
			69	5.0V	GND	IN					"					OUT		"	Y3	"	"	"	
			70	IN	5.0V	GND					"		OUT	OUT				"	Y4	"	"	"	
			71	5.0V	"	"			OUT			"						"	Y5	"	"	"	
72		IN	"	"			OUT			"						"	Y6	"	"	"			
73	5.0V	"	"			OUT			"						"	Y7	"	"	"				
t _{PHL2}	74	IN	GND	GND					"					OUT		"	Y1	"	42	"			
	75	5.0V	GND	"					"					OUT		"	Y3	"	"	"			
	76	5.0V	IN	"			OUT			"						"	Y5	"	"	"			
t _{PLH2}	77	IN	GND	GND					"					OUT		"	Y1	"	"	"			
	78	5.0V	GND	"					"					OUT		"	Y3	"	"	"			
	79	5.0V	IN	"			OUT			"						"	Y5	"	"	"			

See footnote at end of table.

TABLE III. Group A inspection for device type 04 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases A,B,D														Measured terminal	Limits		Unit		
			5	6	7	8	9	10	11	12	13	14	1	2	3	4		Min	Max			
			Case C	1	2	3	4	5	6	7	8	9	10	11	12	13		14				
Test no.	A	C	D	Y5	Y6	Y7	GND	Y4	Y3	Y2	Y1	Y0	B	V _{CC}								
10 T _C =+125°C	t _{PHL1}	3003 (Fig 7)	80	IN	GND	GND				GND				OUT	OUT	OUT	GND	5.0V	Y0	5	48	ns
			81	5.0V	GND	"				"			OUT				IN	"	Y1	"	"	"
			82	GND	IN	"				"							5.0V	"	Y2	"	"	"
			83	5.0V	GND	IN				"			OUT	OUT			5.0V	"	Y3	"	"	"
			84	IN	5.0V	GND				"		OUT					GND	"	Y4	"	"	"
			85	5.0V	"	"			OUT	"							IN	"	Y5	"	"	"
			86	IN	"	"			OUT	"	OUT						5.0V	"	Y6	"	"	"
	87		5.0V	"	IN			OUT	"							5.0V	"	Y7	"	"	"	
	t _{PLH1}		88	IN	GND	GND			"							OUT	GND	"	Y0	"	"	"
			89	5.0V	GND	"			"								IN	"	Y1	"	"	"
			90	GND	IN	"				"			OUT	OUT			5.0V	"	Y2	"	"	"
			91	5.0V	GND	IN				"		OUT					5.0V	"	Y3	"	"	"
			92	IN	5.0V	GND				"			OUT				GND	"	Y4	"	"	"
			93	5.0V	"	"			OUT	"							IN	"	Y5	"	"	"
			94	IN	"	"			OUT	"							5.0V	"	Y6	"	"	"
	95		5.0V	"	IN			OUT	"							5.0V	"	Y7	"	"	"	
t _{PHL2}	96	IN	GND	GND			"							OUT	GND	"	Y1	"	53	"		
	97	5.0V	GND	"			"							OUT	IN	"	Y3	"	"	"		
	98	5.0V	IN	"			OUT	"							GND	"	Y5	"	"	"		
t _{PLH2}	99	IN	GND	"			"							OUT	GND	"	Y1	"	"	"		
	100	5.0V	GND	"			"								IN	"	Y3	"	"	"		
	101	5.0V	IN	"			OUT	"							GND	"	Y5	"	"	"		
11	Same tests, terminal conditions, and limits as subgroup 10, except T _C = -55°C.																					

See footnote at end of table.

TABLE III. Group A inspection for device type 05.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max			
1 T _C =+25°C	V _{OH}	3006	1	2.0V	2.0V						GND						2.0V	2.0V	4.5V	Y0	2.4		V		
			2	"	"							"						"	"	"	Y1	"		"	
			3	"	"							"						"	"	"	Y2	"		"	
			4	"	"							"						"	"	"	Y3	"		"	
			5	"	"							"						"	"	"	Y4	"		"	
			6	"	"							"						"	"	"	Y5	"		"	
			7	"	"			-0.8mA	-0.8mA			"						"	"	"	Y6	"		"	
			8	"	"					-0.8mA			"					"	"	"	Y7	"		"	
			9	"	"						-0.8mA		"					"	"	"	Y8	"		"	
			10	"	"							-0.8mA						"	"	0.8V	Y9	"		"	
	V _{OL}	3007	3007	11	0.8V	0.8V						"						0.8V	0.8V	"	Y0		0.4	"	
				12	"	"							"						0.8V	2.0V	"	Y1		"	"
				13	"	"							"						2.0V	0.8V	"	Y2		"	"
				14	"	"							"						2.0V	2.0V	"	Y3		"	"
				15	2.0V	"							"						0.8V	0.8V	"	Y4		"	"
				16	"	"			16mA				"						0.8V	2.0V	"	Y5		"	"
				17	"	"				16mA			"						2.0V	0.8V	"	Y6		"	"
				18	"	"					16mA		"						2.0V	2.0V	"	Y7		"	"
				19	0.8V	2.0V						16mA		"					0.8V	0.8V	"	Y8		"	"
				20	0.8V	2.0V							16mA						0.8V	2.0V	"	Y9		"	"
	V _{IC}			21							"								-12mA	"	A		-1.5	"	
				22								"								-12mA	"	B		"	"
				23	-12mA							"									"	C		"	"
				24		-12mA						"										"	D		"
I _{IL}	3009	3009	25							"							0.4V	0.4V	5.5V	A	-0.4	-1.3	mA		
			26							"								0.4V	0.4V	"	B		"	"	
			27	0.4V							"									"	C		"	"	
			28		0.4V						"										"	D		"	
I _{IH1}	3010	3010	29							"							2.4V	2.4V	"	A		60	μA		
			30								"							2.4V	2.4V	"	B		"	"	
			31	2.4V							"									"	C		"	"	
			32		2.4V						"										"	D		"	
I _{IH2}	3010	3010	33							"								5.5V	5.5V	"	A		150	"	
			34								"								5.5V	5.5V	"	B		"	"
			35	5.5V							"									"	C		"	"	
			36		5.5V						"									"	D		"		
I _{OS}	3011	3011	37	5.5V	"						"						5.5V	5.5V	"	Y0	-10	-55	mA		
			38	"	"						"							"	"	"	Y1	"	"	"	
			39	"	"							"						"	"	"	Y2	"	"	"	
			40	"	"							"						"	"	"	Y3	"	"	"	
			41	"	"							"						"	"	"	Y4	"	"	"	
			42	"	"			GND				"						"	"	"	Y5	"	"	"	
			43	"	"				GND			"						"	"	"	Y6	"	"	"	
			44	"	"					GND		"						"	"	"	Y7	"	"	"	
			45	"	"						GND		"					"	"	"	Y8	"	"	"	
			46	"	"							GND						"	GND	"	Y9	"	"		
I _{CC}	3005	47		GND						"								"	VCC		34	"			

See footnote at end of table.

TABLE III. Group A inspection for device type 05 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit				
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max					
2	Same tests, terminal conditions, and limits as subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																										
7	Truth table test	3014	48	B	B	H	H	H	H	H	GND	H	H	H	H	L	B	B	5.0V	1/							
			49	"	"	"	"	"	"	"	"	"	"	"	H	L	H	B	A	"	"						
			50	"	"	"	"	"	"	"	"	"	"	"	H	L	"	A	B	"	"						
			51	"	"	"	"	"	"	"	"	"	"	"	H	"	"	A	A	"	"						
			52	A	"	"	"	"	"	"	"	"	"	"	L	H	"	B	B	"	"						
			53	"	"	L	"	"	"	"	"	"	"	"	H	"	"	B	A	"	"						
			54	"	"	H	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			55	"	"	"	L	H	"	"	"	"	"	"	"	"	"	A	A	"	"						
			56	B	A	"	"	"	"	"	"	"	"	"	"	"	"	"	B	B	"	"					
			57	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"					
			58	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"					
			59	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	A	"	"					
			60	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	B	"	"					
61	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	A	"	"								
62	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"								
63	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	A	"	"								
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C.																										
9	t _{PHL1}	3003 (Fig 7)	64	GND	GND						GND					OUT	GND	IN	5.0V	Y0	5	37	ns				
			65	GND	"						"						OUT	IN	5.0V	"	Y1	"	"	"			
			66	IN	"						"						OUT	5.0V	GND	"	Y2	"	"	"			
			67	GND	IN						"						OUT	5.0V	5.0V	"	Y3	"	"	"			
			68	5.0V	GND	OUT					"						OUT	GND	IN	"	Y4	"	"	"			
			69	"	GND	OUT					"						OUT	IN	5.0V	"	Y5	"	"	"			
			70	"	IN	OUT					"						OUT	5.0V	GND	"	Y6	"	"	"			
			71	"	IN	OUT					"						OUT	5.0V	5.0V	"	Y7	"	"	"			
			72	GND	5.0V	OUT					"						OUT	GND	IN	"	Y8	"	"	"			
			73	"	5.0V	OUT					"						OUT	IN	5.0V	"	Y9	"	"	"			
			t _{PLH1}			74	"	GND						"					OUT	GND	IN	"	Y0	"	"	"	
						75	"	"						"						OUT	IN	5.0V	"	Y1	"	"	"
	76	IN				"						"						OUT	5.0V	GND	"	Y2	"	"	"		
	77	GND				IN						"						OUT	5.0V	5.0V	"	Y3	"	"	"		
	78	5.0V				GND	OUT					"						OUT	GND	IN	"	Y4	"	"	"		
	79	"				GND	OUT					"						OUT	IN	5.0V	"	Y5	"	"	"		
	80	"				IN	OUT					"						OUT	5.0V	GND	"	Y6	"	"	"		
	81	"				IN	OUT					"						OUT	5.0V	5.0V	"	Y7	"	"	"		
	82	GND				5.0V	OUT					"						OUT	GND	IN	"	Y8	"	"	"		
	83	"				5.0V	OUT					"						OUT	IN	5.0V	"	Y9	"	"	"		
	t _{PHL2}						84	"	GND						"					OUT	GND	IN	"	Y1	"	42	"
							85	"	"						"						OUT	IN	5.0V	"	Y3	"	"
			86	IN	"		OUT					"						OUT	GND	"	"	Y5	"	"	"		
			87	5.0V	IN		OUT					"						OUT	5.0V	"	"	Y9	"	"	"		
88			GND	GND	OUT						"						OUT	GND	IN	"	Y1	"	"	"			
89			IN	"	OUT						"						OUT	IN	5.0V	"	Y3	"	"	"			
90	IN	"	OUT					"						OUT	GND	"	"	Y5	"	"	"						
91	5.0V	IN	OUT					"						OUT	5.0V	"	"	Y9	"	"	"						

See footnote at end of table.

TABLE III. Group A inspection for device type 05 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit			
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max				
10 T _c =+125°C	t _{PHL1}	3003 (Fig 7)	92	GND	GND						GND					OUT	GND	IN	5.0V	Y0	5	48	ns			
			93	GND	"							"						IN	5.0V	"	Y1	"	"	"		
			94	IN	"							"						5.0V	GND	"	Y2	"	"	"	"	
			95	GND	IN							"						5.0V	5.0V	"	Y3	"	"	"	"	
			96	5.0V	GND	OUT						"	OUT					GND	IN	"	Y4	"	"	"	"	
			97	"	GND							"						IN	5.0V	"	Y5	"	"	"	"	
			98	"	IN	OUT						"						5.0V	GND	"	Y6	"	"	"	"	
			99	"	IN							"						5.0V	5.0V	"	Y7	"	"	"	"	
			100	GND	5.0V	OUT						"						GND	IN	"	Y8	"	"	"	"	"
			101	"	5.0V							"						IN	5.0V	"	Y9	"	"	"	"	"
	t _{PLH1}		102	"	GND							"						GND	IN	"	Y0	"	"	"	"	
			103	"	"							"						IN	5.0V	"	Y1	"	"	"	"	
			104	IN	"							"						5.0V	GND	"	Y2	"	"	"	"	
			105	GND	IN							"						5.0V	5.0V	"	Y3	"	"	"	"	
			106	5.0V	GND	OUT						"	OUT					GND	IN	"	Y4	"	"	"	"	
			107	"	GND							"						IN	5.0V	"	Y5	"	"	"	"	
			108	"	IN	OUT						"						5.0V	GND	"	Y6	"	"	"	"	
			109	"	IN							"						5.0V	5.0V	"	Y7	"	"	"	"	
			110	GND	5.0V	OUT						"						GND	IN	"	Y8	"	"	"	"	"
			111	"	5.0V							"						IN	5.0V	"	Y9	"	"	"	"	"
t _{PHL2}	112	"	GND							"						GND	IN	"	Y1	"	53	"	"			
	113	"	"							"						IN	5.0V	"	Y3	"	"	"	"			
	114	IN	"	OUT						"						GND	"	"	Y5	"	"	"	"			
	115	5.0V	IN							"						5.0V	"	"	Y9	"	"	"	"			
t _{PLH2}	116	GND	GND							"						GND	IN	"	Y1	"	"	"	"			
	117	GND	"							"						IN	5.0V	"	Y3	"	"	"	"			
	118	IN	"	OUT						"						GND	"	"	Y5	"	"	"	"			
	119	5.0V	IN							"						5.0V	"	"	Y9	"	"	"	"			
11	Same tests, terminal conditions, and limits as subgroup 10, except T _c = -55°C.																									

See footnote at end of table.

TABLE III. Group A inspection for device type 06.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max			
1 T _C =+25°C	V _{OH}	3006	1	2.0V	2.0V						GND						2.0V	2.0V	4.5V	Y0	2.4		V		
			2	"	"							"						"	"	"	Y1	"		"	
			3	"	"							"						"	"	"	Y2	"		"	
			4	"	"							"						"	"	"	Y3	"		"	
			5	"	"							"						"	"	"	Y4	"		"	
			6	"	"							"						"	"	"	Y5	"		"	
			7	"	"			-0.8mA	-0.8mA			"						"	"	"	Y6	"		"	
			8	"	"					-0.8mA			"					"	"	"	Y7	"		"	
			9	"	"						-0.8mA		"					"	"	"	Y8	"		"	
			10	"	"							-0.8mA						"	"	"	Y9	"		"	
	V _{OL}	3007	3007	11	0.8V	0.8V						"						0.8V	0.8V	"	Y0		0.4	"	
				12	"	"							"						0.8V	2.0V	"	Y1		"	"
				13	"	"							"						2.0V	0.8V	"	Y2		"	"
				14	"	"							"						2.0V	2.0V	"	Y3		"	"
				15	2.0V	"							"						0.8V	0.8V	"	Y4		"	"
				16	"	"			16mA				"						0.8V	2.0V	"	Y5		"	"
				17	"	"				16mA			"						2.0V	0.8V	"	Y6		"	"
				18	"	"					16mA		"						2.0V	2.0V	"	Y7		"	"
				19	0.8V	2.0V						16mA		"					0.8V	0.8V	"	Y8		"	"
				20	0.8V	2.0V							16mA						0.8V	2.0V	"	Y9		"	"
	V _{IC}			21							"								-12mA	"	A		-1.5	"	
				22								"								-12mA	"	B		"	"
				23	-12mA							"									"	C		"	"
				24		-12mA						"									"	D		"	"
I _{IL}	3009		25							"							0.4V	0.4V	5.5V	A	-0.7	-1.6	mA		
			26								"									"	B		"	"	
			27	0.4V							"									"	C		"	"	
			28		0.4V						"									"	D		"	"	
I _{IH1}	3010		29							"							2.4V	2.4V	"	A		60	μA		
			30								"								"	B		"	"		
			31	2.4V							"									"	C		"	"	
			32		2.4V						"									"	D		"	"	
I _{IH2}			33							"										A		150	"		
			34								"									"	B		"	"	
			35	5.5V							"							5.5V	5.5V	"	C		"	"	
			36		5.5V						"									"	D		"	"	
I _{OS}	3011		37	5.5V	"						"						5.5V	5.5V	"	Y0	-10	-55	mA		
			38	"	"						"							"	"	"	Y1	"	"	"	
			39	"	"						"							"	"	"	Y2	"	"	"	
			40	"	"						"							"	"	"	Y3	"	"	"	
			41	"	"						"							"	"	"	Y4	"	"	"	
			42	"	"			GND			"							"	"	"	Y5	"	"	"	
			43	"	"				GND		"							"	"	"	Y6	"	"	"	
			44	"	"					GND	"							"	"	"	Y7	"	"	"	
			45	"	"						GND	"						"	"	"	Y8	"	"	"	
			46	"	"							GND	"					"	"	"	Y9	"	"	"	
I _{CC}	3005	47		GND						"								"	VCC		44	"			

See footnote at end of table.

TABLE III. Group A inspection for device type 06 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit				
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max					
2	Same tests, terminal conditions, and limits as subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																										
7 T _C =+25°C	Truth table test	3014	48	B	B	H	H	H	H	H	GND	H	H	H	H	L	B	B	5.0V	1/							
			49	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
			50	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			51	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			52	A	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
			53	"	"	L	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
			54	"	"	H	L	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			55	"	"	"	H	L	"	"	"	"	"	"	"	"	"	A	B	"	"						
			56	B	A	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
			57	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
			58	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			59	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"						
			60	A	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"						
61	"	"	"	"	"	"	"	"	"	"	"	"	"	"	B	A	"	"									
62	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	B	"	"									
63	"	"	"	"	"	"	"	"	"	"	"	"	"	"	A	A	"	"									
8	Repeat subgroup 7 at T _C = +125°C and T _C = -55°C.																										
9 T _C =+25°C	t _{PHL1}	3003 (Fig 7)	64	GND	GND						GND					OUT	GND	IN	5.0V	Y0	5	37	ns				
			65	GND	"						"						OUT	IN	5.0V	"	Y1	"	"	"			
			66	IN	"						"						OUT	5.0V	GND	"	Y2	"	"	"			
			67	GND	IN						"						OUT	5.0V	5.0V	"	Y3	"	"	"			
			68	5.0V	GND	OUT					"	OUT					OUT	GND	IN	"	Y4	"	"	"			
			69	"	GND	OUT					"						OUT	IN	5.0V	"	Y5	"	"	"			
			70	"	IN	OUT					"						OUT	5.0V	GND	"	Y6	"	"	"			
			71	"	IN	OUT					"						OUT	5.0V	5.0V	"	Y7	"	"	"			
			72	GND	5.0V	OUT					"						OUT	GND	IN	"	Y8	"	"	"			
			73	"	5.0V	OUT					"						OUT	IN	5.0V	"	Y9	"	"	"			
			t _{PLH1}			74	"	GND						"					OUT	GND	IN	"	Y0	"	"	"	
						75	"	"						"						OUT	IN	5.0V	"	Y1	"	"	"
	76	"				"						"						OUT	5.0V	GND	"	Y2	"	"	"		
	77	IN				IN						"						OUT	5.0V	5.0V	"	Y3	"	"	"		
	78	GND				GND	OUT					"	OUT					OUT	GND	IN	"	Y4	"	"	"		
	79	5.0V				GND	OUT					"						OUT	IN	5.0V	"	Y5	"	"	"		
	80	"				IN	OUT					"						OUT	5.0V	GND	"	Y6	"	"	"		
	81	"				IN	OUT					"						OUT	5.0V	5.0V	"	Y7	"	"	"		
	82	GND				5.0V	OUT					"						OUT	GND	IN	"	Y8	"	"	"		
	83	"				5.0V	OUT					"						OUT	IN	5.0V	"	Y9	"	"	"		
	t _{PHL2}						84	"	GND						"					OUT	GND	IN	"	Y1	"	42	"
							85	"	"						"					OUT	IN	5.0V	"	Y3	"	"	"
			86	IN	"		OUT					"					OUT	GND	5.0V	"	Y5	"	"	"			
			87	GND	IN							"					OUT	5.0V	GND	"	Y9	"	"	"			
88			"	GND							"						OUT	IN	5.0V	"	Y1	"	"	"			
89			"	"							"						OUT	IN	5.0V	"	Y3	"	"	"			
t _{PLH2}			90	IN	"	OUT					"					GND	5.0V	"	Y5	"	"	"					
			91	GND	IN					"						OUT	GND	5.0V	"	Y9	"	"	"				

See footnote at end of table.

TABLE III. Group A inspection for device type 06 – Continued.
Terminal conditions (pins not designated may be high ≥ 2.0 V, low ≤ 0.8 V, or open)

Subgroup	Symbol	MIL-STD-883 method	Cases E,F Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Measured terminal	Limits		Unit		
				C	D	Y5	Y6	Y7	Y8	Y9	GND	Y4	Y3	Y2	Y1	Y0	B	A	V _{CC}		Min	Max			
10 T _c =+125°C	t _{PHL1}	3003 (Fig 7)	92	GND	GND						GND					OUT	GND	IN	5.0V	Y0	5	48	ns		
			93	GND	"						"							IN	5.0V	"	Y1	"	"	"	
			94	IN	"							"							5.0V	GND	"	Y2	"	"	"
			95	GND	IN							"							5.0V	5.0V	"	Y3	"	"	"
			96	5.0V	GND	OUT						"	OUT	OUT	OUT	OUT			GND	IN	"	Y4	"	"	"
			97	"	GND			OUT				"							IN	5.0V	"	Y5	"	"	"
			98	"	IN				OUT			"							5.0V	GND	"	Y6	"	"	"
			99	"	IN					OUT		"							5.0V	5.0V	"	Y7	"	"	"
			100	GND	5.0V						OUT								GND	IN	"	Y8	"	"	"
			101	"	5.0V							OUT							IN	5.0V	"	Y9	"	"	"
	t _{PLH1}		102	"	GND							"							GND	IN	"	Y0	"	"	"
			103	"	"							"							IN	5.0V	"	Y1	"	"	"
			104	IN	"							"							5.0V	GND	"	Y2	"	"	"
			105	GND	IN							"							5.0V	5.0V	"	Y3	"	"	"
			106	5.0V	GND	OUT						"	OUT	OUT	OUT	OUT			GND	IN	"	Y4	"	"	"
			107	"	GND			OUT				"							IN	5.0V	"	Y5	"	"	"
			108	"	IN				OUT			"							5.0V	GND	"	Y6	"	"	"
			109	"	IN					OUT		"							5.0V	5.0V	"	Y7	"	"	"
			110	GND	5.0V						OUT								GND	IN	"	Y8	"	"	"
			111	"	5.0V							OUT							IN	5.0V	"	Y9	"	"	"
t _{PHL2}	112	"	GND							"							GND	IN	"	Y1	"	53	"		
	113	"	"							"							IN	5.0V	"	Y3	"	"	"		
	114	IN	"	OUT						"			OUT				GND	"	"	Y5	"	"	"		
	115	GND	IN							"			OUT				"	"	"	Y9	"	"	"		
t _{PLH2}	116	"	GND							"							"	IN	"	Y1	"	"	"		
	117	"	"							"							IN	5.0V	"	Y3	"	"	"		
	118	IN	"	OUT						"							GND	"	"	Y5	"	"	"		
	119	GND	IN							"			OUT				GND	"	"	Y9	"	"	"		
11	Same tests, terminal conditions, and limits as subgroup 10, except T _c = -55°C.																								

1/ Inputs: A = 2 V minimum and B = 0.8 V maximum.

Input: X = A or B

Outputs: Output voltages shall be either:

(a) H = 2.4 V and L = 0.4 V when using a high speed checker double comparator.

(b) H \geq 1.5 V and L < 1.5 V when using a high speed checker single comparator.

4. VERIFICATION.

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

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

- a. The burn-in test duration, test condition, and test temperature, or approved alternatives shall be as specified in the device manufacturer's QM plan in accordance with MIL-PRF-38535. The burn-in test circuit shall be maintained under document control by the device manufacturer's Technology Review Board (TRB) in accordance with MIL-PRF-38535 and shall be made available to the acquiring or preparing activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.
- b. Interim and final electrical test parameters shall be as specified in table II, except interim electrical parameters test prior to burn-in is optional at the discretion of the manufacturer.
- c. Additional screening for space level product shall be as specified in MIL-PRF-38535.

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

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

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

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

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

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

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

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

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

4.5.1 Voltage and current. All voltage values given are referenced to the microcircuit ground terminals. Currents given are conventional current and positive when flowing into the referenced terminal.

5. PACKAGING

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

6. NOTES

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

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

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of the specification.
- b. Complete part number (see 1.2).
- c. Requirements for delivery of one copy of the quality conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
- d. Requirements for certificate of compliance, if applicable.
- e. Requirements for notification of change of product or process to acquiring activity in addition to notification of the qualifying activity, if applicable.
- f. Requirements for failure analysis (including required test condition of MIL-STD-883, method 5003), corrective action and reporting of results, if applicable.
- g. Requirements for product assurance options.
- h. Requirements for special carriers, lead lengths, or lead forming, if applicable. These requirements should not affect the part number. Unless otherwise specified, these requirements will not apply to direct purchase by or direct shipment to the Government.
- i. Requirements for "JAN" marking.
- j. Packaging requirements (see 5.1).

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

6.4 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturers List QML-38535 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from DSCC-VQ, 3990 E. Broad Street, Columbus, Ohio 43128-3990.

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

- GND Ground zero voltage potential.
- V_{IN} Voltage level at an input terminal.
- V_{IC} Input clamp voltage.
- I_{IN} Current flowing into an input terminal.

MIL-M-38510/152C

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

6.7 Substitutability. The cross-reference information below is presented for the convenience of users. Microcircuits covered by this specification will functionally replace the listed generic-industry type. Generic-industry microcircuit types may not have equivalent operational performance characteristics across military temperature ranges or reliability factors equivalent to MIL-M-38510 device types and may have slight physical variations in relation to case size. The presence of this information should not be deemed as permitting substitution of generic-industry types for MIL-M-38510 types or as a waiver of any of the provisions of MIL-PRF-38535.

<u>Military device type</u>	<u>Generic-industry type</u>
01	54154, 9311
02	54155
03	54156
04	8250
05	8251
06	8252, 9301

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

Custodians:	Preparing activity:
Army – CR	DLA - CC
Navy - EC	
Air Force - 11	Project 5962-2097
NASA - NA	
DLA – CC	
Review activities:	
Army - MI, SM	
Navy - AS, CG, MC, SH, TD	
Air Force – 03, 19, 99	

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