INCH-POUND

MIL-M-38510/339E

22 March 2011

SUPERSEDING

MIL-M-38510/339D

18 February 2004

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, BIPOLAR, ADVANCED SCHOTTKY TTL, DATA SELECTORS/MULTIPLEXERS WITH THREE-STATE OUTPUTS, MONOLITHIC SILICON

Reactivated after 18 February 2004 and may be used for either new or existing design acquisition.

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 <u>Scope.</u> This specification covers the detail requirements for monolithic silicon, advanced Schottky TTL, data selectors and multiplexers (three-state) 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. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).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 <u>Device types.</u> The device types are as follows:

Device type	<u>Circuit</u>
01	8 - input, data selector/multiplexer
02	Dual, 4 - input, data selector/multiplexer
03	Quad, 2 - input, data selector/multiplexer
04	Quad, 2 - input, data selector/multiplexer with inverted output
05	8 - input, data selector/multiplexer with 3 - state outputs
06	Quad, 2 - input, data selector/multiplexer with 3 - state outputs
07	Quad, 2 - input, data selector/multiplexer with 3 - state inverted output
08	Dual, 4 - input, data selector/multiplexer with 3 - state outputs
09	Dual, 4 - input, data selector/multiplexer with inverted outputs
10	Dual, 4 - input, data selector/multiplexer with 3 - state inverted outputs

- 1.2.2 Device class. The device class is the product assurance level as defined in MIL-PRF-38535.
- 1.2.3 $\underline{\text{Case outlines.}}$ The case outlines are as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	<u>Terminals</u>	Package style
E	GDIP1-T16 or CDIP2-T16	16	Dual-in-line
F	GDFP2-F16 or CDFP3-F16	16	Flat pack
2	CQCC1-N20	20	Square leadless chip carrier

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, ATTN: DLA Land and Maritime- VAS, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to bipolar@dscc.dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.daps.dla.mil.

AMSC N/A FSC 5962

1.3 Absolute maximum ratings.

	Supply voltage range	-0.5 V dc to +7.0 V dc
	Input voltage range	-1.2 V dc at -18 mA to +7.0 V dc
	Storage temperature range	
	Maximum power dissipation, per device (P _D) 1/	
	Device type 01	116 mW
	Device type 02	
	Device type 03	127 mW
	Device type 04	
	Device type 05	
	Device type 06	
	Device type 07	127 mW
	Device type 08	121 mW
	Device type 09	110 mW
	Device type 10	127 mW
	Lead temperature (soldering, 10 seconds)	+300°C
	Thermal resistance, junction to case (θ_{JC}):	
	Cases E, F, and 2	(See MIL-STD-1835)
	Junction temperature (T _J) <u>2</u> /	
	1 (7, =	
4	Recommended operating conditions.	
	Supply voltage (V _{CC})	4.5 V minimum to 5.5 V maximum
	Minimum high level input voltage (V _{IH})	
	Maximum low level input voltage (V _{IL})	
	Case operating temperature range (T _C)	-55° to +125°C

2. APPLICABLE DOCUMENTS

1.4

2.1 <u>General.</u> 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 <u>Specifications and Standards</u>. 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 https://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

 $[\]underline{1}$ / Must withstand the added P_D due to short-circuit test (e.g., I_{OS}).

Maximum junction temperature shall not be exceeded except in accordance with allowable short duration burn-in screening condition in accordance with MIL-PRF-38535.

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

3. REQUIREMENTS

- 3.1 <u>Qualification</u>. 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 <u>Item requirements</u>. 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 <u>Design, construction, and physical dimensions.</u> The design, construction, and physical dimensions shall be as specified in MIL-PRF-38535 and herein.
- 3.3.1 <u>Terminal connections and pin assignments</u>. The terminal connections and pin assignments 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 <u>Schematic circuits</u>. The schematic circuits shall be maintained by the manufacturer and made available to the qualifying activity and the preparing activity upon request.
 - 3.3.5 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 <u>Electrical performance characteristics</u>. 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 <u>Electrical test requirements.</u> 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.
 - 3.7 Marking. Marking shall be in accordance with MIL-PRF-38535.
- 3.8 <u>Microcircuit group assignment.</u> The devices covered by this specification shall be in microcircuit group number 11 (see MIL-PRF-38535, appendix A).

4. VERIFICATION

- 4.1 <u>Sampling and inspection.</u> 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 described herein.
- 4.2 <u>Screening.</u> 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 <u>Technology Conformance inspection (TCI)</u>. 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 <u>Group A inspection.</u> 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 <u>Group D inspection.</u> 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 as follows:
- 4.5.1 <u>Voltage and current.</u> All voltages given are referenced to the microcircuit ground terminal. Currents given are conventional and positive when flowing into the referenced terminal.

TABLE I. <u>Electrical performance characteristics</u>.

Test	Symbol	Condi	Conditions		Lir	mits	Unit
		-55°C ≤ T _C ≤ $+125$ °C		type	Min	Max	
High level output voltage	V _{OH}	$V_{CC} = 4.5 \text{ V},$ $V_{IL} = 0.8 \text{ V},$	I _{OH} = -1.0 mA	01, 02, 03, 04, 09	2.5		٧
		V _{IH} = 2.0 V	I _{OH} = -3.0 mA	05, 06, 07, 08, 10	2.4		V
Low level output voltage	V _{OL}	$V_{CC} = 4.5 \text{ V}, I_{OL} = V_{IH} = 2.0 \text{ V}, V_{IL} = 0.0 \text{ V}$		All		0.5	V
Input clamp voltage	V _{IC}	$V_{CC} = 4.5 \text{ V}, I_{IN} = T_{C} = +25^{\circ}\text{C}$		All		-1.2	V
High level input current	I _{IH1}	V _{CC} = 5.5 V, V _{IH} :	= 2.7 V	All		20	μА
	I _{IH2}	V _{CC} = 5.5 V, V _{IH} :	= 7.0 V	All		100	μΑ
Low level input current	I _{IL}	V _{CC} = 5.5 V, V _{IL} =	= 0.5 V	All	03	60	mA
Short circuit output current 1/	los	V _{CC} = 5.5 V, V _{OS}	= 0 V	All	-60	-150	mA
Output drive	I _{OD}	$V_{CC} = 4.5 \text{ V},$		01, 04, 09	60		mA
				02, 03, 05, 06, 07, 08, 10	35		mA
Supply current	Icc	V _{CC} = 5.5 V, V _{OS}	= 0 V	01		21	mA
				02		20	mA
				03		23	mA
				04		15	mA
				05		22	mA
High level supply current	Іссн	V _{CC} = 5.5 V		06		15	mA
				07		9.5	mA
				08		16	mA
				09		14	mA
				10		14	mA
Low level supply current	I _{CCL}	$V_{CC} = 5.5 \text{ V}$		06		22	mA
				07		23	mA
				80		23	mA
				09		20	mA
				10		20	mA

 $[\]underline{1}$ / Not more than one output should be shorted at a time.

TABLE I. <u>Electrical performance characteristics</u> - Continued.

Test	Symbol	ctrical performance characteristics Conditions	Device	Lir	mits	Unit
		-55°C ≤ T _C ≤ +125°C	type	Min	Max	
Off state supply current	I _{CCZ}	V _{CC} = 5.5 V	05		24	mA
		Outputs disabled	06		23	mA
			07		17	mA
			08		23	mA
			10		23	mA
Off state output leakage	I _{OZH}	$V_{CC} = 5.5 \text{ V}, V_{ZH} = 2.7 \text{ V}$	05, 06, 07,		50	μА
cuurent			08, 10			
	I _{OZL}	$V_{CC} = 5.5 \text{ V}, V_{ZL} = 0.5 \text{ V}$			-50	μΑ
Propagation delay time,	t _{PLH1}	V _{CC} = 5.5 V	01	2.5	8.5	ns
low to high level, data to Z		(see figure 4)	02	2.5	9.0	ns
output			03	2.5	7.5	ns
			05	2.5	9.0	ns
			06	2.0	7.0	ns
			08	2.5	9.0	ns
Propagation delay time,	t _{PLH2}		01	2.5	7.5	ns
low to high level, data to \overline{Z}			04	2.5	8.5	ns
output			05	2.5	8.5	ns
			07	2.0	7.5	ns
			09	2.0	9.0	ns
			10	1.5	9.0	ns
Propagation delay time,	t _{PLH3}		01	4.5	13.5	ns
low to high level, select to Z			02	4.5	14.0	ns
output			03	4.0	12.0	ns
			05	3.5	14.0	ns
			06	3.5	11.5	ns
			08	3.5	15.0	ns
Propagation delay time,	t _{PLH4}		01	3.5	11.5	ns
low to high level, select to			04	3.0	10.5	ns
Z output			05	3.5	11.5	ns
			07	3.0	9.5	ns
			09	3.5	14.5	ns
			10	4.0	16.0	ns
Propagation delay time,	t _{PLH5}		01	4.0	12.0	ns
low to high level, enable			02	4.5	11.5	ns
to Z output			03	5.0	13.0	ns
Propagation delay time,	t _{PLH6}		01	3.0	7.5	ns
low to high level, enable to			04	2.5	8.0	ns
Z output			09	3.5	17.0	ns

TABLE I. <u>Electrical performance characteristics</u> - Continued.

Test	Symbol	Conditions	Device	Lir	nits	Unit
		-55°C ≤ T _C ≤ +125°C	type	Min	Max	
Propagation delay time,	t _{PHL1}	V _{CC} = 5.5 V	01	3.5	9.0	ns
high to low level, data to Z		(see figure 4)	02	2.5	8.0	ns
output			03	1.5	7.5	ns
			05	3.5	9.0	ns
			06	1.5	7.0	ns
			08	2.5	8.0	ns
Propagation delay time,	t _{PHL2}		01	1.5	6.0	ns
high to low level, data to Z			04	1.5	5.0	ns
output			05	1.0	6.0	ns
			07	1.0	6.0	ns
			09	1.5	7.5	ns
			10	1.5	7.5	ns
Propagation delay time,	t _{PHL3}		01	4.0	9.5	ns
high to low level, select to Z			02	3.5	11.0	ns
output			03	3.0	9.0	ns
			05	3.0	10.5	ns
			06	2.5	9.0	ns
			08	2.5	11.0	ns
Propagation delay time,	t _{PHL4}		01	3.0	8.0	ns
high to low level, select to			04	2.5	8.0	ns
Z output			05	3.2	8.0	ns
			07	2.5	9.0	ns
			09	3.5	15.0	ns
			10	4.0	14.0	ns
Propagation delay time,	t _{PHL5}		01	3.0	8.0	ns
high to low level, enable			02	2.5	9.0	ns
to Z output			03	2.5	7.5	ns
Propagation delay time,	t _{PHL6}		01	2.5	6.5	ns
high to low level, enable to			04	2.0	8.5	ns
Z output			09	3.0	13.0	ns
Propagation delay time,	t _{PLZ5}		05	1.0	5.5	ns
low level to off state, output			06	2.0	8.5	ns
enable to Z output			08	2.0	8.0	ns
Propagation delay time,	t _{PLZ6}		05	1.0	5.0	ns
low level to off state, output			07	2.0	8.5	ns
enable to \overline{Z} output			10	2.0	8.5	ns

TABLE I. <u>Electrical performance characteristics</u> - Continued.

Test	Symbol	Conditions	Device	Lir	nits	Unit
		-55°C ≤ T _C ≤ +125°C	type	Min	Max	
Propagation delay time,	t _{PHZ5}	V _{CC} = 5.5 V	05	2.0	5.5	ns
high level to off state, output		(see figure 4)	06	2.0	7.0	ns
enable to Z output			08	2.0	6.5	ns
Propagation delay time,	t _{PHZ6}		05	2.0	6.0	ns
high level to off state, output			07	1.5	7.0	ns
enable to Z output			10	2.0	6.5	ns
Propagation delay time,	t _{PZL5}		05	2.5	9.0	ns
off state to low level output			06	2.5	9.0	ns
enable to Z output			08	2.5	10.0	ns
Propagation delay time,	t _{PZL6}		05	2.5	7.5	ns
off state to low level output			07	2.5	9.0	ns
enable to Z output			10	3.0	15.5	ns
Propagation delay time,	t _{PZH5}		05	3.0	8.5	ns
off state to high level output			06	2.0	8.0	ns
enable to Z output			08	2.5	10.0	ns
Propagation delay time,	t _{PZH6}		05	2.0	7.0	ns
off state to high level output			07	2.0	8.0	ns
enable to Z output			10	3.0	11.0	ns

TABLE II. Electrical test requirements.

	Subgroups	(see table III)
MIL-PRF-38535	Class S	Class B
test requirements	devices	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, 8, 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

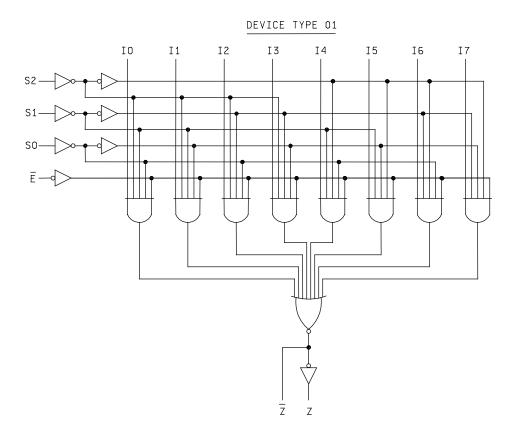
^{*}PDA applies to subgroup 1.

		Terminal assignments								
	Device t	ype 01	Device t	ype 02	Device ty	pe 03	Device ty	/pe 04	Device ty	/pe 05
Terminal	Cases	Case	Cases	Case	e Cases Cas		Cases	Case	Cases	Case
number	E and F	2	E and F	2	E and F	2	E and F	2	E and F	2
1	13	N/C	E a	N/C	S	N/C	S	N/C	13	N/C
2	12	13	S1	_ E a	I0a	S	I0a	S	12	13
3	I1	12	l3a	S1	l1a	I0a	l1a	I0a	I1	12
4	10	I1	l2a	l3a	Za	l1a	_ Z a	l1a	10	I 1
5	Z	10	l1a	l2a	I0b	Za	I0b	_ Z a	Z	10
6	Z	N/C	I0a	N/C	I1b	N/C	l1b	N/C	Z	N/C
7	Ē	Z	Za	l1a	Zb	I0b	b	I0b	QE	Z
8	GND	Z	GND	I0a	GND	l1b	GND	l1b	GND	Z
9	S2	Ē	Zb	Za	Zd	Zb	$\overline{\overline{Z}}$ d	_ Z b	S2	QE
10	S1	GND	I0b	GND	I1d	GND	I1d	GND	S1	GND
11	S0	N/C	l1b	N/C	I0d	N/C	I0d	N/C	S0	N/C
12	17	S2	I2b	Zb	Zc	Zd	c	_ Z d	17	S2
13	16	S1	I3b	l0b	I1c	l1d	I1c	l1d	16	S1
14	15	S0	S0	l1b	I0c	I0d	I0c	I0d	15	S0
15	14	17	Ē b	l2b	Ē	Zc	Ē	_ Z c	14	17
16	Vcc	N/C	Vcc	N/C	V_{CC}	N/C	Vcc	N/C	Vcc	N/C
17		16		l3b		I1c		I1c		16
18		15		S0		I0c		I0c		15
19		14		Ëb		Ē		Ē		14
20		Vcc		Vcc		Vcc		Vcc		Vcc

FIGURE 1. <u>Terminal connections</u>.

		Terminal assignments									
	Device t	ype 06	Device t	Device type 07 Device type 08 Device type			pe 08 Device type 09 Device type 1		/pe 10		
Terminal number	Cases E and F	Case 2	Cases E and F	Case 2	Cases E and F	Case 2	Cases E and F	Case 2	Cases E and F	Case 2	
1	S	N/C	S	N/C	OE a	N/C	Ēа	N/C	OE a	N/C	
2	I0a	S	I0a	S	S1	OE a	S1	Ē a	S1	ŌE a	
3	l1a	I0a	l1a	I0a	l3a	S1	l3a	S1	l3a	S1	
4	Za	l1a	_ Z a	l1a	I2a	l3a	l2a	l3a	I2a	l3a	
5	l0b	Za	I0b	_ Z a	l1a	l2a	l1a	I2a	l1a	I2a	
6	l1b	N/C	l1b	N/C	I0a	N/C	I0a	N/C	I0a	N/C	
7	Zb	I0b	$\overline{\overline{Z}}$ b	l0b	Za	l1a	_ Z a	l1a	_ Z a	l1a	
8	GND	l1b	GND	l1b	GND	I0a	GND	I0a	GND	I0a	
9	Zd	Zb	\overline{Z} d	$\overline{\overline{Z}}$ b	Zb	Za	$\overline{\overline{Z}}$ b	_ Z a	$\overline{\overline{Z}}$ b	_ Z a	
10	l1d	GND	l1d	GND	I0b	GND	I0b	GND	I0b	GND	
11	I0d	N/C	I0d	N/C	I1b	N/C	l1b	N/C	l1b	N/C	
12	Zc	Zd	Ζc	Z d	I2b	Zb	l2b	Z b	I2b	Z b	
13	I1c	l1d	I1c	l1d	I3b	l0b	I3b	I0b	I3b	I0b	
14	I0c	I0d	I0c	I0d	S0	l1b	S0	l1b	S0	l1b	
15	OE	Zc	ŌĒ	∠Z c	OE b	l2b	Ēb	l2b	OE b	I2b	
16	Vcc	N/C	Vcc	N/C	Vcc	N/C	Vcc	N/C	Vcc	N/C	
17		I1c		I1c		l3b		l3b		I3b	
18		I0c		I0c		S0		S0		S0	
19		ŌE		ŌE		OE b		Ēb		OE b	
20		V_{CC}		V_{CC}		V_{CC}		V_{CC}		V_{CC}	

FIGURE 1. <u>Terminal connections</u> - Continued.



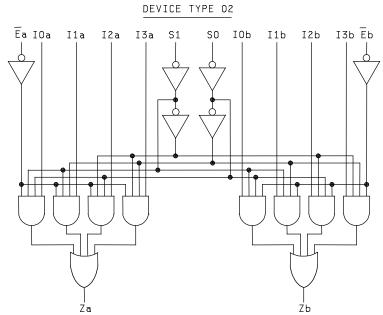
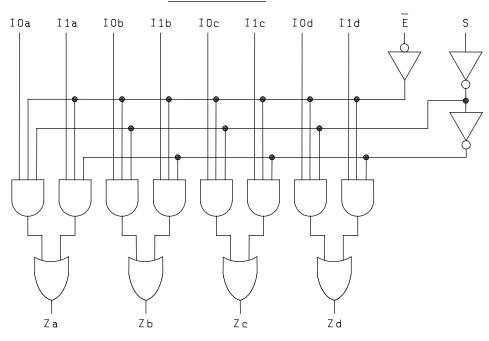


FIGURE 2. Logic diagrams.

DEVICE TYPE 03



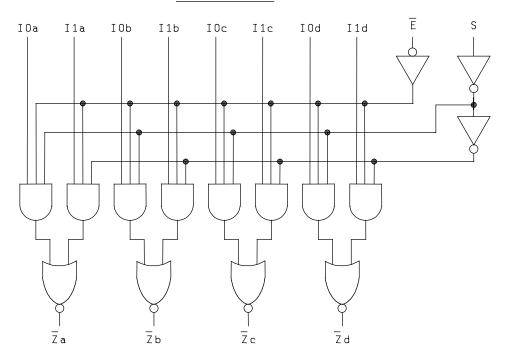
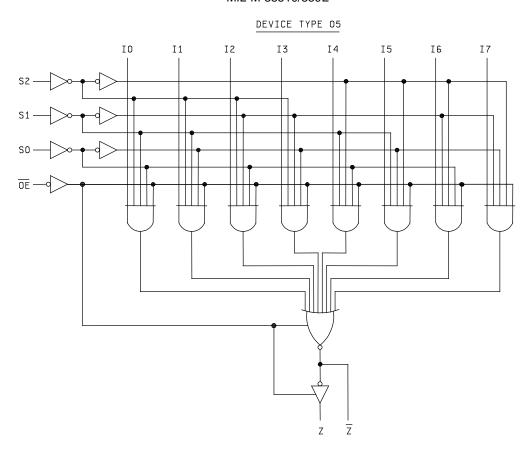


FIGURE 2. <u>Logic diagrams</u> - Continued.



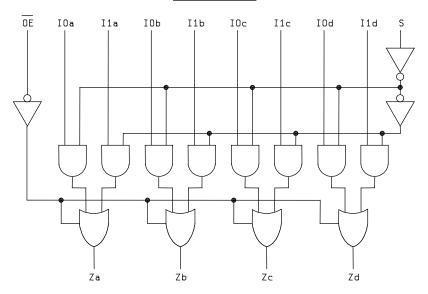
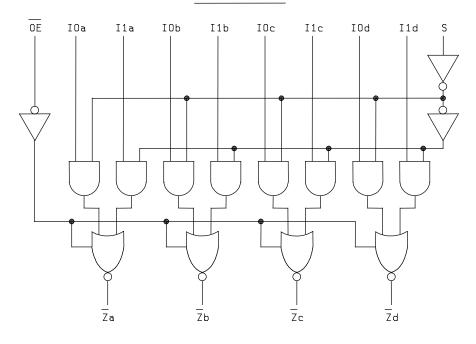


FIGURE 2. Logic diagrams - Continued.

DEVICE TYPE 07



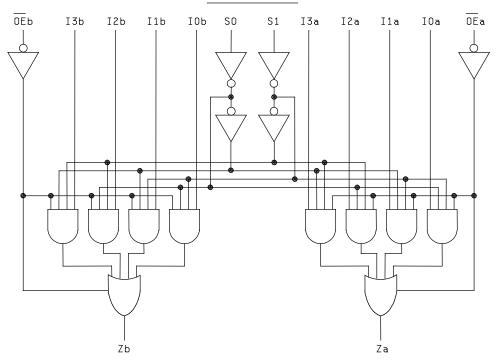
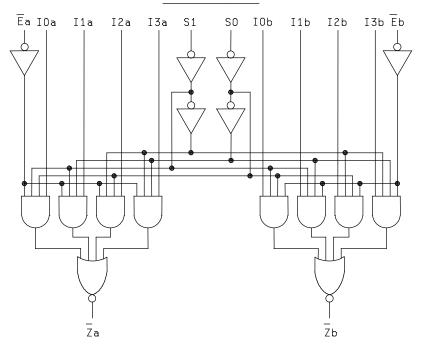


FIGURE 2. Logic diagrams - Continued.

DEVICE TYPE 09



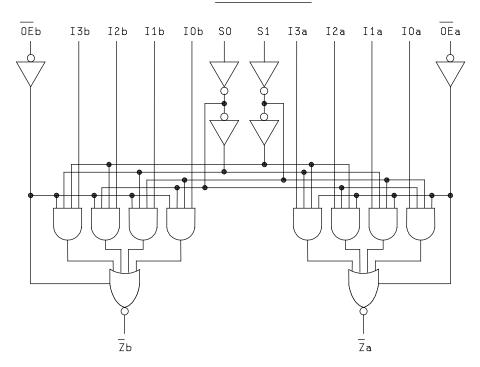


FIGURE 2. <u>Logic diagrams</u> - Continued.

Device type 01

	INP	UTS		OUT	PUTS
Ē	S2	S1	S0	Z	Z
Н	Χ	X	X	Н	L
L	L	L	L	Ī0	10
L	L	L	Н	Ī1	I 1
L	L	Н	L	Ī2	12
L	L	Н	Н	Ī3	13
L	Н	L	L		14
L	Н	L	Н	_ I 5	15
L	Н	Н	L	Ī6	16
L	Н	Н	Н		17

Device type 02

SELECT	INPUTS		INP	UTS (a o	r b)		OUTPUT
S0	S1	ΙE	10	I 1	12	13	Z
Х	Х	Н	Х	Х	Х	Х	L
L	L	L	L	X	X	X	L
L	L	L	Ι	Χ	X	Х	Н
Н	L	L	X	L	X	X	L
Н	L	L	X	Н	X	X	Н
L	Η	L	Χ	Χ	L	Х	L
L	Н	L	X	X	Η	X	Н
Н	Н	L	Х	Х	Х	L	L
Н	Н	L	X	X	X	Н	Н

H = HIGH voltage level L = LOW voltage level X = Immaterial

FIGURE 3. Truth tables.

Device type 03

	INP	OUTPUT		
ΙE	S	10	I 1	Z
Η	Х	Х	Х	L
L	Ι	Χ	L	L
L	Ι	Χ	Ι	Н
L	L	L	Χ	L
L	L	Н	Χ	Н

Device type 04

	INP	OUTPUT		
Ē	S	10	l 1	Z
Н	Х	Х	Х	Н
L	L	L	Χ	Η
L	L	Н	Χ	L
L	Н	Χ	L	Н
L	Н	Χ	Н	L

Device type 05

	INP	UTS		OUTF	PUTS
ŌĒ	S2	S1	S0	Z	Z
Н	Х	Х	Х	Z	Z
L	L	L	L	Ī0	10
L	L	L	Н	_ 1	l 1
L	L	Н	L	Ī2	12
L	L	Н	Н	ī 3	13
L	Н	L	L	_ 4	14
L	Н	L	Н	- 5	15
L	Н	Н	L	_ I 6	16
L	Н	Н	Н	_ 7	17

Device type 06

OUTPUT	SELECT	DA	TE	OUTPUTS
ENABLE	INPUT	INP	UTS	
ŌĒ	S	10	l 1	Z
Н	Х	Х	Х	(Z)
L	Н	Х	L	L
L	Н	Χ	Н	Н
L	L	L	Х	L
L	L	Н	Х	Н

H = HIGH voltage level L = LOW voltage level X = Immaterial

(Z) = High impedance

FIGURE 3. <u>Truth tables</u> - Continued.

Device type 07

OUTPUT	SELECT	DA	TE	OUTPUTS					
ENABLE	INPUT	INP							
ŌĒ	S	10	l 1	Z					
Н	Х	Х	Х	Z					
L	Н	X	L	Н					
L	Н	X	Н	L					
L	L	L	Х	Н					
L	L	Н	Х	L					

Device type 08

SEL INP			DATA	OUTPUT ENABLE	OUTPUT				
S0	S1	10	l 1	12	13	ŌE	Z		
Х	Х	Х	Х	Х	Х	Н	(Z)		
L	L	L	Χ	X	Χ	L	L		
L	L	Н	Х	X	Χ	L	Н		
Н	L	X	L	Χ	Χ	L	L		
Н	L	Χ	Н	X	Χ	L	Н		
L	Н	X	Χ	L	Χ	L	L		
L	Н	Χ	Χ	Н	Х	L	Н		
Н	Н	Χ	Χ	Χ	L	L	L		
Н	Н	Х	Х	Х	Н	L	Н		

H = HIGH voltage level L = LOW voltage level X = Immaterial (Z) = High impedance

FIGURE 3. <u>Truth tables</u> - Continued.

Device type 09

SELECT	T INPUTS		IN	PUTS (a or	· b)		OUTPUT
S0	S1	Ε	10	l 1	12	13	Z
Х	Х	Н	Х	Х	Х	Х	Н
L	L	L	L	X	Χ	Χ	Н
L	L	L	Н	X	Χ	Χ	L
Н	L	L	Χ	L	X	X	Н
Н	L	L	Х	Н	Χ	Χ	L
L	Н	L	X	X	L	Χ	Н
L	Н	L	Χ	X	Н	X	L
Н	Н	L	Χ	Χ	X	L	Н
Н	Н	L	Χ	X	X	Н	L

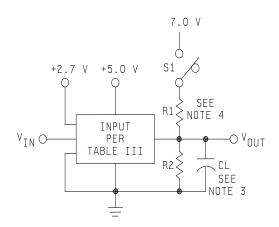
Device type 10

SELECT	INPUTS		DATA II	OUTPUT ENABLE	OUTPUT		
S0	S1	10	l 1	12	13	OE	Z
Х	Х	Х	Х	Х	Х	Н	(Z)
L	L	L	X	X	X	L	Н
L	L	Н	X	X	X	L	L
Н	L	Χ	L	X	X	L	Н
Н	L	X	Н	X	Х	L	L
L	Н	Χ	Χ	L	X	L	Н
L	Н	X	Χ	Н	Х	L	L
Н	Н	Χ	X	X	L	L	Н
Н	Н	Х	Х	Х	Н	L	L

Address inputs S0 and S1 are common to both sections

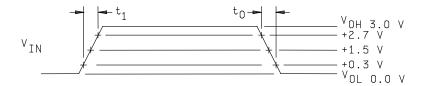
H = HIGH voltage level L = LOW voltage level X = Immaterial (Z) = High impedance

FIGURE 3. <u>Truth tables</u> - Continued.



Test Circuit

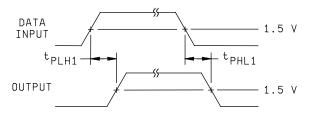
Test Type	S1
t _{PLH}	Open
t _{PHL}	Open
t _{PHZ}	Open
t _{PZH}	Open
t _{PLZ}	Closed
t _{PZL}	Closed



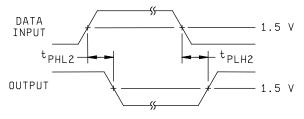
NOTES:

- 1. V_{IN} input pulse has the following characteristics: t_1 = $t_0 \le 2.5$ ns, PRR ≤ 1 MHz, $Z_{OUT} \approx 50\Omega$.
- 2. Inputs not under test are at ground.
- 3. C_L = 50 pF ±10% including scope probe, wiring and stray capacitance without package in test fixture.
- 4. $R1 = R2 = 499\Omega \pm 5\%$.
- 5. Voltage measurements are to be made with respect to network ground terminal.

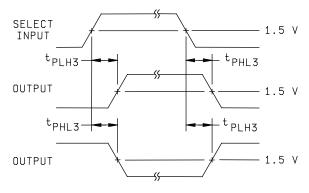
FIGURE 4. Switching time test circuit and waveform for all device types.



DEVICE TYPES 01,02,03,05,06 AND 08



DEVICE TYPES 01,04,05,07,09 AND 10



DEVICE TYPES 01,02,03,05,06 AND 08

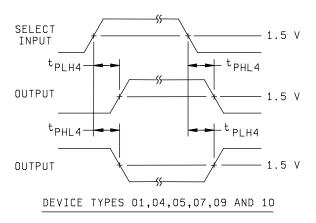
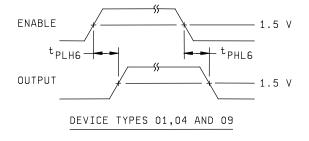
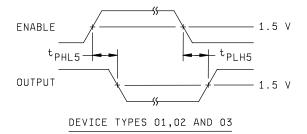
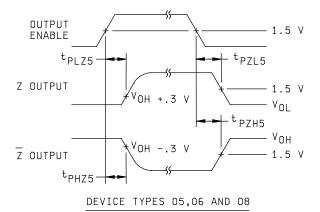


FIGURE 4. Switching time waveform - Continued.







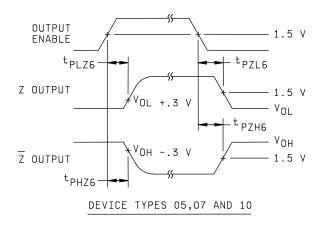


FIGURE 4. Switching time waveform - Continued.

TABLE III. <u>Group A inspection for device type 01</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	erminal o	conditio	ns (pins	not des		i may b			$8.0 \ge wc$		en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	13	I2	I1	10	Z	Z	Ē	GND	S2	S1	S0	17	16	15	14	V _{cc}		Min	Max	
1	V _{OL}	3007	1				2.0 V		20 mA	0.8 V	GND	0.8 V	0.8 V	0.8 V					4.5 V	z		0.5	V
Γc = 25°C		"	2			2.0 V			"		"	"	0.8 V	2.0 V					"	"		"	"
		"	3		2.0 V				"	"		"	2.0 V	0.8 V					"	"		"	"
		"	4	2.0 V					-	-	-	"	2.0 V	2.0 V						"		"	"
		"	5							-	-	2.0 V	0.8 V	0.8 V				2.0 V	"	"		"	-
		"	6							-	-	"	0.8 V	2.0 V			2.0 V		-	"		"	
		"	7						"				2.0 V	0.8 V		2.0 V			"	"		"	"
		"	8						"			"	2.0 V	2.0 V	2.0 V				"	"		"	"
		"	9				0.8 V	20 mA			-	0.8 V	0.8 V	0.8 V					-	Z		"	-
	V _{OH}	3006	10						-1.0 mA	2.0 V										z	2.5		
		"	11				0.8 V			0.8 V		0.8 V	0.8 V	0.8 V						"			
		"	12			0.8 V				-	-	"	0.8 V	2.0 V					"	"			"
		"	13		0.8 V								2.0 V	0.8 V					-	"			
		. "	14	0.8 V					"			"	2.0 V	2.0 V					"	"		<u> </u>	"
		"	15			1						2.0 V	0.8 V	0.8 V	ļ			0.8 V		"		<u> </u>	
			16								-		0.8 V	2.0 V			0.8 V		-		-		-
			17						-:-		- :		2.0 V	0.8 V	0.01/	0.8 V							
			18				0.01/	40.4			-		2.0 V	2.0 V	0.8 V					-	-	-:-	-
			19	40 4			2.0 V	-1.0 mA		-		0.8 V	0.8 V	0.8 V						Z	-	4.0	
	VIC		20 21	-18 mA	-18 mA						-			-					-	13 12		-1.2	-
			22		-10 IIIA	-18 mA														12			
			23			-101117	-18 mA													10		"	
			24				-101117			-18 mA												"	"
										-101117										Ē			
			25									-18 mA								S2		"	"
			26										-18 mA							S1		- "	- :
			27								-:-			-18 mA	40. 4					S0		-:-	-
			28 29												-18 mA	-18 mA				17		- "	-
			30											-		-16 MA	-18 mA			16 15		-	-
			31														-10 IIIA	-18 mA		14			
	I _{IH1}	3010	32	2.7 V						4.5 V		4.5 V	0.0 V	0.0 V				-10 IIIA	5.5 V	13		20	μА
	'IH1	"	33	Z.7 V	2.7 V					7.0 V		1.0 V	0.0 V	4.5 V					"	12		"	μΛ.
		"	34		Z.,, V	2.7 V						"	4.5 V	0.0 V						11			
			35			,	2.7 V					"	4.5 V	4.5 V					"	10		"	"
			36							2.7 V										Ē			
												071/											
		, ,	37 38			-						2.7 V	2.7 V	-						S2 S1			
		,,	38			-							Z.1 V	2.7 V						S0			
			40							4.5 V		0.0 V	0.0 V	0.0 V	2.7 V					17			
		"	41							4.5 V		0.0 V	0.0 V	4.5 V	Z.1 V	2.7 V				16		-	
		"	42										4.5 V	0.0 V		2.7 V	2.7 V			15		-	
		"	43									"	4.5 V	4.5 V			v	2.7 V	-	14		-	
	I _{IH2}	"	44	7.0 V								4.5 V	0.0 V	0.0 V					"	13		100	"
	12	"	45		7.0 V							"	0.0 V	4.5 V					"	12		"	
		"	46			7.0 V				-		"	4.5 V	0.0 V					"	I1		"	"
		"	47				7.0 V						4.5 V	4.5 V					"	10		"	
		"	48							7.0 V									"	Ē		"	
		"	49			<u> </u>						7.0 V				1				S2			
		"	50		1	t	1	1				7.5 V	7.0 V	1	 	1				S1	1		
		"	51										7.0 *	7.0 V						S0			
		l	52							4.5 V		0.0 V	0.0 V	0.0 V	7.0 V				-	17		-	-
		"	52																				
										-		"	0.0 V	4.5 V		7.0 V			-	16			
			53 54										0.0 V 4.5 V	4.5 V 0.0 V		7.0 V	7.0 V		"	16 15			

TABLE III. Group A inspection for device type 01 - Continued. Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$; low $\leq 0.8 \text{ V}$; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	13	I2	I1	10	Z	Z	Ē	GND	S2	S1	S0	17	16	15	14	V _{cc}		Min	Max	
1	I _{IL}	3009	56	0.5 V						0.0 V	GND	0.0 V	4.5 V	4.5 V					5.5 V	13	2/	2/	mA
Tc = 25°C	-		57		0.5 V					"	"	"	4.5 V	0.0 V						12	-	-	
			58			0.5 V				"	"		0.0 V	4.5 V						I1		"	
			59				0.5 V			"	"		0.0 V	0.0 V					"	10	-	"	
			60							0.5 V	"									E		"	
			61								"	0.5 V								S2		"	
			62								"	0.0 V	0.5 V							S1		"	
			63								"		0.0 1	0.5 V					"	S0		"	
		"	64							0.0 V	"	4.5 V	4.5 V	4.5 V	0.5 V				"	17		"	"
		"	65							"	"	"	4.5 V	0.0 V		0.5 V				16		"	
		"	66							"	"		0.0 V	4.5 V			0.5 V			15		"	"
			67							"	"		0.0 V	0.0 V				0.5 V		14	-	"	
	Ios	3011	68				4.5 V	0.0 V		0.0 V	"	0.0 V	0.0 V	0.0 V					"	Z	-60	-150	"
		3011	69						0.0 V	4.5 V	"									Z	-60	-150	
	I _{OD}		70					2.5 V		5.5 V	"								4.5 V	Z	60		"
			71				5.5 V		2.5 V	0.0 V	"	0.0 V	0.0 V	0.0 V					4.5 V	Z	60		
		3005	72	4.5 V	4.5 V	451/	4.5 V			4.5 V	"	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	5.5 V	V _{CC}		24	
2	I _{CC}	ests, termina						125°C on	1 \/ toota			4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	5.5 V	V _{CC}		21	
3		ests, termina ests, termina																					
7	Func-	3014	73	A A	A A	A A	Α A	I I	H H	A	GND	В	В	В	Α	Α	Α	Α	4/				
7 Tc = 25°C	tional	3014	74	-	-	-	-	-	- ''	-	"	"	В	A	"	-			<u>4</u> /				
10 - 23 0	test		75					"		"	"		A	В	"								
	<u>3</u> /		76					"		"	"		A	A	"								
	<u> </u>		77	"	"			"		"	"	Α	В	В	"			"	"				
			78					"		"	"		В	A	"								
			79	"	"	"	"	"	"	"	"	"	Α	В	"	"	"	"	"				
			80					"		"	"	"	Α	Α	"								
			81	В	В	В	-	Н	L	В	"	В	В	В	В	В	В	В	"				
			82	-	В	Α	В	"	-	"	"		В	Α	"				"				
			83	"	Α	В	"	"	"	"	"	"	Α	В	"	"	"	"	"				
			84	A	В			- "		"	"	"	A	A					"				
			85	В	- "				- "	- :	"	Α "	В	В	-	- "		A	<u> </u>				
		"	86	-	-	-			-	- "	- "		В	A			A	В ::	-				
			87 88	-	-	- 1	-		-		- "		A A	B A		A B	B B	-	-				
			89	A	A	A		-	Н	"	"	В	B	B	A	A	A	A					
			90	A	A	B	Α	-	-	"	"	B "	В	A	"	- "	A	A					
			91		В	A		"		"	"		A	В	"		"						
			92	В	A	"		"		"	"		A	A	"								
			93	A	-		"	"		"	"	Α	В	В	"		"	В	"				
		"	94		"			"		"	"	"	В	A	"		В	Ā	"				
		"	95	"	"			"		"	"	"	A	В	"	В	A		"				
		"	96	"	"	"	"	"		"	"	"	Α	Α	В	Α	Α	-	"				
8					,			= +125°C	T	FF00													

See footnotes at end of device types 01.

TABLE III. <u>Group A inspection for device type 01</u> - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	erminai	conditio	ns (pins	not des	signated	a may t	oe high ≥	2.0 V; I	$0W \le 0.8$	v; or op	pen).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	13	12	I1	10	Z	Z	Ē	GND	S2	S1	S0	17	16	15	14	V _{CC}		Min	Max	
9	t _{PLH1}	3003	97				IN	OUT		0.0 V	GND	0.0 V	0.0 V	0.0 V					5.0 V	I0 to Z	3.0	6.5	ns
T _C = 25°C		Fig. 4	98			IN		"		"	"	"	0.0 V	2.7 V					"	I1 to Z			
			99		IN			"		"	"	"	2.7 V	0.0 V						I2 to Z			
		"	100	IN							-		2.7 V	2.7 V						I3 to Z	-		-
		"	101					"		"	"	2.7 V	0.0 V	0.0 V				IN		I4 to Z	-	-	-
			102					"		"		"	0.0 V	2.7 V			IN		"	I5 to Z		"	
			103								- :		2.7 V	0.0 V		IN			- :	I6 to Z		- :	- :
		-	104				IN	,			"	0.0 V	2.7 V	2.7 V	IN				-	17 to Z	0.7	7.0	
	t _{PHL1}		105 106			IN	IIN	"		"		0.0 V	0.0 V 0.0 V	0.0 V 2.7 V						I0 to Z I1 to Z	3.7	7.0	
			107		IN	IIN		"		"	"	"	2.7 V	0.0 V						12 to Z			
			108	IN				"		"		"	2.7 V	2.7 V						13 to Z			
			109					"		"	"	2.7 V	0.0 V	0.0 V				IN		I4 to Z			
			110					"		"	"	"	0.0 V	2.7 V			IN		"	I5 to Z			
		"	111					"		"	=	"	2.7 V	0.0 V		IN			"	I6 to Z	-	-	=
			112					"		"	"		2.7 V	2.7 V	IN					I7 to Z			
	t _{PLH2}	"	113				IN		OUT	"	"	0.0 V	0.0 V	0.0 V					"	I0 to \overline{Z}	3.0	6.5	"
		"	114			IN			"	"	"	"	0.0 V	2.7 V					"	I1 to Z	-		-
		"	115		IN					"		"	2.7 V	0.0 V					"	I2 to \overline{Z}			
		"	116	IN						"			2.7 V	2.7 V						I3 to Z			
		"	117						"	"		2.7 V	0.0 V	0.0 V				IN	"	I4 to Z	"		"
		"	118						"	"	"	"	0.0 V	2.7 V			IN			I5 to Z			
		"	119						"	"	"		2.7 V	0.0 V		IN			"	I6 to Z	"		"
			120							"		"	2.7 V	2.7 V	IN				"	17 to Z	-		-
	t _{PHL2}	"	121				IN			"		0.0 V	0.0 V	0.0 V					=	I0 to Z	1.5	4.0	=
		"	122			IN				"		=	0.0 V	2.7 V					=	I1 to Z	=	-	=
		"	123		IN					"		=	2.7 V	0.0 V						I2 to Z	-		-
		"	124	IN					"	"	-	"	2.7 V	2.7 V					"	I3 to Z			"
			125						"	"	•	2.7 V	0.0 V	0.0 V				IN	"	I4 to Z			
			126						"	"		"	0.0 V	2.7 V			IN			15 to Z	"		"
			127						"	"	"	"	2.7 V	0.0 V		IN				I6 to Z			
			128						"	"		"	2.7 V	2.7 V	IN					I7 to Z			
	t _{PLH5}	"	129	2.7 V	2.7 V	2.7 V	2.7 V	OUT		IN	"	0.0 V	0.0 V	0.0 V	2.7 V	2.7 V	2.7 V	2.7 V		E to Z	5.0	9.5	
	t _{PHL5}		130	2.7 V	2.7 V	2.7 V	2.7 V	OUT		IN		0.0 V	0.0 V	0.0 V		2.7 V	2.7 V	2.7 V		E to Z	3.5	7.0	
	t _{PLH6}	"	131	0.0 V	0.0 V	0.0 V	0.0 V		OUT	"		2.7 V	2.7 V	2.7 V		0.0 V	0.0 V	0.0 V		E to Z	3.0	6.1	
	t _{PHL6}		132	0.0 V	0.0 V	0.0 V	0.0 V	OUT	OUT	"		2.7 V	2.7 V	2.7 V		0.0 V	0.0 V	0.0 V		E to Z	3.0	6.0	
	t _{PLH3}		133 134	 	2.7 V	2.7 V	0.0 V	OUT		0.0 V	- "	0.0 V 0.0 V	0.0 V IN	IN 0.0 V		 				S0 to Z S1 to Z	4.5	10.5	-
			134		Z.1 V			"		"		IN	0.0 V	0.0 V		 		2.7 V		S1 to Z S2 to Z			
	t _{PHL3}		136			0.0 V	2.7 V	"		"	"	0.0 V	0.0 V	IN		<u> </u>		Z.1 V		S0 to Z	4.0	9.0	
	*PHL3		137		0.0 V	0.0 v	2.7 V	"		"	"	0.0 V	IN	0.0 V						S1 to Z	7.0	3.0	
			138				"	"		"	"	IN	0.0 V	0.0 V				0.0 V		S2 to Z			

See footnotes at end of device types 01.

TABLE III. Group A inspection for device type 01 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	13	12	I1	10	Z	Z	Ē	GND	S2	S1	S0	17	16	15	14	V _{CC}		Min	Max	
9	t _{PLH4}	3003	139			0.0 V	2.7 V		OUT	0.0 V	GND	0.0 V	0.0 V	IN					5.0 V	S0 to Z	4.0	9.0	ns
		Fig 4	140		0.0 V		"			"	"	0.0 V	IN	0.0 V					"	S1 to Z	"	"	
		"	141				"			"	"	IN	0.0 V	0.0 V				0.0 V	"	S2 to Z	"	"	
	t _{PHL4}		142			2.7 V	0.0 V			"	"	0.0 V	0.0 V	IN					"	S0 to Z	3.2	7.5	
		"	143		2.7 V		"		"	"	"	0.0 V	IN	0.0 V					"	S1 to Z	"		
		"	144				"		"	"	"	IN	0.0 V	0.0 V				2.7 V	"	S2 to Z	"		"
10	Come to		minal conditi		h ==== 0	oveent T	.40500		a fallancia	lineite						•	•	•		•	•		
		t _{Pl H1} = 2.5 to			$t_{PHL1} = 3.5$				to 7.5 ns		t _{PHI 2} = 1.5	to 6.0 ns											
		t _{PLH3} = 4.5 to t _{PLH5} = 4.0 to	o 13.5 ns		$t_{PHL3} = 4.0$ $t_{PHL5} = 3.0$	to 9.5 ns		$t_{PLH4} = 3.5$	5 to 11.5 ns 0 to 7.5 ns	3	$t_{PHL4} = 3.0$ $t_{PHL6} = 2.5$	to 8.0 ns											

- $\underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Min/Max I	imits in mA f	or circuit
Test	Α	В	С
I _{IL}	25/60	03/60	03/60

- $\underline{3}\!/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}\!/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. <u>Group A inspection for device type 02</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	erminai d	conaitio	ns (pins	not des	signated	ı may b	e high ≥	2.0 V; I	$8.0 \ge WO$	v; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	Ē a	S1	I3a	I2a	l1a	I0a	Za	GND	Zb	I0b	l1b	I2b	l3b	S0	Ē b	V _{cc}		Min	Max	
1	V _{OH}	3006	1	0.8 V	0.8 V				2.0 V	-1 mA	GND						0.8 V		4.5 V	Za	2.5		V
Tc = 25°C		"	2	"	0.8 V			2.0 V									2.0 V			"	"		
			3	- "	2.0 V	0.01/	2.0 V										0.8 V						
			<u>4</u> 5	-	2.0 V 0.8 V	2.0 V				-		-1 mA	2.0 V				2.0 V 0.8 V	0.8 V	-	Zb			-
			6		0.8 V							-1 111/4	2.0 V	2.0 V			2.0 V	U.O V		<u> </u>			
		"	7		2.0 V									2.0 (2.0 V		0.8 V	"		"	"		"
		"	8		2.0 V											2.0 V	2.0 V	"	"	"	"		"
	V _{OL}	3007	9	2.0 V						20 mA										Za		0.5	"
			10	0.8 V	0.8 V			0.01/	0.8 V		-						0.8 V		-:-				
			11 12	"	0.8 V 2.0 V		0.8 V	0.8 V									2.0 V 0.8 V		-				
			13	"	2.0 V	0.8 V	0.6 V										2.0 V			"			
			14		2.0 V	0.0 V						20 mA					2.0 V	2.0 V		Zb			
		"	15		0.8 V							-	0.8 V				0.8 V	0.8 V		"		"	
		"	16		0.8 V						"			0.8 V			2.0 V	"	"	"			"
			17		2.0 V										0.8 V		0.8 V	"	"	"		"	
			18	40 4	2.0 V						- :					0.8 V	2.0 V		<u> </u>				
	V _{IC}		19	-18 mA																Εa		-1.2	
			20		-18 mA						-									S1		"	"
			21			-18 mA	40. 4				-								- :	l3a			- :
			22 23				-18 mA	-18 mA												I2a I1a			-
			24					-10 IIIA	-18 mA											I0a			
			25						1011111				-18 mA							l0b			
			26											-18 mA						l1b		"	"
			27								-				-18 mA					I2b			
			28													-18 mA				I3b		-	
			29 30														-18 mA	-18 mA		S0 -			-
		3010	31	2.7 V														-10 IIIA	5.5 V	E b		20	
	I _{IH1}	3010		2.7 V	0.71/														5.5 V	E a		20	μА
			32 33	4.5 V	2.7 V 0.0 V	2.7 V											0.0 V			S1 I3a			-
			34	4.5 V	0.0 V	2.7 V	2.7 V										4.5 V			l2a			
			35	"	4.5 V		Z.1 V	2.7 V									0.0 V			l1a			
		"	36	"	"				2.7 V								4.5 V		"	I0a		"	"
		"	37		"						-		2.7 V				4.5 V	4.5 V		l0b			"
			38		"									2.7 V	0.71/		0.0 V	-		I1b			
			39 40	1	0.0 V 0.0 V		 		 					1	2.7 V	2.7 V	4.5 V 0.0 V		-	I2b I3b	 		-
		"	41		0.0 V											2.1 V	2.7 V			S0			
			42														2.7 V	2.7 V		E b		"	
	I _{IH2}	"	43	7.0 V	1	 										1	1			E a		100	
			44	1	7.0 V									1		1				E a S1			
			44	4.5 V	0.0 V	7.0 V										1	0.0 V			I3a			
			46	7.5 V	0.0 V	7.5 V	7.0 V										4.5 V			l2a			
		"	47	"	4.5 V			7.0 V									0.0 V			l1a		"	
		"	48	"	"				7.0 V								4.5 V		"	I0a		"	
		"	49		"								7.0 V				4.5 V	4.5 V		I0b		"	"
		"	50		001/						-			7.0 V	701/	-	0.0 V	"		I1b		- "	
			51 52		0.0 V 0.0 V		-		-						7.0 V	7.0 V	4.5 V 0.0 V	"	-	I2b I3b		-	-
		"	53		0.0 v											7.0 V	7.0 V			S0			
		"	54															7.0 V		E b		"	
				1			l		l					1		1				_ □ D	l		

TABLE III. Group A inspection for device type 02 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol		Case 2 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	E a	S1	I3a	I2a	l1a	I0a	Za	GND	Zb	I0b	l1b	l2b	I3b	S0	E b	V _{CC}		Min	Max	
1	I _{IL1}	3009	55	0.5 V							GND								5.5 V	E a	<u>2</u> /	<u>2</u> /	mA
Tc = 25°C			56		0.5 V						"									S1		"	
			57	0.0 V	4.5 V	0.5 V					"						4.5 V		"	l3a		"	"
			58	"	4.5 V		0.5 V				"						0.0 V			I2a		"	"
			59	"	0.0 V			0.5 V			"						4.5 V			l1a		"	"
		"	60	=	=				0.5 V		"						0.0 V		-	I0a	-	"	"
			61		=						"		0.5 V				0.0 V	0.0 V	"	I0b	-	"	
			62		"						"			0.5 V			4.5 V			I1b		"	
			63		4.5 V						- "				0.5 V	0.51/	0.0 V			I2b	-		- '-
			64		4.5 V						- "					0.5 V	4.5 V		-	I3b			-
			65 66								"						0.5 V	0.5 V	-	S0	-	"	
			00															0.5 V		Еb			
	Ios	3011	67	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	4.5 V	0.0 V	"						0.0 V			Za	-60	-150	
		3011	68		0.0 V						"	0.0 V	4.5 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	-	Zb	-60	-150	
	I _{OD}		69	5.5 V						2.5 V	"								4.5 V	Za	60		"
			70	0.0 V							"	2.5 V						5.5 V	4.5 V	Zb	60		
	Icc	3005	71	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V		. "		0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	5.5 V	V _{CC}		20	
2		ests, termina																					
3		ests, termina							10	re omitted									1 4/				
7	Func-	3014	72	A B	A B	A	A	Α	A	L	GND "	L	A B	A	A	A	A	A B	<u>4</u> /	All			
Tc = 25°C			73	В	В		-		В	L	"	L		-			В	В	-	outputs			
	test		74 75			-		В	A	H	- "	H	A	В	-	-	B A	-	-				
	<u>3</u> /		76	"	"			A		Н	"	Н		A			A						
			77	"	Α	"	В			i i	"	L'		-	В	"	В	"					
			78	"	"	"	A			H	"	Н		"	A		В	"					
			79	"	"	В	"			i.	"	L.		"	"	В	A	"					
			80	"	"	A				Н	"	Н		"	"	A	Α	"					
			81	Α	В	"				Ĺ	"	Ĺ		"	"	"	В	Α					
			82	"	В	"		"			"	"	"	"	"	"	Α	"	"				
			83		Α						"			"	"	"	В	"					
8	Same to	ests, termina	al conditions	, and limits	s as for su	bgroup 7,	except T _C	= +125°C	and T _C =	-55°C.													
9	t _{PLH1}	3003	84	0.0 V	0.0 V				IN	OUT	GND						0.0 V		5.0 V	I0a to Za	3.0	7.0	ns
$T_C = 25^{\circ}C$		Fig. 4	85	"	0.0 V			IN			-						2.7 V		"	I1a to Za	"		"
		"	86	"	2.7 V		IN			-	-						0.0 V			I2a to Za	"		"
			87	"	2.7 V	IN					"						2.7 V		"	I3a to Za	"	"	"
			88		0.0 V						"	OUT	IN				0.0 V	0.0 V		I0b to Zb	- "		
1			89		0.0 V						- "	"		IN	10-1		2.7 V			I1b to Zb	- "		
		,	90		2.7 V							-			IN	IA.	0.0 V		-	I2b to Zb	- "		
	_	-	91	0.01/	2.7 V				INI	OUT	-	-				IN	2.7 V			I3b to Zb	2.5		-
	t _{PHL1}		92 93	0.0 V	0.0 V 0.0 V		-	IN	IN	OUT						 	0.0 V 2.7 V		-	I0a to Za I1a to Za	2.5	6.5	
			93	"	2.7 V		IN	IIN									0.0 V			I2a to Za	"		
			95	"	2.7 V	IN	IIN										2.7 V		-	I3a to Za	"		
			96		0.0 V	IIN						OUT	IN				0.0 V	0.0 V		10b to Zb	"		"
			97		0.0 V							"	11.4	IN			2.7 V	U.U V		I1b to Zb	"		"
			98		2.7 V										IN		0.0 V	"		I2b to Zb	"		
			99		2.7 V											IN	2.7 V	"		I3b to Zb	"		"
									1				1	1									

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TABLE III. Group A inspection for device type 02 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ubgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	_ E a	S1	I3a	I2a	l1a	I0a	Za	GND	Zb	I0b	l1b	I2b	l3b	S0	E b	V _{CC}		Min	Max	İ
9	t _{PLH5}	3003	100	IN	0.0 V				2.7 V	OUT	GND						0.0 V		5.0 V	E a to Za	4.5	9.0	ns
_C = 25°C		Fig. 4	101								"	OUT	2.7 V					IN		E b to Zb	4.5	9.0	
	t _{PHL5}	"	102	IN					2.7 V	OUT	"									E a to Za	3.0	7.0	"
		"	103								"	OUT	2.7 V					IN		E b to Zb	3.0	7.0	"
	t _{PLH3}		104	0.0 V	2.7 V	0.0 V	2.7 V			OUT							IN			S0 to Za	4.5	10.5	
	-	"	105		2.7 V							OUT			2.7 V	0.0 V	IN	0.0 V		S0 to Zb		"	
		"	106	0.0 V	IN	2.7 V		0.0 V		OUT							2.7 V			S1 to Za		"	
		"	107		IN							OUT		0.0 V		2.7 V	2.7 V	0.0 V	"	S1 to Zb		"	
	t _{PHL3}	"	108	0.0 V	0.0 V			0.0 V	2.7 V	OUT							IN		"	S0 to Za	3.5	9.0	
	-		109		0.0 V							OUT	2.7 V	0.0 V			IN	0.0 V	"	S0 to Zb	-	"	
		"	110	0.0 V	IN		0.0 V		2.7 V	OUT	-						0.0 V		-	S1 to Za			-
		"	111		IN							OUT	2.7 V		0.0 V		0.0 V	0.0 V		S1 to Zb			

Same tests and terminal conditions as subgroup 9, except T_C = +125°C and for the following limits. t_{PLH1} = 2.5 to 9.0 ns t_{PHL1} = 2.5 to 8.0 ns

 $t_{PHL3} = 3.5 \text{ to } 11.0 \text{ ns}$ $t_{PLH3} = 4.5 \text{ to } 14.0 \text{ ns}$ $t_{PLH5} = 4.5 \text{ to } 11.5 \text{ ns}$ $t_{PHL5} = 2.5 \text{ to } 9.0 \text{ ns}$

Same tests, terminal conditions and limits as for subgroup 10, except T_C = -55°C.

 $\underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Mir	n/Max limits in	n mA for circu	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

- $\underline{3}\!/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}\!/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. <u>Group A inspection for device type 03</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	erminai d	conditio	ns (pins	not aes	signated	ı may b	e high ≥	2.0 V; I	$0.0 \leq 0.8$	v; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	S	I0a	I1a	Za	I0b	l1b	Zb	GND	Zd	l1d	I0d	Zc	I1c	I0c	Ē	V _{CC}		Min	Max	
1	V _{OL}	3007	1	0.8 V	0.8 V	2.0 V	20 mA				GND							0.8 V	4.5 V	Za		0.5	V
Tc = 25°C		"	2	2.0 V	2.0 V	0.8 V	20 mA				"							"	"	Za		"	"
		"	3	0.8 V				0.8 V	2.0 V	20 mA	"							-	"	Zb		"	"
		"	4	2.0 V				2.0 V	0.8 V	20 mA								-	"	Zb			"
			5	0.8 V								20 mA	2.0 V	0.8 V						Zd			
			6	2.0 V								20 mA	0.8 V	2.0 V	00 4	0.01/	0.01/	- :	- "	Zd		-	- :
			7	0.8 V											20 mA	2.0 V	0.8 V			Zc			
			8	2.0 V 0.8 V	2.0 V	0.01/	1 1								20 mA	0.8 V	2.0 V	-	-	Zc	2.5		
	V _{OH}	3006	9 10	2.0 V	0.8 V	0.8 V 2.0 V	-1 mA -1 mA													Za Za	2.5		
		,,	11	0.8 V	0.6 V	2.0 V	-1 IIIA	2.0 V	0.8 V	-1 mA										Zb			
		,,	12	2.0 V				0.8 V	2.0 V	-1 mA										Zb			
		"	13	0.8 V				0.0 V	2.0 V	-1111/1		-1 mA	0.8 V	2.0 V		1		"	"	Zd			
		"	14	2.0 V								-1 mA	2.0 V	0.8 V				"	"	Zd			
		"	15	0.8 V							"				-1 mA	0.8 V	2.0 V		"	Zc			
		"	16	2.0 V											-1 mA	2.0 V	0.8 V			Zc			
	Vic		17	-18 mA							"								"	S		-1.2	"
			18		-18 mA														"	I0a			
			19			-18 mA													"	l1a			
			20					-18 mA			"								"	I0b		"	"
			21						-18 mA											I1b			-
			22										-18 mA							I1d			
			23								"			-18 mA					"	I0d		"	"
			24								"					-18 mA			"	I1c		"	
			25 26								- "						-18 mA	-18 mA	- "	10c		-	-
		0040		0.71/															5.5.1/	Ē			
	I _{IH1}	3010	27	2.7 V	0.7.1/													4.5 V	5.5 V	S		20	μ A
			28 29	4.5 V 0.0 V	2.7 V	2.7 V													-	I0a I1a			
			30	4.5 V		2.7 V		2.7 V										,		I0b		-	-
		,,	31	0.0 V				Z.1 V	2.7 V											I1b			
		"	32	0.0 V					Z.1 V				2.7 V	 		1		"	"	I1d			
		"	33	4.5 V									2.7 V	2.7 V				"	"	I0d		"	
		"	34	0.0 V							"					2.7 V		"	"	I1c			
		"	35	4.5 V							"					1	2.7 V	"	"	I0c		"	
		"	36								"							2.7 V	"	Ē		"	"
	I _{IH2}	"	37	7.0 V	†						"							4.5 V	"	S		100	"
	"	"	38	4.5 V	7.0 V						"							"	"	I0a		"	"
		"	39	0.0 V		7.0 V					"							"	"	l1a			
		"	40	4.5 V				7.0 V			"							"	"	I0b		"	-
		"	41	0.0 V					7.0 V		"							"	"	l1b		"	"
		"	42	0.0 V							"		7.0 V					=	"	I1d			"
		"	43	4.5 V							"			7.0 V				=	"	I0d		"	
		"	44	0.0 V							"					7.0 V		"	"	I1c		"	"
			45	4.5 V										ļ			7.0 V			I0c		-	
		"	46			<u> </u>												7.0 V		Ē			
																				·			

TABLE III. <u>Group A inspection for device type 03</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	illilliai	Jorianio	no (pino	not acc	ngnatoc	i iiiay b	e high ≥	2.0 v, i	JW ≥ U.U	v, or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	S	I0a	l1a	Za	I0b	I1b	Zb	GND	Zd	l1d	I0d	Zc	I1c	I0c	IΕ	V _{cc}		Min	Max	
1	I _{IL1}	3009	47	0.5 V							GND								5.5 V	S	<u>2</u> /	<u>2</u> /	mA
Tc = 25°C		"	48	0.0 V	0.5 V						"								"	I0a			
		"	49	4.5 V		0.5 V					"								"	l1a			
		"	50	0.0 V				0.5 V			"								"	I0b			
		"	51	4.5 V					0.5 V		"								"	I1b			
		"	52	4.5 V									0.5 V							l1d			
		"	53	0.0 V							"			0.5 V					"	I0d			
		"	54	4.5 V							"					0.5 V			"	I1c			
		"	55	0.0 V													0.5 V			I0c			
		"	56			0.0 V			0.0 V		"		0.0 V			0.0 V		0.5 V	"	Ē			
		2011	57	0.01/	45.1/		0.0 V											0.01/				450	
	Ios	3011	57	0.0 V	4.5 V		U.U V	451/		0.01/								0.0 V		Za	-60	-150	
			58 59	"				4.5 V		0.0 V		0.0 V		4.5 V				-	-	Zb Zd		-	
			60								-	0.0 V		4.5 V	0.0 V		4.5 V			Zc	-		-
			61				2.5 V								0.0 V		4.5 V	F F V	451/	Za	CO E/		-
	I _{OD}						2.5 V			0.5.1/	-							5.5 V	4.5 V		60 <u>5</u> /		
			62 63							2.5 V	-	0.5.1/								Zb Zd			-
			64								-	2.5 V			2.5 V					Zc	-		-
		2005	65	451/	451/	45.1/		4.5 V	451/		-		4.5 V	451/	2.5 V	4.5.1/	451/	4.5.1/	· ·			00	
_	Icc	3005			4.5 V	4.5 V			4.5 V	•••	l		4.5 V	4.5 V		4.5 V	4.5 V	4.5 V	5.5 V	V _{CC}		23	
2			al conditions																				
3			al conditions				ept I _C = -			re omitted													
7	Func-	3014	66	A	A	A	<u> </u>	A	A	<u> </u>	GND	L	A	Α "	<u> </u>	A	A	A	<u>4</u> /	All			
Tc = 25°C			67	В		A	L		A	L		L	A	- "	L	A		A		outputs			
	test	"	68	В		В	H		В	H		Н	В		Н	В	- "	В	<u> </u>				
	<u>3</u> /		69	Α	-	В	L		В	L		L	В	"	L	В		- :	<u> </u>				
			70	В	В	Α	L	В	A	L		L.	A	В	L	A	В	- :	<u> </u>				
_		**	71	Α	В	Α	H	В	Α	Н		Н	Α	В	Н	Α	В						
8		ests, termina		, and limits	s as for su	bgroup 7,	except To	= +125°C	and T _C =	: -55°C.			1		ı								
9	t _{PLH1}	3003	72	0.0 V	IN		OUT				GND							0.0 V	5.0 V	I0a to Za	2.5	6.0	ns
$T_C = 25^{\circ}C$		Fig. 4	73	2.7 V		IN	OUT				"									I1a to Za	"		
		"	74	0.0 V				IN		OUT										I0b to Zb	"	"	
		"	75	2.7 V					IN	OUT										I1b to Zb	"	"	
		"	76	2.7 V								OUT	IN					. "		I1d to Zd	"	"	
			77	0.0 V							- "	OUT		IN						I0d to Zd			
			78	2.7 V											OUT	IN			- "	I1c to Zc	- "	- "	
l	1	. "																		I0c to Zc	. "		
l			79	0.0 V											OUT		IN						
	t _{PHL1}	"	80	0.0 V	IN		OUT								001		IIN	"		I0a to Za	"	5.5	
	t _{PHL1}	"	80 81	0.0 V 2.7 V	IN	IN	OUT				"				OUT		IIN	"	"	I0a to Za I1a to Za	"	5.5	
	t _{PHL1}	"	80 81 82	0.0 V 2.7 V 0.0 V	IN	IN		IN		OUT	"				OUT		IIN	"	"	I0a to Za I1a to Za I0b to Zb	"	5.5	
	t _{PHL1}	" "	80 81 82 83	0.0 V 2.7 V 0.0 V 2.7 V	IN	IN		IN	IN	OUT OUT	"				OUT		IIN	" "	"	I0a to Za I1a to Za I0b to Zb I1b to Zb	"	5.5	"
	t _{PHL1}	"	80 81 82 83 84	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V	IN	IN		IN	IN		"	OUT	IN		001		IIN	"	"	I0a to Za I1a to Za I0b to Zb I1b to Zb I1d to Zd	" " " " " " " " " " " " " " " " " " " "	5.5	" "
	t _{PHL1}	" " " " " " " " " " " " " " " " " " " "	80 81 82 83 84 85	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V	IN	IN		IN	IN		H H H H H H H H H H H H H H H H H H H	OUT	IN	IN			IIN	H H H H H H H H H H H H H H H H H H H	" "	I0a to Za I1a to Za I0b to Zb I1b to Zb I1d to Zd I0d to Zd	" " " " " " " " " " " " " " " " " " " "	" " " " " " " " " " " " " " " " " " " "	11 11 11 11 11 11 11 11 11 11 11 11 11
	t _{PHL1}	"	80 81 82 83 84 85	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V 2.7 V	IN	IN		IN	IN		# # # # # # # # # # # # # # # # # # #		IN	IN	OUT	IN		H H H H H H H H H H H H H H H H H H H	" " " " " " " " " " " " " " " " " " " "	I0a to Za I1a to Za I0b to Zb I1b to Zb I1d to Zd I0d to Zd I1c to Zc	" " " " " " " " " " " " " " " " " " " "	5.5	" " " " " " " " " " " " " " " " " " " "
		"""""""""""""""""""""""""""""""""""""""	80 81 82 83 84 85 86 87	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V 2.7 V 0.0 V	IN		OUT	IN	IN		11 11 11 11 11		IN	IN		IN	IN		11 11 11 11 11 11 11 11 11 11 11 11 11	I0a to Za I1a to Za I0b to Zb I1b to Zb I1d to Zd I0d to Zd	"""""""""""""""""""""""""""""""""""""""	"" "" "" "" "" "" "" "" "" "" "" "" ""	11 11 11 11 11 11 11 11 11 11 11 11 11
	t _{PHL1}	"	80 81 82 83 84 85 86 87	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	IN	IN 2.7 V		IN		OUT	11 11 11 11 11 11 11 11 11 11 11 11 11		IN	IN	OUT	IN		" " " " " " " " " " " " " "	11 11 11 11 11	I0a to Za I1a to Za I0b to Zb I1b to Zb I1d to Zd I0d to Zd I1c to Zc	"""""""""""""""""""""""""""""""""""""""	" " " " " " " " " " " " " " " " " " " "	11 11 11 11 11 11 11 11 11 11 11 11 11
			80 81 82 83 84 85 86 87	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V 2.7 V 0.0 V	IN		OUT	IN	IN 2.7 V		11 11 11 11 11 11 11 11 11 11 11 11 11		IN	IN	OUT	IN			11 11 11 11 11	10a to Za 11a to Za 10b to Zb 11b to Zb 11b to Zd 10d to Zd 10c to Zc 10c to Zc E to Za	5.0	"" "" "" "" "" "" "" "" "" "" "" "" ""	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			80 81 82 83 84 85 86 87	0.0 V 2.7 V 0.0 V 2.7 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	IN		OUT	IN		OUT	11 11 11 11 11 11 11 11 11 11 11 11 11		IN 2.7 V	IN	OUT	IN			11 11 11 11 11 11 11 11 11 11 11 11 11	10a to Za 11a to Za 10b to Zb 11b to Zb 11d to Zd 10d to Zd 11c to Zc 10c to Zc	5.0	"" "" "" "" "" "" "" "" "" "" "" "" ""	11 11 11 11 11 11 11 11 11 11 11 11 11

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TABLE III. Group A inspection for device type 03.

Taussinal assalitions	/-: d:		.0 V: low < 0.8 V: or open).
Lerminal conditions	thing not degidnated	i may ne nian > /	n v. low < n x v. or oben

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				1
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	S	I0a	l1a	Za	I0b	l1b	Zb	GND	Zd	l1d	I0d	Zc	I1c	I0c	Ē	V _{CC}		Min	Max	i
9	t _{PHL5}	3003	92	0.0 V	2.7 V		OUT				GND							IN	5.0 V	E to Za	2.5	6.5	ns
T _C = 25°C		Fig. 4	93					2.7 V		OUT	"							"	"	E to Zb	"		"
			94								"	OUT		2.7 V				"	"	E to Zd	"		"
			95												OUT		2.7 V	"		E to Zc			
	t _{PLH3}		96	IN	2.7 V	0.0 V	OUT				"							0.0 V	"	S to Za	4.0	10.0	
			97					2.7 V	0.0 V	OUT	"							"		S to Zb			
			98								"	OUT	0.0 V	2.7 V				"		S to Zd	"		
		"	99								=				OUT	0.0 V	2.7 V	-		S to Zc	-		-
	t _{PHL3}		100		0.0 V	2.7 V	OUT				=							-		S to Za	3.0	7.0	
			101					0.0 V	2.7 V	OUT	"							"		S to Zb	"		
		"	102	"							"	OUT	2.7 V	0.0 V				"	"	S to Zd	"	"	"
		"	103		1	ĺ			ĺ		"	1		1	OUT	2.7 V	0.0 V	"		S to Zc			

Same tests, terminal conditions and limits as for subgroup 10, except $T_C = -55$ °C.

	Mir	n/Max limits ii	n mA for circu	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

 $[\]underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

 $[\]underline{3}/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V. $\underline{5}/$ I_{OD} minimum limit for circuit D shall be 35 mA.

TABLE III. <u>Group A inspection for device type 04</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	erminal d	conditio	ns (pins	not des	signated	d may b	e high ≥	2.0 V; I	$8.0 \ge wc$	v; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	S	I0a	l1a	Z a	I0b	l1b	Ζb	GND	Z d	l1d	I0d	Ζc	I1c	I0c	Ē	V _{CC}		Min	Max	
1	V _{OL}	3007	1	0.8 V	2.0 V	0.8 V	20 mA				GND							0.8 V	4.5 V	Z a		0.5	V
Tc = 25°C		"	2	2.0 V	0.8 V	2.0 V	20 mA											"		Z a			
		"	3	0.8 V				2.0 V	0.8 V	20 mA	"							"		Z b			
		"	4	2.0 V				0.8 V	2.0 V	20 mA	"							"	"	Z b			
		"	5	0.8 V								20 mA	2.0 V	0.8 V				"		Z d			
		"	6	2.0 V							"	20 mA	0.8 V	2.0 V				"	"	Z d			
		"	7	0.8 V							"				20 mA	2.0 V	0.8 V	"		Z c			
		"	8	2.0 V							"				20 mA	0.8 V	2.0 V	"		Z c			
	V _{OH}	3006	9	0.8 V	0.8 V	2.0 V	-1 mA											"		Za	2.5		
		"	10	2.0 V	2.0 V	0.8 V	-1 mA				"							"		Za			"
		"	11	0.8 V				0.8 V	2.0 V	-1 mA	"							"		Z b			"
		"	12	2.0 V				2.0 V	0.8 V	-1 mA								"		Z b			
		"	13	0.8 V								-1 mA	0.8 V	2.0 V				"		Z d			
		"	14	2.0 V								-1 mA	2.0 V	0.8 V				"					
		"	15	0.8 V											-1 mA	0.8 V	2.0 V	"		Z c			
		"	16	2.0 V											-1 mA	2.0 V	0.8 V	"		Z c			
	V _{IC}		17	-18 mA																S		-1.2	
			18		-18 mA						"									I0a			
			19 20			-18 mA		-18 mA												I1a I0b		-	-:-
			21					-10 IIIA	-18 mA											I1b			
			22								"		-18 mA							I1d		"	
			23											-18 mA						I0d			
			24													-18 mA	10 1		-:-	I1c			
			25 26														-18 mA	-18 mA		I0c E			
		2010		0.71/															5.5.7				
	I _{IH1}	3010	27 28	2.7 V 4.5 V	2.7 V						-							4.5 V	5.5 V	S I0a		20	μA "
		"	29	0.0 V	2.7 V	2.7 V												"		l1a			-
		"	30	4.5 V				2.7 V										"		I0b			
		"	31	0.0 V					2.7 V		"							"		I1b			"
			32 33	0.0 V 4.5 V									2.7 V	2.7 V				- "	-:-	I1d I0d			
		"	34	0.0 V										2.7 V		2.7 V		"		I1c			
		"	35	4.5 V												Z.1 V	2.7 V	"		10c			
		"	36	-							"							2.7 V	"	Ē			"
	I _{IH2}	"	37	7.0 V			 									1		4.5 V		S		100	
	·IIIZ	"	38	4.5 V	7.0 V						"							"		I0a			
		"	39	0.0 V		7.0 V					"							"	"	l1a		"	"
		"	40	4.5 V				7.0 V			"							"		l0b			"
		"	41	0.0 V					7.0 V				701/					- "	-:-	I1b			
			42 43	0.0 V 4.5 V	-						-		7.0 V	7.0 V		-		"	-	I1d I0d			-
		"	43	0.0 V	 									7.0 V		7.0 V		"		I1c			
		"	45	4.5 V			1			1	"					T	7.0 V	"		10c			"
		"	46								"							7.0 V	"	Ē		"	

TABLE III. <u>Group A inspection for device type 04</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	Hillinai	Jonattio	us (bius	not de	signated	ı may b		2.0 V, I	$0.8 \le 0.8$	v, 01 0p	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	S	I0a	l1a	Z̄ a	I0b	l1b	Z b	GND	Z d	I1d	I0d	Ζc	I1c	I0c	Ē	V _{cc}	-	Min	Max	
1	I _{IL1}	3009	47	0.5 V							GND								5.5 V	S	2/	2/	mA
Tc = 25°C		"	48	0.0 V	0.5 V															I0a			
			49	4.5 V		0.5 V														l1a			
			50	0.0 V				0.5 V												I0b			
			51	4.5 V					0.5 V											I1b			
			52	4.5 V									0.5 V							I1d			
			53	0.0 V									0.0 1	0.5 V						I0d			
			54	4.5 V							"					0.5 V				I1c			
			55	0.0 V												0.0 1	0.5 V			10c			
		"	56	0.0 1							"		0.0 V			0.0 V	0.0 1	0.5 V	"	Ē	"		"
	Ios	3011	57	0.0 V	0.0 V	4.5 V	0.0 V				"							0.0 V	"	– Z a	-60	-150	"
		"	58	"				0.0 V	4.5 V	0.0 V	"							"	"	Z b	"	"	"
		"	59	"							"	0.0 V	4.5 V	0.0 V				"	"	Z d	"	"	"
		"	60	"											0.0 V	4.5 V	0.0 V	"	"	Z c	"	"	
	I _{OD}		61		5.5 V		2.5 V				-							5.5 V	"	Z̄ a	60		
			62	"				5.5 V		2.5 V	"							"	"	_ Z b	"		"
			63								-	2.5 V		5.5 V				•		Z d	"		
			64	"											2.5 V		5.5 V	•	"	Ζc	"		"
	Icc	3005	65	4.5 V	4.5 V	4.5 V		4.5 V	4.5 V		. "		4.5 V	4.5 V		4.5 V	4.5 V	4.5 V		V _{CC}		15	
2		ests, termina																					
3		ests, termina																					
7	Func-	3014	66	Α	Α	Α	Н	Α	Α	Н	GND	Н	Α	Α	Н	Α	Α	Α	<u>4</u> /	All			
Tc = 25°C	tional	"	67	В	"	Α	Н		Α	Н	"	Н	Α	"	Н	Α		Α	"	outputs			
	test	"	68	В		В	L	-	В	L	"	L	В		L	В	"	В	"	1			
1	<u>3</u> /	"	69	Α		В	Н	-	В	Н	"	Н	В		Н	В		"	"	1			
		"	70	В	В	Α	Н	В	Α	Н		Н	Α	В	Н	Α	В	"		1			
<u> </u>	لــــــا	"	71	A	В	Α	L	В	Α	<u> </u>	"	L L	Α	В	L	Α	В	"	"	L			
8		ests, termina				bgroup 7,		= +125°C	and T _c =	-55°C.				1			1						
9	t _{PLH2}	3003	72	0.0 V	IN		OUT				GND							0.0 V	5.0 V	I0a to Z a	2.5	5.9	ns
T _C = 25°C		Fig. 4	73	2.7 V		IN	OUT			OUT.										I1a to Z a			
			74	0.0 V				IN		OUT										I0b to Z b			
			75	2.7 V					IN	OUT		OUT	181							I1b to Z b			
			76	2.7 V								OUT	IN	INI						I1d to Z d			
			77 78	0.0 V 2.7 V								OUT		IN	OUT	IN			"	I0d to Z d			"
			78 79	0.0 V											OUT	IIN	IN		"	I1c to Z c			"
			13	0.0 V											001		IIN			I0c to \overline{Z} c			

TABLE III. Group A inspection for device type 04.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$; low $\leq 0.8 \text{ V}$; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ubgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9 Z b	10 GND	12	13	14	15	17	18	19	20	Measured terminal	Limits		Unit
			Test no.	S	I0a	I1a	Z̄ a	I0b	l1b			Z d	l1d	l0d	Ζc	I1c	I0c	Ē	V _{cc}		Min	Max	
9	t _{PHL2}	3003	80	0.0 V	IN		OUT				GND							0.0 V	5.0 V	I0a to Z a	1.5	4.0	ns
c = 25°C		Fig. 4	81	2.7 V		IN	OUT											"	"	I1a to Z a	"	"	"
			82	0.0 V				IN		OUT								"	"	I0b to ∑ b	"	"	"
			83	2.7 V					IN	OUT	"									I1b to \overline{Z} b			"
			84	2.7 V								OUT	IN					"	"	I1d to Z d	"	"	"
			85	0.0 V							"	OUT		IN						I0d to \overline{Z} d			"
			86	2.7 V							"				OUT	IN			"	I1c to Z c		"	"
			87	0.0 V											OUT		IN		"	I0c to Z c	"		"
Ī	t _{PLH6}		88	2.7 V		2.7 V	OUT											IN	"	E to Za	2.5	6.0	"
			89						2.7 V	OUT									"	E to Z b	"	"	"
			90								"	OUT	2.7 V						"	E to Z d	"	"	"
			91												OUT	2.7 V			"	E to Z c		"	"
	t _{PHL6}	"	92	0.0 V	2.7 V		OUT				"							"	"	E to Za	2.0	7.5	
			93					2.7 V		OUT	"								"	E to Z b	"	"	"
			94								"	OUT		2.7 V					"	E to Z d		"	
		"	95								"				OUT		2.7 V	"	"	E to Z c	"	"	"
	t _{PLH3}		96	IN	0.0 V	2.7 V	OUT				"							0.0 V	"	S to Z a	3.0	9.5	"
			97					0.0 V	2.7 V	OUT									"	S to Z b		"	
		"	98								"	OUT	2.7 V	0.0 V				"	"	S to Z d	"	"	
			99								"				OUT	2.7 V	0.0 V		"	S to Z c		"	"
İ	t _{PHL4}	"	100	"	2.7 V	0.0 V	OUT				"							"	"	S to \overline{Z} a	2.5	6.5	
		"	101	"				2.7 V	0.0 V	OUT	"							"	"	S to Z b	"	"	"
		"	102	"							"	OUT	0.0 V	2.7 V				"	"	S to Z d	"	"	"
			103	"							"				OUT	0.0 V	2.7 V	"	"	S to \overline{Z} c	"	"	"

 $[\]underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Mir	n/Max limits ii	n mA for circ	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

 $[\]underline{3}\!/$ A = 2.5 V minimum, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}\!/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. Group A inspection for device type 05.

Terminal conditions (pins not designated may be high $\ge 2.0 \text{ V}$: low $\le 0.8 \text{ V}$; or open).

						Te	rminal	conditio	ns (pins	not des	signated	l may b	e high ≥	2.0 V; l	$8.0 \ge wo$	V; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	13	12	l1	10	Z	Z	QE	GND	S2	S1	S0	17	16	15	14	V _{CC}		Min	Max	
1	V _{OL}	3007	1				2.0 V		20 mA	0.8 V	GND	0.8 V	0.8 V	0.8 V					4.5 V	Z		0.5	V
c = 25°C		"	2			2.0 V				"		"	0.8 V	2.0 V					"	-			
		"	3		2.0 V				"	"		"	2.0 V	0.8 V					"	"		"	
		"	4	2.0 V					-		-		2.0 V	2.0 V					"	"		-	-
			5						- "	- "		2.0 V	0.8 V	0.8 V			0.01/	2.0 V	- "			- "	
			<u>6</u> 7							-			0.8 V 2.0 V	2.0 V 0.8 V		2.0 V	2.0 V		-			-	-
		"	8										2.0 V	2.0 V	2.0 V	2.0 V							
		"	9				0.8 V	20 mA		"		0.8 V	0.8 V	0.8 V	2.0 1				"	Z			"
	V _{OH}	3006	10				2.0 V	-3.0 mA		0.8 V		0.8 V	0.8 V	0.8 V					"	Z	2.4		
		"	11				0.8 V		-3.0 mA	"		"	"	0.8 V					"	z			
		"	12			0.8 V			"	"			"	2.0 V					"	"	"		
		"	13		0.8 V				"	"	"	"	2.0 V	0.8 V					"	"	"		
			14	0.8 V					"	"		"	2.0 V	2.0 V					"	"	"		-
			15							-:-	-	2.0 V	0.8 V	0.8 V			0.8 V	0.8 V	- :	- :	-		-
			16 17							-			0.8 V 2.0 V	2.0 V 0.8 V		0.8 V	0.8 V		-		-		-
		"	18										2.0 V	2.0 V	0.8 V	0.6 V							
	Vic		19	-18 mA									2.0 1	2.0 (0.0 1				"	13		-1.2	
			20		-18 mA						=								"	I2		-	-
			21			-18 mA					-								"	I1		-	-
			22				-18 mA	ļ		40 4	-								- "	10		-:-	-
			23							-18 mA										QE			_
			24								-	-18 mA							"	S2			
			25								"		-18 mA						"	S1		"	
			26								-			-18 mA	40 4					S0		-:-	
			27 28												-18 mA	-18 mA				17 16			
			29													-10 IIIA	-18 mA			15			
			30														10 1121	-18 mA	"	14			
	I _{IH1}	3010	31	2.7 V						4.5 V		4.5 V	0.0 V	0.0 V					5.5 V	13		20	μА
		"	32		2.7 V					"		"	0.0 V	4.5 V					"	12		"	-
			33			2.7 V	0.71/			- "	-		4.5 V	0.0 V					- :-	<u> 11</u>		-:-	-
			34 35				2.7 V			2.7 V			4.5 V	4.5 V					-	10		-	
										2.7 V										QE			
			36								-	2.7 V	0.71/							S2			
		,	37 38		1	}		1		-	-		2.7 V	2.7 V		1	1			S1 S0	-	-	
		"	39							4.5 V		0.0 V	0.0 V	0.0 V	2.7 V					17			
		"	40			†		†		7.0 0		"	0.0 V	4.5 V	Z./ V	2.7 V			"	16			
		"	41									"	4.5 V	0.0 V			2.7 V		"	15			
		"	42										4.5 V	4.5 V				2.7 V	"	14		Max 0.5 " " " " " " " " " " " " " " " " " "	-
	I _{IH2}		43	7.0 V	701/							4.5 V	0.0 V	0.0 V						13			
		,	44 45		7.0 V	7.0 V		}		-	-	-	0.0 V 4.5 V	4.5 V 0.0 V		1	1			I2 I1	-	-	
		"	45		 	7.U V	7.0 V						4.5 V 4.5 V	4.5 V		1	1			10		-	-
		"	47		<u> </u>		7.0 V			7.0 V			7.5 V	7.5 V						QE			
					ļ							7.5.1		1									
		"	48		<u> </u>							7.0 V	701/			1	-		- "	S2		-:-	-
			49 50		 	-		-		 	-	 	7.0 V	7.0 V	-	 	-		-	S1 S0	 	-	- "
		"	51		 							0.0 V	0.0 V	0.0 V	7.0 V		-			17			
		"	52	1	1				1			"	0.0 V	4.5 V	1	7.0 V			"	16		"	
		"	53									"	4.5 V	0.0 V			7.0 V		"	15		"	
	1	"	54								"	"	4.5 V	4.5 V				7.0 V	"	14		"	

TABLE III. Group A inspection for device type 05.

Terminal conditions	(nine not decianate	d may be high > 2 0	V: low < 0.8 V: or open).
Terrinal conditions	TDITIS FIOL DESIGNALE	u may be mun / 2.0	v. iow > 0.6 v. or obein.

						Τe	erminal o	conditio	ns (pins	not des	signated	l may be	e high ≥	2.0 V; k	$8.0 \ge wc$	V; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	13	12	I1	10	Z	z	QE	GND	S2	S1	S0	17	16	15	14	V _{CC}		Min	Max	
1	I _{IL}	3009	55	0.5 V						0.0 V	GND	0.0 V	4.5 V	4.5 V					5.5 V	13	2/	2/	mA
$Tc = 25^{\circ}C$			56		0.5 V								4.5 V	0.0 V						12			
			57			0.5 V							0.0 V	4.5 V						I1			
			58				0.5 V						0.0 V	0.0 V						10		-	
			59							0.5 V										QE			
			60							0.0 V		0.5 V								S2			
			61										0.5 V							S1			
			62										0.0 1	0.5 V						S0			
			63							0.0 V		4.5 V	4.5 V	4.5 V	0.5 V					17			
			64							"		"	4.5 V	0.0 V	0.0 1	0.5 V				16			
			65						l				0.0 V	4.5 V		0.0 *	0.5 V			15			
			66										0.0 V	0.0 V			0.0 v	0.5 V		14			
	I _{OZH}		67				0.0 V	2.7 V		4.5 V		0.0 V	0.0 V	0.0 V				0.0 1		Z		50	μА
	0211		68				4.5 V		2.7 V	"			"	"					"	Z		50	,
	I _{OZL}		69				4.5 V	0.5 V												Z		-50	
	*OZL		70				0.0 V	0.0 1	0.5 V	"				"						Z		-50	
		3011	71				4.5 V	0.0 V		0.0 V										Z	-60	-150	mA
	Ios	3011	72				0.0 V	0.0 V	0.0 V	0.0 V										Z	-60	-150	mA "
		0011							0.0 1													100	
	I _{OD}		73				0.0 V	2.5 V		-	- :	-	-:-						4.5 V	Z	35		
			74				5.5 V		2.5 V										4.5 V	Z	35		
	Icc	3005	75	4.5 V	4.5 V	4.5 V	4.5 V				-	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	5.5 V	V _{cc}		22	-
	I _{CCZ}	3005	76	4.5 V	4.5 V	4.5 V	4.5 V			4.5 V	-	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	4.5 V	5.5 V	V _{cc}		24	-
2	Same to	ests, termina	al conditions	, and limits	s as subgr	oup 1, exc	$ept T_C = +$	-125°C an	d V _{IC} tests	are omitte	ed.												
3		ests, termina							V _{IC} tests a														
7	Func-	3014	77	В	В	В	Α	Н	L	В	GND	В	В	В	В	В	В	В	<u>4</u> /	All			
$Tc = 25^{\circ}C$	tional		78		В	Α	В	"	"	"	"		В	Α		"	"		"	outputs			
	test		79		Α	В		"	"	"			Α	В	-	"	"	"					
	<u>3</u> /		80	Α	В	-		"	"	"		-	Α	Α	-	"		"					
			81	В				"	-	"		Α	В	В	-			Α					
			82				"	"	"	"	"		В	Α		"	Α	В	"				
			83					"	"	"			Α	В		Α	В	"					
			84			"	"	"	"	"	"		Α	Α	Α	В	В		"				
			85	Α	Α	Α		L	Н	"		В	В	В	-	Α	Α	Α	"				
		"	86	"	Α	В	"	"	"	"	"	-	В	Α		"	"	"	"				
		"	87		В	Α	"	"	"	"	"	-	Α	В		"	"	"	"				
		"	88	В	Α	"	"	"	"	"	"		Α	Α	"	"	"	"	"				
		"	89	Α			"	"	"	"	"	Α	В	В	-	"	"	В	"				
		"	90	"	"	"	"	"	"	"	"	"	Α	В	"	В	"	"	"				
			91	-	-	-:-		- "	- "	-:-	-		A	A	В	-	-		- "				
8	Samo +	ests, termina	92 al conditions	and limit	e ac for cu	haroup 7	evcent T	_ <u>_</u> 125°C	and T	55°C		-	В	Α	В	L	В						
9	t _{PI H1}	3003	93	, and millio	3 43 IUI SU	bgroup 7,	IN	OUT	anu ic=	0.0 V	GND	0.0 V	0.0 V	0.0 V					5.0 V	I0 to Z	2.5	7.0	ns
Tc = 25°C	1611	Fig. 4	94			IN		"		"			0.0 V	2.7 V					"	I1 to Z		"	
		, and	95		IN			"		"			2.7 V	0.0 V						I2 to Z			
			96	IN				"		"			2.7 V	2.7 V					"	I3 to Z		"	
			97	<u> </u>				"		"		2.7 V	0.0 V	0.0 V				IN	"	I4 to Z		"	
			98					"		"			0.0 V	2.7 V			IN		"	I5 to Z			
1			99					"		"		-	2.7 V	0.0 V		IN			"	I6 to Z			
1			100				_	-		-	-		2.7 V	2.7 V	IN					I7 to Z	-		

TABLE III. Group A inspection for device type 05. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

Subgroup		MIL-STD-	Cases	1	2	3	4	5	6	_	0				4 ^	4.0	4.4	4-	4.0				1
Subgroup	Cumbal		E, F			-	-	3	U	7	8	9	10	11	12	13	14	15	16				
	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
		mounou	Test no.	13	I2	I1	10	Z	Ī	QE	GND	S2	S1	S0	17	16	15	14	V _{CC}	tomina	Min	Max	
9	t _{PHL1}	3003	101				IN	OUT		0.0 V	GND	0.0 V	0.0 V	0.0 V					5.0 V	I0 to Z	3.5	7.0	ns
c = 25°C	THE	Fig. 4	102			IN		"		"	"	"	0.0 V	2.7 V					"	I1 to Z	"	"	"
		,	103		IN								2.7 V	0.0 V						I2 to Z		"	"
			104	IN						"			2.7 V	2.7 V						I3 to Z	"	"	"
			105							"		2.7 V	0.0 V	0.0 V				IN		I4 to Z		"	
			106					-		"	-		0.0 V	2.7 V			IN		-	I5 to Z	-	"	
		"	107					-		-	-		2.7 V	0.0 V		IN			-	I6 to Z	-		
		"	108							"		-	2.7 V	2.7 V	IN					I7 to Z		"	
	t _{PLH2}	"	109				N		OUT			0.0 V	0.0 V	0.0 V						I0 to Z	2.5	6.5	. "
			110			IN				"			0.0 V	2.7 V					"	I1 to \overline{Z}		"	"
		"	111		IN					"			2.7 V	0.0 V					"	I2 to Z		"	"
			112	IN					"	"	"	"	2.7 V	2.7 V					"	I3 to \overline{Z}	"	"	"
		"	113						"	"	"	2.7 V	0.0 V	0.0 V				IN	"	I4 to Z	"	"	"
		"	114							"			0.0 V	2.7 V			IN		"	I5 to Z		"	"
		"	115							"			2.7 V	0.0 V		IN			"	16 to Z		"	"
		"	116							"			2.7 V	2.7 V	IN					I7 to \overline{Z}		"	"
	t _{PHL2}	"	117				IN			"		0.0 V	0.0 V	0.0 V						I0 to Z	1.0	4.0	"
		"	118			IN			"	"			0.0 V	2.7 V					"	I1 to Z		"	"
		"	119		IN					"			2.7 V	0.0 V					"	I2 to Z		"	"
		"	120	IN						"			2.7 V	2.7 V					"	I3 to Z		"	"
		"	121							"		2.7 V	0.0 V	0.0 V				IN		I4 to Z		"	"
		"	122						"	"			0.0 V	2.7 V			IN		"	I5 to Z		"	"
		"	123							"			2.7 V	0.0 V		IN			"	16 to Z		"	"
			124						"	"	"	"	2.7 V	2.7 V	IN				"	I7 to Z	"	"	
ſ	t _{PLH3}	"	125			2.7 V	0.0 V	OUT		"		0.0 V	0.0 V	IN					"	S0 to Z	4.5	10.5	"
		"	126		2.7 V		"			"	"	0.0 V	IN	0.0 V						S1 to Z	"	"	
_	,		127			0.01/	071/			"		IN	0.0 V	0.0 V				2.7 V		S2 to Z	"	"	
	t _{PHL3}		128		0.017	0.0 V	2.7 V					0.0 V	0.0 V	IN 0.0.V					-	S0 to Z	4.0	8.5	-
			129 130		0.0 V					"		0.0 V	0.0 V	0.0 V 0.0 V			-	0.0 V	-	S1 to Z		- "	
-	t _{PLH4}	"	130			0.0 V	"		OUT	"	"	0.0 V	0.0 V	IN				0.0 V	"	S2 to Z S0 to Z	3.5	9.0	"
	t _{PLH4}		132		0.0 V							0.0 V	IN	0.0 V						S1 to Z		"	"
			133							"		IN	0.0 V	0.0 V				0.0 V		S2 to Z		"	"
}	t _{PHL4}	"	134			2.7 V	0.0 V		"	"	"	0.0 V	0.0 V	IN					"	S0 to Z	3.2	7.5	"
			135		2.7 V		"		"	"		0.0 V	IN	0.0 V					"	S1 to Z	"	"	"
			136				"			"		IN	0.0 V	0.0 V				2.7 V	"	S2 to Z		"	"

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TABLE III. Group A inspection for device type 05.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$; low $\leq 0.8 \text{ V}$; or open).

	MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
		Test no.	13	I2	I1	10	Z	z	QE	GND	S2	S1	S0	17	16	15	14	V _{CC}		Min	Max	1
t _{PZH5}	3003	137				2.7 V	OUT		IN	GND	0.0 V	0.0 V	0.0 V					5.0 V	QE to Z	3.5	7.0	ns
t _{PZH6}	Fig. 4	138				0.0 V		OUT	"	"	"	"	"					"	QE to Z	2.5	6.0	"
t _{PZL5}	"	139				0.0 V	OUT		"	"		"	"					"	QE to Z	3.5	7.5	"
t _{PZL6}	"	140				2.7 V		OUT	"	"		"	"					"	QE to Z	2.5	6.0	"
t _{PHZ5}	"	141				2.7 V	OUT		"	"	"	"	"					"	QE to Z	2.0	5.5	"
t _{PHZ6}	"	142				0.0 V		OUT	"	"	"	"	"					"	QE to Z	2.5	5.5	"
t _{PLZ5}	"	143				0.0 V	OUT		"	"		"	"					"	QE to Z	1.0	4.5	"
t _{PLZ6}	"	144				2.7 V		OUT	"	"		"	"					"	QE to Z	1.0	4.5	"
	$t_{PLH1} = 2.5 \text{ t}$ $t_{PLH2} = 2.5 \text{ t}$ $t_{PHL1} = 3.5 \text{ t}$ $t_{PHL2} = 1.0 \text{ t}$	o 9.0 ns o 8.5 ns o 9.0 ns o 6.0 ns		$t_{PLH3} = 3.5$ $t_{PLH4} = 3.5$ $t_{PHL3} = 3.0$ $t_{PHL4} = 3.2$	to 14.0 n to 11.5 n to 10.5 n to 8.0 ns	s s s	$t_{PZH5} = 3.0$ $t_{PZH6} = 2.0$ $t_{PZL5} = 2.5$ $t_{PZL6} = 2.5$	to 8.5 ns to 7.0 ns to 9.0 ns		$t_{PHZ6} = 2.0$ $t_{PLZ5} = 1.0$	to 6.0 ns to 5.5 ns		•		•			•				
	t _{PZH5} t _{PZH6} t _{PZL5} t _{PZL6} t _{PHZ5} t _{PHZ5} t _{PHZ5} t _{PHZ6} t _{PLZ5}	Symbol 883 method tp2H5 3003 tp2H6 Fig. 4 tp2L5 " tpH25 " tpH25 " tpL26 " Same tests and tertpLH2 2.5 tpLH2 tpH2 2.5 tpH1 stpH2 3.5 tpH2 tpH2 3.5 tpH2 tpH2 3.0 tpH2	$\begin{array}{c c} \text{Symbol} & \text{MIL-STD-} \\ \text{883} & \text{method} & \hline & \text{Case 2} \\ \frac{1}{1} & \text{Test no.} \\ \\ \text{tp}_{\text{ZH5}} & 3003 & 137 \\ \\ \text{tp}_{\text{ZH6}} & \text{Fig. 4} & 138 \\ \\ \text{tp}_{\text{ZL5}} & " & 139 \\ \\ \text{tp}_{\text{HZ5}} & " & 140 \\ \\ \text{tp}_{\text{HZ5}} & " & 141 \\ \\ \text{tp}_{\text{HZ5}} & " & 142 \\ \\ \text{tp}_{\text{LZ5}} & " & 143 \\ \\ \text{tp}_{\text{LZ5}} & " & 144 \\ \\ \text{Same tests and terminal condition} \\ \\ \text{tp}_{\text{LH}} = 2.5 \text{ to } 9.0 \text{ ns} \\ \\ \text{tp}_{\text{HZ}} = 2.5 \text{ to } 9.0 \text{ ns} \\ \\ \text{tp}_{\text{HZ}} = 2.5 \text{ to } 9.0 \text{ ns} \\ \\ \text{tp}_{\text{HZ}} = 3.5 \text{ to } 9.0 \text{ ns} \\ \\ \text{tp}_{\text{HZ}} = 3.5 \text{ to } 9.0 \text{ ns} \\ \\ \text{tp}_{\text{HZ}} = 1.0 \text{ to } 6.0 \text{ ns} \\ \end{array}$	MIL-STD-	MIL-STD- E, F	MIL-STD- 883 method E, F S Test no. I3 I2 I1 tp₂H6 Fig. 4 138 I2 I1 tp₂H6 Fig. 4 138 I3 I3 I2 I1 tp₂H6 " 139 I3 I3 I2 I1 I3 I2 I1 I1 I1 I2 I1 I2 I1 I2 I1 I3 I2 I1 I2 I1 I2 I1 I2 I2	MIL-STD- E, F	MIL-STD- E, F								$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	MIL-STD- E, F	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	MIL-STD E, F	Symbol 883 Case 2 2 3 4 5 7 8 9 10 12 13 14 15 17 18 19 20 Measured terminal conditions as subgroup 9, except To = +125°C and for the following limits. Included the subgroup 1, see that 1, see the subgroup 1, see the subgroup 1, see the subgroup 2, except To = +125°C and for the following limits. Include 2, 5 to 9.0 ns	Symbol Symbol Second Symbol S	Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Respondent Symbol Symbol Respondent Symbol Symb

^{1/} For case 2 pins not referenced are N/C.

 $[\]frac{1}{2}$ I_{IL} limits shall be as follows:

	Min/Max I	imits in mA f	or circuit
Test	Α	В	С
I _{IL}	25/60	03/60	03/60

 $[\]underline{3}/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. <u>Group A inspection for device type 06</u>. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

Tc = 25°C	I	MIL-STD- 883 method 3007 " " " " " " " " " " " " " " " " " "	Cases E, F Case 2 1/ Test no. 1 2 3 4 4 5 6 7 7 8 9 10 11 12 13 14 15 16	1 2 S 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V	2 3 10a 0.8 V 2.0 V	3 4 11a 2.0 V 0.8 V	4 5 Za 20 mA 20 mA -3 mA -3 mA	5 7 10b 0.8 V 2.0 V	6 8 11b 2.0 V 0.8 V	7 9 Zb 20 mA 20 mA	8 10 GND GND " " " " "	9 12 Zd 20 mA 20 mA	10 13 11d 2.0 V 0.8 V	11 14 10d 10d 0.8 V	12 15 Zc	13 17 I1c	14 18 10c	15 19 OE 0.8 V "	16 20 V _{CC} 4.5 V "	Measured terminal Za Za Zb Zb	Lim	Max 0.5	Unit
1 Tc = 25°C	V _{OL}	3007	1/ Test no. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	S 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V	0.8 V 2.0 V	11a 2.0 V 0.8 V	Za 20 mA 20 mA -3 mA	10b	11b	Zb 20 mA	GND " " " " "	Zd Zd 20 mA	11d	I0d				ŌE	V _{cc}	terminal Za Za Zb Zb		Max	
Tc = 25°C	V _{он}	" " " " " " " " " " " " " " " " " " " "	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V	0.8 V 2.0 V	2.0 V 0.8 V	20 mA 20 mA	0.8 V	2.0 V	20 mA	GND " " " " " "	20 mA	2.0 V		Zc	I1c	IOc			Za Zb Zb	Min		V
Tc = 25°C	V _{он}	" " " " " " " " " " " " " " " " " " " "	2 3 4 5 6 7 8 9 10 11 12 13 14	2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V	2.0 V	0.8 V	20 mA				H H H			0.8 V				0.8 V	4.5 V	Za Zb Zb		0.5	V "
Vi		"	3 4 5 6 7 8 9 10 11 12 13 14	0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V	2.0 V	0.8 V	-3 mA				"			0.8 V				"	"	Zb Zb			"
		"	4 5 6 7 8 9 10 11 12 13 14	2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V							"			0.8 \/				"		Zb		-	"
		3006	5 6 7 8 9 10 11 12 13 14	0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V				2.0 V	0.8 V	20 mA	"			0.8 V				"					
		3006	6 7 8 9 10 11 12 13 14	2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V							"			0.8 \/						7.4			
		3006	7 8 9 10 11 12 13 14	0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V								20 mA	0 8 V					"		Zd			
		3006	8 9 10 11 12 13 14	2.0 V 0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V									0.0 ¥	2.0 V					- :	Zd			-
		3006	9 10 11 12 13 14	0.8 V 2.0 V 0.8 V 2.0 V 0.8 V 2.0 V											20 mA	2.0 V	0.8 V		-	Zc			
		" " " " " " " " " " " " " " " " " " " "	10 11 12 13 14 15	2.0 V 0.8 V 2.0 V 0.8 V 2.0 V							-				20 mA	0.8 V	2.0 V		-	Zc Za	2.4		
V	V _{IC}	" " " " "	11 12 13 14 15	0.8 V 2.0 V 0.8 V 2.0 V	0.6 V	2.0 V	-3 IIIA											"		Za	2.4		-
V	V _{IC}	" " "	12 13 14 15	2.0 V 0.8 V 2.0 V				2.0 V	0.8 V	-3 mA										Zb			
V	V _{IC}	"	13 14 15	0.8 V 2.0 V				0.8 V	2.0 V	-3 mA								"		Zb			
V	V _{IC}	"	14 15	2.0 V		1	1	J.U V	2.0 V	JIIIA		-3 mA	0.8 V	2.0 V				"		Zd			
V	V _{IC}	"	15									-3 mA	2.0 V	0.8 V				"		Zd			
V	V _{IC}	"		0.8 V											-3 mA	0.8 V	2.0 V	"		Zc			
V	V _{IC}		16	2.0 V											-3 mA	2.0 V	0.8 V	"		Zc			"
			17	-18 mA																S		-1.2	
			18		-18 mA															l0a			
			19			-18 mA														l1a			
		L	20					-18 mA			"								"	l0b			"
		L	21						-18 mA											l1b		-	
		Ļ	22								-		-18 mA						- :	l1d			
		-	23								-			-18 mA		40 4			-	I0d		-	
		F	24 25								-					-18 mA	-18 mA		-	11c 10c		-	
			26								"						-16 IIIA	-18 mA		OE OE			
I _{II}	I _{IH1}	3010	27	2.7 V							"							4.5 V	5.5 V	S		20	μА
		"	28	4.5 V	2.7 V													"		l0a			
		"	29	0.0 V		2.7 V					"							"		l1a			
		"	30	4.5 V				2.7 V												I0b			
		"	31	0.0 V					2.7 V				0.71/						-	I1b			-
		<u> </u>	32	0.0 V							-		2.7 V	271/						I1d I0d		-	-
			33 34	4.5 V 0.0 V										2.7 V		2.7 V		"		I0d I1c		-	-
			35	4.5 V												Z.1 V	2.7 V	"		10c			
		"	36	4.5 V							"						Z.1 V	2.7 V		OE OE		"	"
1	I _{IH2}	"	37	7.0 V		1	1							1		1		4.5 V		S		100	-
"	'IH2		38	4.5 V	7.0 V													T.U V		I0a		"	
		"	39	0.0 V		7.0 V												"		l1a			"
		"	40	4.5 V				7.0 V			"							"		I0b			"
		"	41	0.0 V					7.0 V									"		l1b		"	"
		"	42	0.0 V									7.0 V					"		l1d			
		"	43	4.5 V							"			7.0 V				"		I0d		"	"
		"	44	0.0 V							"					7.0 V		"	"	I1c		"	"
		"	45	4.5 V													7.0 V		"	I0c		"	
		"	46								"							7.0 V		ŌE		"	

TABLE III. Group A inspection for device type 06. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	iits	Unit
			Test no.	S	I0a	l1a	Za	I0b	I1b	Zb	GND	Zd	l1d	I0d	Zc	I1c	I0c	ŌE	V _{cc}		Min	Max	
1	I_{IL1}	3009	47	0.5 V							GND								5.5 V	S	2/	2/	mA
Tc = 25°C		"	48	0.0 V	0.5 V						"								"	I0a			
		"	49	4.5 V		0.5 V													"	l1a			-
		"	50	0.0 V				0.5 V			"								"	I0b			
		"	51	4.5 V					0.5 V										"	l1b			
		"	52	4.5 V							"		0.5 V						"	l1d			
		"	53	0.0 V							"			0.5 V					"	I0d			"
		"	54	4.5 V							-					0.5 V			"	I1c	"		"
		"	55	0.0 V													0.5 V		"	I0c	"		"
		"	56								"							0.5 V	"	ŌE			"
	-	2044	F.7	0.01/	451/		0.01/											0.01/		Za		450	
	los	3011	57 58	0.0 V	4.5 V		0.0 V	4.5 V		0.0 V						-		0.0 V	"	Zb	-60	-150	-
				,				4.5 V		0.0 V		0.01/		451/		-		-	-	Zd		-	
			59 60								-	0.0 V		4.5 V	0.0 V		4.5 V		-	Zc	-		-
	-		61	0.0 V	0.0 V		2.5 V				-				0.0 V		4.5 V		4.5 V	Za	35		-
	I _{OD}		62	0.0 V	0.0 V		2.3 V	0.0 V		2.5 V	"								4.3 V	Zb	33		
			63					0.0 V		2.5 V		2.5 V		0.0 V						Zd			
			64									2.5 V		0.0 V	2.5 V		0.0 V			Zc			
	—		65	4.5 V	4.5 V	4.5 V	2.7 V								Z.J V		0.0 V	2.0 V	5.5 V	Za		50	μА
	I _{OZH}		66	4.5 V	4.5 V	4.5 V	Z.1 V	4.5 V	4.5 V	2.7 V								2.0 V	J.J V	Zb		30	μА
			67					4.5 V	4.5 V	2.7 V		2.7 V	4.5 V	4.5 V					"	Zd			
			68	"								Z.1 V	4.5 V	4.5 V	2.7 V	4.5 V	4.5 V		"	Zc			
	1		69	0.0 V	0.0 V	4.5 V	0.5 V								Z.1 V	7.5 V	4.5 V		"	Za		-50	
	I _{OZL}		70	0.0 V	0.0 V	4.5 V	0.5 V	0.0 V	4.5 V	0.5 V									"	Zb		-30	
			71	"				0.0 V	4.5 V	0.5 V		0.5 V	4.5 V	0.0 V						Zd			
			72	"								0.0 1		0.0 1	0.5 V	4.5 V	0.0 V		"	Zc			
	I _{CCH}	3005	73	4.5 V	0.0 V	4.5 V		0.0 V	4.5 V				4.5 V	0.0 V	0.0 1	4.5 V	0.0 V	0.0 V	"	V _{CC}		15	mA
	I _{CCL}	3005	74	0.0 V	0.0 V	0.0 V		0.0 V	0.0 V		"		0.0 V	0.0 V		0.0 V	0.0 V	0.0 V	"	V _{CC}		22	"
	I _{CCZ}	3005	75	0.0 V	0.0 V	0.0 V		0.0 V	0.0 V		"		0.0 V	0.0 V		0.0 V	0.0 V	4.5 V	"	V _{CC}		23	
2			al conditions				ent To = +			are omitte	2d	l								- 66			
3			al conditions																				
7	Func-	3014	76	A	A	В	L	A	B B	L	GND	L	В	Α	L	В	Α	В	4/	All			
Tc = 25°C		"	77	"	В	В	ī	В	В	Ī	"	Ī	В	В	T i	В	В	-	-	outputs			
.0-200	test	"	78	"	В	A	H	В	A	H		H	A	В	H	A	В			00.00.0			
	<u>3</u> /	"	79	"	A	A	H	A	A	H		H	A	A	H	A	A	"	-	1			
		"	80	В	В	A	Ë	В	A	L	-	L	A	В	Ĺ	A	В	"	-	1			
		"	81	"	В	В	Ī	В	В	Ī	"	Ī	В	В	T i	В	В			1			
		"	82	"	A	В	H	A	В	H	"	H	В	A	H	В	A			1			
		"	83	"	A	A	H	A	A	H		H	A	A	H	A	A		-	1			
8	Same to	ests, termina	al conditions	and limits										<u> </u>					1				
9	t _{PLH1}	3003	84	0.0 V	IN	. J 11	OUT	1		1	GND	1						0.0 V	5.0 V	I0a to Za	2.5	5.5	ns
T _C = 25°C	1 671	Fig. 4	85	2.7 V		IN	OUT				"			1		1	1		"	I1a to Za	"	"	,
		"	86	0.0 V		<u> </u>		IN		OUT	"	†		1		1				I0b to Zb	"	"	
		"	87	2.7 V					IN	OUT		†		1		1			-	I1b to Zb	"	"	
		"	88	2.7 V					· · · ·			OUT	IN				1			I1d to Zd	"	"	
		"	89	0.0 V							"	OUT		IN		1				I0d to Zd	"	"	
		"	90	2.7 V							"			T	OUT	IN				I1c to Zc	"	"	
		"	91	0.0 V							-	†		1	OUT	†	IN		-	I0c to Zc	"	"	
<u> </u>		1									•												i

TABLE III. Group A inspection for device type 06.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$; low $\leq 0.8 \text{ V}$; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			ļ	
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	S	I0a	l1a	Za	I0b	l1b	Zb	GND	Zd	l1d	I0d	Zc	I1c	I0c	OE	V _{CC}		Min	Max	
9	t _{PHL1}	3003	92	0.0 V	IN		OUT				GND							0.0 V	5.0 V	I0a to Za	2.0	5.5	ns
「 _C = 25°C		Fig. 4	93	2.7 V		IN	OUT													I1a to Za		"	
		"	94	0.0 V				IN		OUT									"	I0b to Zb	"	"	"
			95	2.7 V					IN	OUT	"								"	I1b to Zb	"	"	
			96	2.7 V								OUT	IN					- :	<u> </u>	I1d to Zd	- "		<u> </u>
			97 98	0.0 V 2.7 V							-	OUT		IN	OUT	IN		-	-	I0d to Zd	- "		-
			99	0.0 V											OUT	IIN	IN			10c to Zc		-	-
-	t _{PLH3}		100	IN	0.0 V	2.7 V	OUT								001		IIN			S to Za	4.0	9.5	
	*PLH3		101	"	0.0 1			0.0 V	2.7 V	OUT										S to Zb	"	"	
			102								"	OUT	2.7 V	0.0 V				"	"	S to Zd	"	"	"
			103												OUT	2.7 V	0.0 V			S to Zc	"	"	"
	t _{PHL3}		104	-	2.7 V	0.0 V	OUT												"	S to Za	2.5	7.0	"
		"	105					2.7 V	0.0 V	OUT	"									S to Zb	"	"	"
			106	-								OUT	0.0 V	2.7 V					- "	S to Zd			
-		- "	107 108	0.0 V	2.7 V		OUT								OUT	0.0 V	2.7 V	IN		S to Zc	2.0	6.0	
	t _{PZH5}			0.0 V	2.7 V		001	0.7.1/		OUT								IIN		OE to Za	2.0	0.0	<u> </u>
			109					2.7 V		001		0.17		0.71/						OE to Zb			
			110									OUT		2.7 V	OUT		0.71/			OE to Zd			<u> </u>
			111												OUT		2.7 V			OE to Zc			
	t _{PZL5}	"	112	2.7 V		0.0 V	OUT				"								"	OE to Za	2.5	7.0	"
		"	113						0.0 V	OUT									"	OE to Zb	"	"	
		"	114	"							"	OUT	0.0 V					"	"	OE to Zd	"	"	"
		"	115								"				OUT	0.0 V		"	"	OE to Zc	=	"	"
	t _{PHZ5}	"	116			2.7 V	OUT											"	"	OE to Za	2.0	6.0	
		"	117	"					2.7 V	OUT	"							"	"	OE to Zb	"	"	"
		"	118	"							"	OUT	2.7 V					"	"	OE to Zd	"	"	"
		"	119	"							"				OUT	2.7 V		"	"	OE to Zc	"	"	"
ſ	t _{PLZ5}	"	120	0.0 V	0.0 V		OUT				"							"	"	OE to Za	"	"	"
		"	121					0.0 V		OUT	"							"	"	OE to Zb	"	"	"
		"	122								"	OUT		0.0 V				"	"	OE to Zd	"	"	"
		"	123	"							"				OUT		0.0 V	"	"	OE to Zc	"	"	"
		ests and terr							mits from	table I.													

 $[\]underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Mir	n/Max limits in	n mA for circ	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

 $[\]underline{3}\!/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}\!/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. Group A inspection for device type 07.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$: low $\leq 0.8 \text{ V}$; or open).

Mathematical Registry Math							Te	erminal o	conditio	ns (pins	not de	signated	d may b	e high ≥	2.0 V; lo	$8.0 \ge wc$	V; or op	en).						
Not solve Not			MIL-STD-	Cases E, F	1	2		4	5			8	9	10	11	12	13	14	15	16				
TG-2PC Vol. 3807 1	Subgroup	Symbol			2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20		Lin	iits	Unit
To a 200				Test no.	S	I0a	l1a	a	I0b	l1b		GND	Z̄ d	l1d	I0d	Ζ̄c	I1c	I0c	ŌĒ	V _{cc}	1	Min	Max	
	1	V _{OL}	3007	1	0.8 V	2.0 V	0.8 V	20 mA				GND							0.8 V	4.5 V	– Z a		0.5	V
Very	Tc = 25°C		"	2	2.0 V	0.8 V	2.0 V	20 mA				"							"	"			"	"
Var South			"	3	0.8 V				2.0 V	0.8 V	20 mA	"							"	"			"	"
S			"	4	2.0 V				0.8 V	2.0 V	20 mA	"							"	"			"	
Yes 3006 9			"	5	0.8 V							"	20 mA	0.8 V	2.0 V V				"	"			"	
Vot 3006 9			"	6	2.0 V								20 mA	2.0 V V	0.8 V				"	"	Z d		"	"
Note			"	7	0.8 V							"				20 mA	0.8 V	2.0 V	"	"			"	
Vox			"	8	2.0 V											20 mA	2.0 V	0.8 V	"	"			"	"
No.		V _{OH}	3006	9	0.8 V	0.8 V	2.0 V	-3 mA											"	"	Z a	2.4		"
11			"	10	2.0 V	2.0 V	0.8 V	-3 mA				"							"	"				
1			"	11	0.8 V				0.8 V	2.0 V	-3 mA	"							"	"		"		
No			"	12	2.0 V				2.0 V	0.8 V	-3 mA								"	"				"
14 20			"	13	0.8 V							"	-3 mA	2.0 V	0.8 V				"	"		"		
15			"	14	2.0 V								-3 mA	0.8 V	2.0 V				"	"				"
No.			"	15	0.8 V							"				-3 mA	2.0 V	0.8 V	"	"		"		"
Vic			"	16	2.0 V							"				-3 mA	0.8 V	2.0 V	"	"		"		
19		V _{IC}			-18 mA															"	S		-1.2	
Part Part						-18 mA	-18 mA					-								-			-	-
Part				20					-18 mA			"								"	l0b		"	
Record Figure F										-18 mA				40. 4										
Ref 24											-	-		-18 MA	-18 m∆			-					-	-
Ref 181 25															-101117		-18 mA						"	
Bet 3010 27 2.7 V				25														-18 mA		"	I0c		"	-
1				26															-18 mA	"	ŌE		"	"
1		I _{IH1}	3010																	5.5 V			20	μА
1						2.7 V													"				"	
1							2.7 V		271/			-	-						"				-	-
			"						Z.1 V	27V									"					
1			"											2.7 V					"				"	
			"									"			2.7 V				"	"			"	
1			"									"					2.7 V		"	"			"	
I			"		4.5 V							"						2.7 V	"	"			"	
38			"	36								"							2.7 V	"	ŌĒ		"	"
39 0.0 V 7.0 V		I _{IH2}				701													4.5 V				100	
40 4.5 \ 7.0 \ 7.0 \ 1						7.0 V	701/				-	-	-		1		-	-	"	-				-
1			"				7.0 V		7.0 V		1							1	"				"	
			"							7.0 V			1						"	-			"	
" 43 4.5 V " " 7.0 V " " 10d " " 44 0.0 V " 145 4.5 V " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " 10c " " " 10c " " 10c " " 10c " " 10c " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " " 10c " " " 10c " 10c " " 10c " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " " 10c " 10c " " 10c " " 10c " 10c " 10c " " 10c " " 10c " " 10c " 10c " " 10c " " 10c " 10c " " 10c " " 10c " 10c " 10c " " 10c " 10c " " 10c " 10c " 10c " 10c " 10c " 10c " 10c " 10c " 10c " 10c "			"										1	7.0 V			1		"				"	
" 44 0.0 V " " " 11c " " 45 4.5 V " " " 10c " " "			"								1	"			7.0 V				"	"			"	
" 45 4.5 V " " 10c " " "			"														7.0 V		"	"			"	
			"	45														7.0 V	"				"	
			"																7.0 V	"	ŌE		"	"

TABLE III. Group A inspection for device type 07.

						Te	rminal	conditio	ns (pins	not des	signated	I may b	e high ≥	2.0 V; lo	$8.0 \ge wc$	V; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	S	I0a	l1a	Z a	I0b	l1b	Z b	GND	Z d	l1d	I0d	Ζ̈́c	I1c	I0c	OE OE	V _{CC}		Min	Max	
1	I _{IL1}	3009	47	0.5 V							GND								5.5 V	S	2/	2/	mA
Tc = 25°C		"	48	0.0 V	0.5 V						"									I0a	"	"	"
			49	4.5 V		0.5 V					"									l1a	"	"	"
			50	0.0 V				0.5 V			"									I0b	"		
			51	4.5 V					0.5 V		"									I1b	"		
			52	4.5 V							"		0.5 V							I1d	-	"	
			53	0.0 V										0.5 V						I0d	"	"	
			54	4.5 V							"					0.5 V				I1c	"		
			55	0.0 V							"						0.5 V			I0c	"		
			56								"							0.5 V		OE	"		
	<u> </u>																						
	los	3011	57	0.0 V	0.0 V	4.5 V	0.0 V				"							0.0 V	. "	– Z a	-60	-150	"
			58	"				0.0 V	4.5 V	0.0 V	"										"	"	"
																			L	Ζb			
			59	"							"	0.0 V	4.5 V	0.0 V						_ Z d	"	"	
			60	"							"				0.0 V	4.5 V	0.0 V				"	"	
															*		***			Ζc			
	I _{OD}		61	"	5.5 V		2.5 V				"							"	4.5 V	– Z a	35		"
			62	"				5.5 V		2.5 V	"							"	"	Ζb			"
			63	"							"	2.5 V		5.5 V				"		Z d	"		"
			64		ļ										2.5 V	ļ	E E \/	-					
															2.5 V		5.5 V			Ζc			
	I _{OZH}		65	"	4.5 V	4.5 V	2.7 V				"							2.0 V	5.5 V	Z a		50	μА
			66	"				4.5 V	4.5 V	2.7 V	"							"		Z b		"	"
			67	"							"	2.7 V	4.5 V	4.5 V				"	"	Z d		"	"
			68	"							"				2.7 V	4.5 V	4.5 V	"	"	Ζc		"	"
	l _{OZL}		69	4.5 V	4.5 V	0.0 V	0.5 V				"									Z a		-50	
			70	"				4.5 V	0.0 V	0.5 V	"									Z b		"	
			71	"							"	0.5 V	0.0 V	4.5 V						Z d		"	
			72	"							"				0.5 V	0.0 V	4.5 V					"	
															0.0 .					Z c			
1	I _{CCH}	3005	73	0.0 V	0.0 V	0.0 V		0.0 V	0.0 V				0.0 V	0.0 V		0.0 V	0.0 V	0.0 V	₩	V _{cc}		9.5	mA
	I _{CCL}	3005	74	4.5 V	0.0 V	4.5 V		0.0 V	4.5 V				4.5 V	0.0 V		4.5 V	0.0 V	0.0 V	- :	V _{CC}		23	
	Icc	3005	75	0.0 V	0.0 V	0.0 V	L	0.0 V	0.0 V	L	L		0.0 V	0.0 V		0.0 V	0.0 V	4.5 V		V _{CC}		17	
2			al conditions																				
3			al conditions				ept I _C = -			re omitted								_					
7	Func-	3014	76	В	A	В	L.	A	В	<u> </u>	GND	L L	В	A	<u> </u>	В	A	В	<u>4</u> /	All			
Tc = 25°C			77	-	A	A	L	A	A	L		L	A	A	L	A	A	-		outputs			
	test		78	- "	В	A	H	В	A	Н	- "	Н	A	В	Н	Α	В	- "	- "	4			
	<u>3</u> /		79	-	В	В		В	В	- "	- "	- "	В	В	- "	В	В	- "	- "	4			
			80	A	Α	В		A	В				В	A		В	A			1			
			81	- "	В	В		В	В		- "	- "	В	В	- "	В	В	- "	- "	4			
			82	- "	В	A	Ļ	В	A	Ļ	- :	L L	A	В	L L	A	В	- "	- "	4			
			83		Α	Α	L	Α	A	L		L	Α	Α	L	Α	Α			L			
8	Same to	ests, termina	al conditions	, and limit	s as for su	bgroup 7,	except To	= +125°C	and To =	: -55°C.													

TABLE III. Group A inspection for device type 07.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$: low $\leq 0.8 \text{ V}$; or open).

						I	erminai	conditio	ns (pins	not des	signated	may b	e high ≥	2.0 V; I	$8.0 \ge \text{WC}$	v; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	S	I0a	l1a	Z a	I0b	l1b	Z b	GND	Z d	l1d	I0d	Z c	I1c	I0c	OE	V _{CC}	1	Min	Max	
9	t _{PLH2}	3003	84	0.0 V	IN		OUT				GND							0.0 V	5.0 V	I0a to Z a	2.5	5.3	ns
Γ _C = 25°C		Fig. 4	85	2.7 V		IN	OUT				"							"	"	I1a to Z a		"	"
			86	0.0 V				IN		OUT	"							"	"	I0b to Z b		"	"
		"	87	2.7 V					IN	OUT	"							"	"	I1b to Z b	"	"	"
		"	88	2.7 V							"	OUT	IN					"	"	I1d to Z d		"	
		"	89	0.0 V							"	OUT		IN				"	"	I0d to Z d	"	"	"
		"	90	2.7 V							"				OUT	IN		"	"	I1c to Z c	"	"	
		"	91	0.0 V							"				OUT		IN	"	"	l0c to Z c	"	"	"
	t _{PHL2}	"	92	0.0 V	IN		OUT				"							"	"	I0a to Z a	1.0	4.0	
		"	93	2.7 V		IN	OUT				"							"	"	I1a to Z a		"	
		"	94	0.0 V				IN		OUT	"							"	"	I0b to Z b		"	
			95	2.7 V					IN	OUT	"							"	"	I1b to Z b		"	"
		"	96	2.7 V							"	OUT	IN					"	"	I1d to Z d		"	
		"	97	0.0 V							"	OUT		IN				"	"	I0d to Z d	"	"	
			98	2.7 V							"				OUT	IN		"	"	I1c to Z c		"	"
		"	99	0.0 V							"				OUT		IN	"	"	I0c to Z c	"	"	
	t _{PLH4}	"	100	IN	2.7 V	0.0 V	OUT				"							IN	"	S to Z a	3.0	7.5	"
		"	101					2.7 V	0.0 V	OUT	"							"	"	S to Z b		"	"
		"	102								"	OUT	0.0 V	2.7 V				"	"	S to Z d		"	"
		"	103								"				OUT	0.0 V	2.7 V	"	"	S to \overline{Z} c			-
	t _{PHL4}	"	104		0.0 V	2.7 V	OUT				"							"	"	S to Z a	2.5	7.0	"
		"	105					0.0 V	2.7 V	OUT	"							"	"	S to Z b		"	"
		"	106								"	OUT	2.7 V	0.0 V				"	"	S to \overline{Z} d		"	"
		"	107								"				OUT	2.7 V	0.0 V	"	"	S to \overline{Z} c			-
	t _{PZH6}	"	108	0.0 V	0.0 V		OUT				"							"	"	OE to Z a	2.0	6.0	"
		"	109	"				0.0 V		OUT	"							"	"	OE to Z b		"	"
			110						t		"	OUT		0.0 V				"	"	OE to Z d			
			111								"				OUT		0.0 V	"	"	OE to Z c			
	t _{PZL6}	"	112	2.7 V		2.7 V	OUT				"							"		OE to Z a	2.5	7.0	
			113						2.7 V	OUT	"			 				"					
		,	114								"	OUT	2.7 V	ļ				"		OE to Z b			
									1			001	2.1 V		OUT	0.71/				OE to Z d			
			115	-											OUT	2.7 V				OE to Z c	-		_

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TABLE III. Group A inspection for device type 07. Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$; low $\leq 0.8 \text{ V}$; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	S	I0a	I1a	Z a	I0b	I1b	Z b	GND	Z d	l1d	I0d	Z c	I1c	I0c	ŌE	V _{cc}		Min	Max	
9	t _{PHZ6}	3003	116	0.0 V	0.0 V		OUT				GND							IN	5.0 V	OE to Z a	2.0	6.0	ns
T _C = 25°C		Fig. 4	117	"				0.0 V		OUT	"							"	"	OE to Z b		"	"
		"	118	"							"	OUT		0.0 V				"	"	OE to Z d	"	"	"
		"	119								"				OUT		0.0 V	"	"	OE to Z c		"	"
	t _{PLZ6}	"	120	2.7 V		2.7 V	OUT				"							"	"	OE to Z a		"	"
		"	121	"					2.7 V	OUT	"							"	"	OE to Z b		"	"
		"	122	"							"	OUT	2.7 V					"	"	\overline{OE} to \overline{Z} d		"	"
		"	123	"							"				OUT	2.7 V		"	"	OE to Z c		"	"
10	Same to	ests and ter	minal conditi	ons as su	bgroup 9,	except T _C	= +125°C	and use li	mits from to	able I.													

 $[\]underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Mir	n/Max limits ii	n mA for circu	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

Same tests, terminal conditions and limits as for subgroup 10, except $T_C = -55^{\circ}C$.

 $[\]underline{3}\!/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}\!/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

TABLE III. Group A inspection for device type 08. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

						16	illilliai (Jonatho		not des	signated				$0.8 \ge 0.8$								
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	iits	Unit
			Test no.	OE a	S1	l3a	I2a	l1a	I0a	Za	GND	Zb	l0b	l1b	I2b	l3b	S0	OE b	V _{cc}		Min	Max	
1	V _{OH}	3006	1	0.8 V	0.8 V				2.0 V	-3 mA	GND						0.8 V		4.5 V	Za	2.4		V
Tc = 25°C		"	2	"	0.8 V			2.0 V									2.0 V						"
		"	3	"	2.0 V		2.0 V				"						0.8 V		"	"			"
		"	4	"	2.0 V	2.0 V											2.0 V			"			
		"	5		0.8 V						"	-3 mA	2.0 V				0.8 V	0.8 V	"	Zb			"
		"	6		0.8 V						"	-		2.0 V			2.0 V	"	"	"	-		"
		"	7		2.0 V							-			2.0 V		0.8 V	-	"		-		"
		"	8		2.0 V											2.0 V	2.0 V			"	-		"
	V_{OL}	3007	9	0.8 V	0.8 V				0.8 V	20 mA	"						0.8 V		"	Za		0.5	"
		"	10	"	0.8 V			0.8 V			"						2.0 V		"	"		"	
			11	"	2.0 V		0.8 V			"	"						0.8 V		"	"		"	
			12	"	2.0 V	0.8 V					"						2.0 V		"	"		"	
			13		0.8 V						"	20 mA	0.8 V				0.8 V	0.8 V	- "				
		i i	14		0.8 V									V 8.0	0.01/		2.0 V	- "					
			15		2.0 V							-:-			0.8 V	0.01/	0.8 V	- "				-	
1	\/	,	16	10 *	2.0 V	1						-		<u> </u>		0.8 V	2.0 V	- "	- "				
	V _{IC}		17	-18 mA																OE a		-1.2	-
			18		-18 mA						"								"	S1		"	"
			19			-18 mA														l3a			
			20				-18 mA													I2a			
			21					-18 mA												l1a			
			22						-18 mA										"	I0a			"
			23										-18 mA							I0b			
			24											-18 mA						I1b		-	"
			25								"				-18 mA				"	I2b		"	"
			26								"					-18 mA			"	I3b		"	"
			27														-18 mA			S0		"	-
			28								"							-18 mA	"	OE b			
	I _{IH1}	3010	29	2.7 V							"								5.5 V	OE a		20	μА
		"	30		2.7 V						"								"	S1			"
			31		0.0 V	2.7 V					"						0.0 V			l3a		"	"
			32		0.0 V		2.7 V				"						4.5 V		"	I2a		"	
			33		4.5 V			2.7 V									0.0 V			l1a			
			34						2.7 V				0.71/				4.5 V		- "	l0a			
			35		- "								2.7 V	071/		ļ	4.5 V			I0b			
1			36	 	0.0 V	 					-			2.7 V	2.7 V	!	0.0 V		-	I1b		-	-
		,,	37 38		0.0 V										2.1 V	2.7 V	4.5 V 0.0 V			I2b I3b			-
		"	39		0.0 V									 		Z.1 V	2.7 V			S0			
		"	40														Z.1 V	2.7 V					
	l	"	41	7.0 V										ļ		 				OE b		100	
1	I _{IH2}			7.U V	-									ļ		ļ				OE a		100	
			42		7.0 V	701/										ļ	0.01/			S1			
		,,	43	-	0.0 V	7.0 V	701/							 		 	0.0 V			I3a			-
		,,	44 45		0.0 V 4.5 V		7.0 V	7.0 V								 	4.5 V 0.0 V			I2a			-
			46		4.5 V			7.0 V	7.0 V					 		<u> </u>	4.5 V			I1a I0a			
		"	47		"	 			7.0 V		-		7.0 V				4.5 V			I0b			-
		"	48		"	 					-		7.0 V	7.0 V			0.0 V			I1b			
		"	49		0.0 V	1								7.5 V	7.0 V		4.5 V			I2b			
		"	50		0.0 V											7.0 V	0.0 V			I3b			
		"	51		1.0.						"					··• •	7.0 V			S0			
1		"	52								"							7.0 V		OE b		"	"
					<u> </u>	<u> </u>														OE D			

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TABLE III. Group A inspection for device type 08 - Continued. Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	OE a	S1	I3a	I2a	l1a	I0a	Za	GND	Zb	I0b	I1b	I2b	I3b	S0	OE b	V _{cc}		Min	Max	
1	I _{IL1}	3009	53	0.5 V							GND								5.5 V	OE a	<u>2</u> /	<u>2</u> /	mA
Tc = 25°C			54		0.5 V						"								"	S1	"	"	"
ł			55		4.5 V	0.5 V					-						4.5 V		-	l3a		"	
ł			56		4.5 V		0.5 V										0.0 V		"	I2a	"	"	"
			57		0.0 V			0.5 V			"						4.5 V		"	I1a		"	
			58						0.5 V				0.51/				0.0 V			I0a			
			59		"								0.5 V	0.5.1/			0.0 V		-	I0b		"	
			60								"			0.5 V	0.5.1/		4.5 V		-	I1b		"	
ł			61 62		4.5 V 4.5 V						,				0.5 V	0.5 V	0.0 V 4.5 V		-	12b 13b		"	
ł			63		4.5 V											0.5 V	0.5 V			S0	-		
ł			64								"						0.5 v	0.5 V				"	
1			04															0.5 V		OE b			
ł	Ios	3011	65	0.0 V	0.0 V				4.5 V	0.0 V	-						0.0 V		-	Za	-60	-150	
1		3011	66		0.0 V						"	0.0 V	4.5 V				-	0.0 V	-	Zb	-60	-150	"
1	I _{OD}		67	0.0 V	0.0 V				0.0 V	2.5 V								0.0 V	4.5 V	Za	35		"
1			68	0.0 V	0.0 V							2.5 V	0.0 V					0.0 V	4.5 V	Zb	35		
ł	I _{OZH}		69	2.0 V	0.0 V				0.0 V	2.7 V									5.5 V	Za		50	μΑ
ł			70		0.0 V						- :	2.7 V	0.0 V					2.0 V	-	Zb		50	
1	l _{OZL}		71	2.0 V	4.5 V	4.5 V				0.5 V							4.5 V			Za		-50	
1		2005	72	0.01/	4.5 V	0.01/	0.01/	0.01/	0.01/			0.5 V	0.01/	0.01/	0.01/	4.5 V	4.5 V	2.0 V		Zb		-50	
1	I _{CCL}	3005 3005	73 74	0.0 V 0.0 V	0.0 V 0.0 V	0.0 V 4.5 V	0.0 V 0.0 V	0.0 V 0.0 V	0.0 V 4.5 V		,		0.0 V 4.5 V	0.0 V 0.0 V	0.0 V 0.0 V	0.0 V 4.5 V	0.0 V 0.0 V	0.0 V 0.0 V		V _{CC}		23 16	mA "
ł	I _{CCT}	3005	75	4.5 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V				0.0 V	4.5 V		V _{CC}		23					
2		ests, termina								aro omitto	Ч	l!	0.0 V	4.5 V		v CC		23					
3		ests, termina		_																			
7	Func-	3014	76	В	В	В	B	В	B	L	GND	L	В	В	В	В	В	В	4/	All			
Tc = 25°C	tional		77	"	"	"		В	A	H	"	Н	A	В	"	"	В	"	-	outputs			
.0-200	test		78	"	"	"		В	В	L	"	L	В	В	"	"	A	"	"				
ł	<u>3</u> /		79	"	"	"		Ā	"	H	"	H	"	A	"	"	A	"	"				
ł	_		80	"	Α	"		В	"	L	"	Ĺ		В	"	"	В	"	"				
ł			81	"	"	"	Α	"	"	Н	"	Н	"	"	Α	"	В	"	"				
ł			82	=	"	"	В	"	"	L	-	L	-	"	В	"	Α	"	"				
			83	=	"	Α	В			Н	-	Н	-	"	В	Α	Α	"	"				
8	Same to	ests, termina	al conditions			bgroup 7,	except To	= +125°C	and T _C =														
9	t _{PLH1}	3003	84	0.0 V	0.0 V	l			IN	OUT	GND						0.0 V		5.0 V	I0a to Za	3.0	7.0	ns
	PLHT			0.0 ¥													2.7 V		"	I1a to Za	-		-
	PLHI	Fig. 4	85	"	0.0 V			IN		"													
T _C = 25°C	PLHI		85 86	"	2.7 V		IN	IN		"							0.0 V		"	I2a to Za	"		
	PLHI		85 86 87	"	2.7 V 2.7 V	IN	IN	IN		"	"						2.7 V	2.21/		I3a to Za			
	THE STATE OF THE S		85 86 87 88	"	2.7 V 2.7 V 0.0 V	IN	IN	IN		" "	"	OUT	IN				2.7 V 0.0 V	0.0 V		I3a to Za I0b to Zb	"	"	
	ФИ		85 86 87 88 89	"	2.7 V 2.7 V 0.0 V 0.0 V	IN	IN	IN		" "	"	OUT	IN	IN	lbi .		2.7 V 0.0 V 2.7 V	0.0 V		I3a to Za I0b to Zb I1b to Zb	"		
	THE STATE OF THE S		85 86 87 88 89 90	"	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V	IN	IN	IN		11	"		IN	IN	IN	INI	2.7 V 0.0 V 2.7 V 0.0 V	0.0 V		I3a to Za I0b to Zb I1b to Zb I2b to Zb	"	"	
		Fig. 4	85 86 87 88 89 90	11	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V	IN	IN	IN	INI		11	-	IN	IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	0.0 V		I3a to Za I0b to Zb I1b to Zb I2b to Zb I3b to Zb	" " "	" "	"
	t _{PHL1}	Fig. 4	85 86 87 88 89 90 91	"	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V	IN	IN		IN	OUT	11 11 11 11 11 11	-	IN	IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V	0.0 V		I3a to Za I0b to Zb I1b to Zb I2b to Zb I3b to Zb I0a to Za	"	"	"
		Fig. 4	85 86 87 88 89 90 91 92 93	" "	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V 0.0 V	IN		IN	IN		" " " " " " " " " " " " " " " " " " " "	-	IN	IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	0.0 V	" " " " " " " " " " " " " " " " " " " "	I3a to Za I0b to Zb I1b to Zb I2b to Zb I3b to Zb I0a to Za I1a to Za	" " "	" " 7.0	"
		Fig. 4	85 86 87 88 89 90 91 92 93	" "	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V 0.0 V 2.7 V		IN		IN		11 11 11 11 11 11 11 11	-	IN	IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V	0.0 V	" " " " " " " " " " " " " " " " " " " "	13a to Za 10b to Zb 11b to Zb 12b to Zb 13b to Zb 10a to Za 11a to Za 12a to Za	" " "	" " 7.0	" " " "
		Fig. 4	85 86 87 88 89 90 91 92 93 94	" "	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V 0.0 V 2.7 V	IN			IN		11 11 11 11 11	"		IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	"	" " " " " " " " " " " " " " " " " " " "	13a to Za 10b to Zb 11b to Zb 12b to Zb 13b to Zb 10a to Za 11a to Za 12a to Za 13a to Za	2.5	7.0	" " " " " " " " " " " " " " " " " " " "
		Fig. 4	85 86 87 88 89 90 91 92 93 94 95	" "	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V				IN		11 11 11 11 11	-	IN		IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V	0.0 V	" " " " " " " " " " " " " " " " " " " "	13a to Za 10b to Zb 11b to Zb 12b to Zb 13b to Zb 10a to Za 11a to Za 12a to Za 13a to Za 10b to Zb	2.5	7.0	" " " " " " " " " " " " " " " " " " " "
		Fig. 4	85 86 87 88 89 90 91 92 93 94	" "	2.7 V 2.7 V 0.0 V 0.0 V 2.7 V 2.7 V 0.0 V 0.0 V 2.7 V				IN		11 11 11 11 11 11 11 11 11 11 11 11 11	" "		IN	IN	IN	2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V 0.0 V 2.7 V	"	" " " " " " " " " " " " " " " " " " " "	13a to Za 10b to Zb 11b to Zb 12b to Zb 13b to Zb 10a to Za 11a to Za 12a to Za 13a to Za	2.5	7.0	11 11 11 11 11 11 11 11 11 11 11 11 11

TABLE III. Group A inspection for device type 08 - Continued. Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	OE a	S1	l3a	I2a	l1a	I0a	Za	GND	Zb	I0b	l1b	I2b	I3b	S0	OE b	V _{CC}		Min	Max	1
9	t _{PLH3}	3003	100	0.0 V	0.0 V			2.7 V	0.0 V	OUT	GND						IN		5.0 V	S0 to Za	4.5	11.5	ns
$T_C = 25^{\circ}C$		Fig. 4	101		0.0 V							OUT	0.0 V	2.7 V			IN	0.0 V	"	S0 to Zb			
			102	0.0 V	IN		2.7 V		0.0 V	OUT							0.0 V		"	S1 to Za			"
			103		IN							OUT	0.0 V		2.7 V		0.0 V	0.0 V	"	S1 to Zb			"
	t _{PHL3}		104	0.0 V	0.0 V			0.0 V	2.7 V	OUT							IN		"	S0 to Za	3.0	9.0	"
		"	105		0.0 V							OUT	2.7 V	0.0 V			IN	0.0 V	"	S0 to Zb			"
		"	106	0.0 V	IN		0.0 V		2.7 V	OUT	-						0.0 V		"	S1 to Za			
		"	107		IN						=	OUT	2.7 V		0.0 V		0.0 V	0.0 V	"	S1 to Zb			"
	t _{PZH5}		108	IN	2.7 V	2.7 V				OUT							2.7 V		"	OE a to Za	3.0	8.0	
		"	109		2.7 V						"	OUT				2.7 V	2.7 V	IN	"	OE b to Zb	"		
	t _{PZL5}	"	110	IN	0.0 V				0.0 V	OUT							0.0 V		"	OE a to Za		"	
		"	111		0.0 V							OUT	0.0 V				0.0 V	IN	"	OE b to Zb	"	"	"
	t _{PHZ5}	"	112	IN	2.7 V	2.7 V				OUT	"						2.7 V		"	OE a to Za	2.0	5.0	"
		"	113		2.7 V						"	OUT				2.7 V	2.7 V	IN	"	OE b to Zb	2.0	5.0	"
	t _{PLZ5}	"	114	IN	0.0 V				0.0 V	OUT	"						0.0 V		"	OE a to Za	2.0	6.0	"
		"	115		0.0 V						"	OUT	0.0 V				0.0 V	IN	"	OE b to Zb	2.0	6.0	
10		ests and terr t _{PLH1} = 2.5 to t _{PLH3} = 3.5 to	9.0 ns		bgroup 9, t _{PHL1} = 2.5 t _{PHL3} = 2.5	to 8.0 ns		and for the $t_{PZH5} = 2.5$ $t_{PZL5} = 2.5$	to 10.0 ns	3	$t_{PHZ5} = 2.0$ $t_{PLZ5} = 2.0$												

 $[\]underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Mir	n/Max limits in	n mA for circu	uit
Test	Α	В	С	D
I _{IL}	25/60	03/60	03/60	0.0/-0.30

 $[\]underline{3}/~$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}/~$ Perform function sequence at V_CC = 4.5 V and repeat at V_CC = 5.5 V.

TABLE III. Group A inspection for device type 09.

Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$: low $\leq 0.8 \text{ V}$; or open).

						Τe	erminal o	conditio	ns (pins	not des	signated	d may b	e high ≥	2.0 V; k	$8.0 \ge wc$	V; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	iits	Unit
			Test no.	Ē a	S1	l3a	I2a	l1a	I0a	Z a	GND	_ Z b	I0b	l1b	I2b	l3b	S0	Ēb	V _{cc}		Min	Max	
1	V _{OH}	3006	1	2.0 V						-1 mA	GND								4.5 V	Z a	2.5		V
Tc = 25°C		"	2	0.8 V	0.8 V				0.8 V	"	"						0.8 V			"			"
		"	3	"	0.8 V			0.8 V		"	"						2.0 V		"				"
		"	4	"	2.0 V		0.8 V			"	"						0.8 V		"				"
		"	5	"	2.0 V	0.8 V				"							2.0 V			b			
		"	6									-1 mA						2.0 V		"			
		"	7		0.8 V								0.8 V				0.8 V	0.8 V					
		"	8		0.8 V						"			0.8 V			2.0 V	"	"	"			"
		"	9		2.0 V						"				0.8 V		0.8 V	"		"			
		"	10		2.0 V											0.8 V	2.0 V						
	V _{OL}	3007	11	0.8 V	0.8 V				2.0 V	20 mA							0.8 V			– Z a		0.5	
		"	12	"	0.8 V			2.0 V		"							2.0 V			"		"	
		"	13	"	2.0 V		2.0 V			"							0.8 V			"			"
		"	14	"	2.0 V	2.0 V				"	"						2.0 V						"
		"	15		0.8 V						"	20 mA	2.0 V				0.8 V	0.8 V	"	Z b			"
		"	16		0.8 V									2.0 V			2.0 V	"					
		"	17		2.0 V									2.0 1	2.0 V		0.8 V	"	"				
		"	18		2.0 V						"	"				2.0 V	2.0 V	"	"			"	"
	VIC		19	-18 mA																Ē a		-1.2	
			20		-18 mA															S1			"
			21			-18 mA					"									l3a			"
			22				-18 mA				"								-	I2a		-	"
			23					-18 mA												l1a			
			24						-18 mA		<u> </u>		40 4						<u> </u>	I0a		-	
			25 26										-18 mA	-18 mA						I0b I1b			-
			27											-10 IIIA	-18 mA					I2b			
			28												-1011174	-18 mA				I3b			
			29														-18 mA			S0			
			30															-18 mA		Ē b			"
	I _{IH1}	3010	31	2.7 V							"								5.5 V	E a		20	μА
		"	32		2.7 V															S1			
		"	33	4.5 V	0.0 V	2.7 V											0.0 V			l3a			
		"	34	"	0.0 V		2.7 V				"						4.5 V		"	l2a			"
		"	35	"	4.5 V			2.7 V			"						0.0 V			l1a			"
		"	36	"	"				2.7 V		"						4.5 V		-	I0a		-	"
		"	37		"						"		2.7 V				4.5 V	4.5 V	"	I0b			
			38		0.014						-:-			2.7 V	0.7.1/		0.0 V	- "	-:-	I1b			
			39 40		0.0 V 0.0 V							1			2.7 V	2.7 V	4.5 V 0.0 V	"		I2b I3b			-
			40		U.U V		1					1				2.1 V	2.7 V	1		S0			
			42		1											1	Z.1 V	2.7 V					
	I _{IH2}	"	43	7.0 V	 		 							-		 			-	E a		100	
	11 12		44		7.0 V											-				E a S1			
		"	45	4.5 V	0.0 V	7.0 V						1					0.0 V			l3a			
		"	46	"	0.0 V		7.0 V										4.5 V			I2a			
		"	47	"	4.5 V			7.0 V			"						0.0 V			l1a			"
		"	48	"	4.5 V				7.0 V								4.5 V			I0a			

TABLE III. Group A inspection for device type 09 - Continued.

						T	erminal	conditio	ns (pins	not des	signated	l may b	oe high ≥	2.0 V; lo	$8.0 \ge wc$	V; or op	en).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	its	Unit
			Test no.	Ē a	S1	l3a	l2a	l1a	I0a	_ Z a	GND	b	I0b	l1b	l2b	l3b	S0	Ē b	V _{cc}		Min	Max	
1	I _{IH2}	3010	49		4.5 V						GND		7.0 V				4.5 V	4.5 V	5.5 V	I0b		100	μΑ
Tc = 25°C			50		4.5 V						"			7.0 V			0.0 V	-		I1b		"	"
		"	51		0.0 V						"				7.0 V		4.5 V			I2b		"	"
			52		0.0 V						"					7.0 V	0.0 V			I3b		_ "	"
			53								"						7.0 V			S0		_ "	
			54															7.0 V		E b		"	. "
	I _{IL1}	3009	55	0.5 V							"									E a	<u>2</u> /	<u>2</u> /	mA
			56		0.5 V															S1			
			57	0.0 V	4.5 V	0.5 V					"						4.5 V			I3a			
			58	"	4.5 V		0.5 V				"						0.0 V			I2a			"
			59	"	0.0 V			0.5 V			"						4.5 V			I1a	"	"	"
			60		"				0.5 V								0.0 V		"	I0a		"	"
			61		"						"		0.5 V				0.0 V	0.0 V	"	I0b		"	
			62		"						"			0.5 V			4.5 V	-	-	I1b	-	"	"
			63		4.5 V						"				0.5 V		0.0 V		"	I2b			"
			64		4.5 V						"					0.5 V	4.5 V	"		I3b			
			65								"						0.5 V	"		S0	"		
			66															0.5 V		E b		"	. "
	Ios	3011	67	0.0 V	0.0 V				0.0 V	0.0 V	"						0.0 V			– Z a	-60	-150	"
		3011	68		0.0 V						"	0.0 V	0.0 V				0.0 V	0.0 V		Z b	-60	-150	"
	I _{OD}		69	0.0 V	0.0 V				5.5 V	2.5 V	"						0.0 V		4.5 V	Z a	60		"
			70		0.0 V						"	2.5 V	5.5 V				0.0 V	0.0 V	4.5 V	Z b	60		"
	I _{CCH}	3005	71	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V		"		0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	5.5 V	V _{CC}		14	"
	I _{CCL}	3005	72	0.0 V	0.0 V	4.5 V	4.5 V	4.5 V	4.5 V		"		4.5 V	4.5 V	4.5 V	4.5 V	0.0 V	0.0 V	5.5 V	V _{CC}		20	
2		ests, termina																					
3		ests, termina																					
7	Func-	3014	73	A	A	A	A	A	A	H	GND	Н	A	A	A	A	A	A	<u>4/</u>	All			
Tc = 25°C			74	B "	B			A	В	H		H	В	A			В	В	-	outputs			
	test		75		- :	-:-	-:-	A	A	L		L	A	A		-:-	В		-				
	<u>3</u> /		76 77		-	-	-	B A	-	H L	-	H L	,	В		-	A A		-				
			78		Α		В	A		H		Н		Α "	В		В						
			79		-		A			ï		L.			A	"	В						
			80			В	A			H		H	"		A	В	A						
			81	"	"	A	Α	"		L	"	L	"	"	Α	A	Α			1			
			82	Α	В	В	В	В	В	Н		Н	В	В	В	В	В	Α	"				
		"	83	В	"	"	"	"	В	Н	"	Н	В	"	"	"	В	В	"				
			84	"	"	"	"	"	Α	L	"	L	Α	"		"	В		"				
			85	"	"	"	"	"	В	Н	"	Н	В	"	-	"	Α	"	-				
			86	"	"	"		Α		L	"	L	В	Α	-	"	Α						
			87		A	- "	- "	В		Н	- "	Н		В	- "	"	В						
			88		- "	- "	A	- "		L	- "	L	- "	-:-	A		В		<u> </u>				
			89				В			H		H			В		A		<u> </u>	1			
8	Sama t	oete termini	90	and limit	e ac for co	A	B except T	_ +12500	and T	_55°C	L	L			В	Α	Α			l .			
9	t _{PLH2}	ests, termina 3003	91	0.0 V	2.7 V	IN	ехсері То	=+125°C	anu Ic=	OUT	GND						2.7 V		5.0 V	I3a to Z a	2.0	7.0	ns
T _C = 25°C		Fig. 3	92		2.7 V		IN										0.0 V						"
200		"	93	"	0.0 V		 	IN									2.7 V			I2a to Z a			
			94		0.0 V		-		IN	"							0.0 V		"	I1a to Za		-	"
L	Ļ		d of toble		0.0 V												0.0 v			I0a to Z a			

TABLE III. Group A inspection for device type 09 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
oup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	U
			Test no.	E a	S1	l3a	I2a	l1a	I0a	– Z a	GND	Z b	I0b	l1b	I2b	l3b	S0	Ē b	V _{cc}		Min	Max	
	t _{PLH2}	3003	95		0.0 V							OUT	IN				0.0 V	0.0 V	5.0 V	I0b to Z b	2.0	7.0	r
5°C		Fig. 4	96		0.0 V						"	"		IN			2.7 V	"	"	I1b to Z b	"	"	
			97		2.7 V										IN		0.0 V	"		I2b to Z b	"	"	
			98		2.7 V											IN	2.7 V			I3b to Z b	"		
	t _{PHL2}	"	99	0.0 V	2.7 V	IN				OUT							2.7 V			I3a to Z a	1.7	6.0	
			100	"	2.7 V		IN			"							0.0 V			I2a to Z a	"		
			101	"	0.0 V			IN		"							2.7 V			I1a to Za	"	"	
			102						IN								0.0 V			I0a to Z a	"		
			103									OUT	IN				0.0 V	0.0 V		I0b to Z b	"		
			104											IN			2.7 V			11b to Z b	"		
			105		2.7 V										IN		0.0 V			I2b to Z b	"		
			106		2.7 V						-					IN	2.7 V			12b to Z b	"		
	t _{PLH4}		107	0.0 V	2.7 V	2.7 V	0.0 V			OUT							IN			S0 to Z a	3.5	13.0	
			108		2.7 V							OUT			0.0 V	2.7 V	IN	0.0 V					
			109	0.0 V	IN	0.0 V		2.7 V		OUT							2.7 V			S0 to Z b			
			110		IN							OUT		2.7 V		0.0 V	2.7 V	0.0 V		S1 to Z a			
	t _{PHL4}		111	0.0 V	0.0 V			2.7 V	0.0 V	OUT		00.				0.0 1	IN			S1 to Z b	"		
	VPHL4		112	0.0 V	0.0 V			2.7 V	0.0 ¥	001		OUT	0.0 V	2.7 V			IN	0.0 V		S0 to Z a	"		
			113	0.0 V	IN		2.7 V		0.0 V	OUT		001	0.0 v	2.7 V			0.0 V	0.0 1		S0 to Z b			
			114	0.0 V	IN		2.7 V		0.0 V	001		OUT	0.0 V		2.7 V		0.0 V	0.0 V		S1 to Z a			
				IN	0.0 V				2.7 V	OUT		001	0.0 V		2.7 V			0.0 V		S1 to Z b	3.5	110	
	t _{PLH6}		115	IIN	0.0 V				2.7 V	001		OUT	0.7.1/				0.0 V			E a to Z a		14.0	
			116		"				0.71/	OUT		OUT	2.7 V					IN		E b to Z b	3.5	14.0	
	t _{PHL6}		117	IN					2.7 V	OUT										Ē a to Z̄ a	3.0	11.0	
)			118									OUT	2.7 V					IN		E b to Z b	3.0	11.0	

 t_{PLH2} = 2.0 to 9.0 ns $t_{PHL2} = 1.5 \text{ to } 7.5 \text{ ns}$ $t_{PLH4} = 3.5 \text{ to } 14.5 \text{ ns}$ t_{PHL4} = 3.5 to 15.0 ns

t_{PLH6} = 3.5 to 17.0 ns t_{PHL6} = 3.5 to 13.0 ns

Same tests, terminal conditions and limits as for subgroup 10, except T_C = -55°C.

 $\underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Min/Max	limits in mA	for circuit
Test	Α	В	С
I _{IL}	25/60	03/60	03/60

 $[\]underline{3}/~$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}/~$ Perform function sequence at V_CC = 4.5 V and repeat at V_CC = 5.5 V.

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TABLE III. Group A inspection for device type 10. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

										Hot des	signated				$8.0 \ge WC$								
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				l
Subgroup	Symbol	883 method	Case 2 1/	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	OE a	S1	I3a	I2a	l1a	I0a	_ Z a	GND	Z b	I0b	l1b	I2b	l3b	S0	OE b	V _{CC}		Min	Max	İ
1	V _{OH}	3006	1	0.8 V	0.8 V				0.8 V	-3 mA	GND						0.8 V		4.5 V	_ Z a	2.4		V
Tc = 25°C		"	2	"	0.8 V			0.8 V									2.0 V						
		"	3	"	2.0 V		0.8 V							1			0.8 V						
		"	4	"	2.0 V	0.8 V	0.0 1										2.0 V			"			
		"	5		0.8 V	0.0 1					"	-3 mA	0.8 V				0.8 V	0.8 V		Z b			"
					0.8 V									0.0.1/			2.0 V	-		Z D			
			<u>6</u> 7		2.0 V							"		0.8 V	0.8 V		0.8 V						
			8		2.0 V									1	0.6 V	0.8 V	2.0 V						-
	V _{OL}	3007	9	0.8 V	0.8 V				2.0 V	20 mA						0.6 V	0.8 V			_		0.5	
	V OL	3007		0.0 V					2.0 V	20 1117										_ Z a		0.5	ı
		"	10	"	0.8 V			2.0 V			"						2.0 V			"			
		"	11	"	2.0 V		2.0 V				"						0.8 V		"	"		"	
			12	. "	2.0 V	2.0 V											2.0 V						
		"	13		0.8 V							20 mA	2.0 V				0.8 V	0.8 V		z b			
		"	14		0.8 V						"	"		2.0 V			2.0 V	"	"	"			
		"	15		2.0 V										2.0 V		0.8 V	"		"			
		"	16		2.0 V											2.0 V	2.0 V	-		"			
	VIC		17	-18 mA							"									OE a		-1.2	
			18		-18 mA															S1			-
			19			-18 mA														l3a			
			20				-18 mA				"									I2a			
			21					-18 mA												l1a			
			22						-18 mA											I0a			
			23										-18 mA							I0b		-	
			24								"			-18 mA						l1b			
			25								"				-18 mA				"	I2b			
			26													-18 mA				I3b			
			27		ļ									1		ļ	-18 mA	40 4	-:-	S0			
			28															-18 mA	-	OE b		_	
	I _{IH1}	3010	29	2.7 V							"								5.5 V	OE a		20	μΑ
		"	30		2.7 V															S1			
		"	31	4.5 V	0.0 V	2.7 V											0.0 V			l3a			
		"	32	"	0.0 V		2.7 V										4.5 V			I2a			
		"	33	"	4.5 V			2.7 V			"						0.0 V			l1a			"
		"	34	"	"				2.7 V		"						4.5 V		"	I0a			
		"	35		"						"		2.7 V				4.5 V	4.5 V	"	I0b		"	
		"	36		"									2.7 V			0.0 V	"		l1b			
			37		0.0 V						"				2.7 V		4.5 V	"	"	I2b			
		" "	38		0.0 V									ļ		2.7 V	0.0 V	"	- "	I3b		-	
		. "	39								- "			ļ			2.7 V		- "	S0		- "	
		"	40		<u></u>											<u></u>		2.7 V		OE b			
	I _{IH2}	"	41	7.0 V		_		_			"		_					•	"	OE a		100	-
		"	42		7.0 V						"									S1			
		"	43	4.5 V	0.0 V	7.0 V					"						0.0 V		"	l3a		"	"
		"	44	"	0.0 V		7.0 V										4.5 V			l2a			
			45	"	4.5 V			7.0 V			"						0.0 V		"	l1a			
		"	46	"	4.5 V				7.0 V		"						4.5 V		"	I0a			

TABLE III. Group A inspection for device type 10 - Continued. Terminal conditions (pins not designated may be high $\geq 2.0 \text{ V}$: low $\leq 0.8 \text{ V}$; or open).

						Te	erminal	conditio	ns (pins	not des	signated	l may b	oe high ≥	2.0 V; lo	$8.0 \ge wc$	V; or op	oen).						
		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	OE a	S1	l3a	l2a	l1a	I0a	Z̄ a	GND	Z b	I0b	I1b	I2b	l3b	S0	OE b	V _{CC}		Min	Max	
1	I _{IH2}	3010	47		4.5 V						GND		7.0 V				4.5 V	4.5 V	5.5 V	I0b		100	μΑ
Tc = 25°C			48		4.5 V						"			7.0 V			0.0 V	"	"	I1b			
			49		0.0 V										7.0 V		4.5 V			I2b			
			50		0.0 V											7.0 V	0.0 V			I3b			
			51														7.0 V			S0			
			52															7.0 V		OE b			
	I _{IL}	3009	53	0.5 V																OE a	<u>2</u> /	<u>2</u> /	mA
			54		0.5 V															S1			
			55	0.0 V	4.5 V	0.5 V											4.5 V		-	I3a		-	
			56	0.0 V	4.5 V	0.5 V	0.5 V										0.0 V			I2a			
			57		0.0 V		0.5 V	0.5 V									4.5 V		-	I1a			
			58		U.U V			0.5 v	0.5 V								0.0 V			I0a			
			59						0.5 V		-		0.5 V				0.0 V	0.0 V		I0a I0b			
			60										0.5 V	0.5 V			4.5 V	0.0 V		I1b			
			61		4.5 V									0.5 V	0.5 V		0.0 V			I2b			
			62		4.5 V										0.5 V	0.5 V	4.5 V			I3b			
			63		4.5 V											0.5 V	0.5 V		-	S0		-	
			64														0.5 V	0.5 V					
	I _{OZH}		65	2.0 V	0.0 V				2.0 V	2.7 V							0.0 V	0.0 1		OE b		50	μА
	OZ.		66									2.7 V	2.0 V					2.0 V		Z a Z b		50	,
	_		67	2.0 V					0.8 V	0.5 V												-50	
	I _{OZL}		68	2.0 V	"				0.6 V	0.5 V		0.5 V	0.8 V					2.0 V		Z a		-50	
	I _{os}		69	0.0 V	0.0 V				0.0 V	0.0 V		0.0 1	0.0 1					2.0 .		Z b	-60	-150	"
	108		70	0.0 1	0.0 V				0.0 1	0.0 1		0.0 V	0.0 V					0.0 V		Z a	-60	-150	
	_		71	0.0 V	0.0 V				5.5 V	2.5 V		0.0 V	0.0 V					0.0 V	4.5 V	Z b	35	-130	
	I _{OD}		72	0.0 V	0.0 V				5.5 V	2.5 V		2.5 V	5.5 V					0.0 V	4.5 V	Z a	35		-
												2.5 V								Z b	33		
	I _{CCH}		73	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V				0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	5.5 V	V _{CC}		14	
	I _{CCL}		74	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	4.5 V		"		4.5 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V		V _{CC}		20	"
	I _{CCZ}		75	4.5 V	0.0 V	0.0 V	0.0 V	0.0 V	0.0 V		"		0.0 V	0.0 V	0.0 V	0.0 V	0.0 V	4.5 V	"	V _{CC}		23	"
2			al conditions																				
3			al conditions										_										
7	Func-	3014	76	В	В	В	В	В	В	H	GND	Н	В	В	В	В	В	В	<u>4</u> /	All			
Tc = 25°C			77	-		"	"	В	A	L	- "	L	Α	В	"		В			outputs			
	test		78		- "	"	"	В	В	Н	-	Н	В	В		"	Α						
	<u>3</u> /		79	-	- "			Α		L	"	L		A		"	A						
			80		Α			В		Н	"	Н		В			В						
			81			-	A			L	- "	L			Α		В	- "					
			82	- "	- "		В			H	- "	Н			В	. "	A	- "					
			83	- "		A	В	"	-	L	- "	L	-	"	В	A	A	- "	- "				
			84		В		A	A		H		H		A	A	В	В						
			85					A	A	L		L	A	A			В						
			86					В	-	H		H		В			A		<u> </u>				
			87		<u> </u>			A	-	L		L		A			A						
			88	<u> </u>	A		В	- "		H		H			В	- "	В		 -				
			89	<u> </u>			A	- "		L		L	- "	- "	A		В	"					
			90		- "	В	A	- "	-	H	- "	H			A	В	A	- "	<u> </u>				
<u> </u>	_		91			Α	Α			_ L		L			Α	Α	Α			l			
8	Same to	ests, termin	al conditions	s, and limit	s as for su	bgroup 7,	except To	; = +125°C	and T _c =	-55°C.													

TABLE III. Group A inspection for device type 10 - Continued. Terminal conditions (pins not designated may be high \geq 2.0 V; low \leq 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lin	nits	Unit
			Test no.	OE a	S1	l3a	I2a	l1a	I0a	– Z a	GND	Z b	l0b	l1b	I2b	l3b	S0	OE b	V _{CC}	1	Min	Max	1
9	t _{PLH2}	3003	92	0.0 V	2.7 V	IN				OUT	GND						2.7 V		5.0 V	I3a to Z a	1.5	7.0	ns
$T_C = 25^{\circ}C$		Fig. 4	93		2.7 V		IN										0.0 V		"	I2a to Z a	"	"	
		"	94		0.0 V			IN									2.7 V		"	I1a to Z a	"		"
		"	95		"				IN								0.0 V		"	I0a to Z a	"	"	
			96		"							OUT	IN				0.0 V	0.0 V	"	I0b to Z b	"	"	
			97		"									IN			2.7 V	"	"	I1b to Z b	"		
			98		2.7 V										IN		0.0 V	"	"	I2b to Z b	"		"
			99		2.7 V											IN	2.7 V	"	"	I3b to Z b	=	"	
	t _{PHL2}		100	0.0 V	2.7 V	IN				OUT							2.7 V		"	I3a to Z a	"	6.0	
		"	101		2.7 V		IN										0.0 V		"	I2a to Z a	"		"
		"	102		0.0 V			IN		"							2.7 V		"	I1a to Z a	"		"
		"	103	"	"				IN	"	"						0.0 V		"	I0a to Z a	"	"	"
			104		"						"	OUT	IN				0.0 V	0.0 V	"	I0b to Z b	"	"	"
		"	105		"						"			IN			2.7 V	"	"	I1b to Z b	"	"	"
		"	106		2.7 V						"				IN		0.0 V	"	"	I2b to Z b	"	"	"
			107		2.7 V						"	"				IN	2.7 V	"	"	I3b to Z b	"	"	"
	t _{PLH4}		108	0.0 V	2.7 V	2.7 V	0.0 V			OUT							IN		"	S0 to Z a	4.0	14.0	"
			109		2.7 V						"	OUT			0.0 V	2.7 V	IN	0.0 V	"	S0 to Z b	"	"	"
			110	0.0 V	IN	0.0 V		2.7 V		OUT							2.7 V		"	S1 to Z a	"		"
		"	111		IN						"	OUT		2.7 V		0.0 V	2.7 V	0.0 V	"	S1 to Z b	"	"	"
	t _{PHL4}	"	112	0.0 V	0.0 V			2.7 V	0.0 V	OUT	"						IN		"	S0 to Z a	"	11.0	"
			113		0.0 V							OUT	0.0 V	2.7 V			IN	0.0 V	"	S0 to Z b	"	"	
			114	0.0 V	IN		2.7 V		0.0 V	OUT							0.0 V		"	S1 to Z a	"	"	"
			115		IN							OUT	0.0 V		2.7 V		"	0.0 V	"	S1 to Z b	"	"	
	t _{PLZ6}		116	IN	0.0 V				2.7 V	OUT	"						"		"	OE a to Z a	2.0	6.0	"
			117		"							OUT	2.7 V				"	IN		OE b to Z b	"	"	"
	t _{PHZ6}	"	118	IN	"				0.0 V	OUT							"		"	OE a to Z a	"	"	"
			119		"							OUT	0.0 V				"	IN	"	OE b to Z b	"	"	"

TABLE III. Group A inspection for device type 10 - Continued. Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

		MIL-STD-	Cases E, F	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Subgroup	Symbol	883 method	Case 2 <u>1</u> /	2	3	4	5	7	8	9	10	12	13	14	15	17	18	19	20	Measured terminal	Lim	nits	Unit
			Test no.	OE a	S1	l3a	I2a	l1a	I0a	Z a	GND	Z b	I0b	l1b	I2b	I3b	S0	OE b	V _{cc}		Min	Max	
9	t _{PZL6}	3003	120	IN	0.0 V				2.7 V	OUT	GND						0.0 V		5.0 V	OE a to Z a	3.0	11.0	ns
$T_C = 25^{\circ}C$		Fig. 4	121									OUT	2.7 V				"	IN	"	OE b to Z b	3.0	11.0	
	t _{PZH6}		122	IN	"				0.0 V	OUT	"						"		"	OE a to Z a	3.0	8.0	
			123									OUT	0.0 V				"	IN	"	OE b to Z b	3.0	8.0	
10	Same tests and terminal conditions as subgroup 9, except $T_C = +125^{\circ}C$ and for the following limits. $t_{\text{PLI}/2} = 1.5$ to 9.0 ns $t_{\text{PLI}/2} = 1.5$ to 7.5 ns $t_{\text{PLI}/2} = 2.0$ to 8.5 ns $t_{\text{PZL}/6} = 3.5$ to 15.5 ns $t_{\text{PZL}/6} = 3.0$ to 11.0 ns																						

 $\underline{1}/$ For case 2 pins not referenced are N/C. $\underline{2}/$ I_{IL} limits shall be as follows:

	Min/Max limits in mA for circuit									
Test	Α	В	С							
I _{IL}	25/60	03/60	03/60							

Same tests, terminal conditions and limits as for subgroup 10, except T_C = -55°C.

 $\underline{3}/$ A = 2.5 V, B = 0.5 V. H \geq 1.5 V, L \leq 1.5 V. $\underline{4}/$ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

5. PACKAGING

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

6. NOTES

- 6.1 <u>Intended use.</u> Microcircuits conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.
 - 6.2 Acquisition requirements. Acquisition documents should specify the following:
 - a. Title, number, and date of the specification.
 - b. PIN and compliance identifier, if applicable (see 1.2).
 - c. Requirements for delivery of one copy of the conformance inspection data pertinent to the device inspection lot to be supplied with each shipment by the device manufacturer, if applicable.
 - d. Requirements for certificate of compliance, if applicable.
 - e. Requirements for notification of change of product or process to contracting activity in addition to notification to the qualifying activity, if applicable.
 - Requirements for failure analysis (including required test condition of method 5003 of MIL-STD-883), 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 <u>Superseding information</u>. 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 <u>Qualification</u>. 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 DLA Land and Maritime-VQ, P.O. Box, Columbus, Ohio 43218-3990.

6.5 <u>Abbreviations, symbols, and definitions</u>. The abbreviations, symbols, and definitions used herein are defined in MIL-PRF-38535, MIL-HDBK-1331, and as follows:

GND	Ground zero voltage potential
I _{IN}	Current flowing into an input terminal
V _{IN}	

- 6.6 <u>Logistic support.</u> Lead materials and finishes (see 3.4) 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 <u>Substitutability.</u> 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-35810 device types and may have slight physical variations in relation to case size. The presence of this information should not be deemed as permitting substitution of generic-industry types for MIL-M-38510 types or as a waiver of any of the provisions of MIL-PRF-38535.

Military device type	Generic-industry type
01	54F151A
02	54F153
03	54F157A
04	54F158A
05	54F251A
06	54F257A
07	54F258A
08	54F253
09	54F352
10	54F353

6.8 <u>Manufacturers' designation.</u> Manufacturers' circuits which form a part of this specification are designated with an "X" as shown in table IV herein.

TABLE IV. Manufacturers' designations.

		Circuits		
Device	А	В	С	D
type	National Semiconductor/	Motorola Inc.	Signetics	Texas
	Fairchild Semiconductor		Corp.	Instruments
01	X	X		
02	X	X		X
03	X			X
04	X			
05	X	X		
06	X			X
07	X			
08	X	X		X
09		X		
10		X		

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6.9 <u>Changes from previous issue.</u> Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians: Army - CR Navy - EC Air Force - 85 DLA - CC Preparing activity: DLA Land and Maritime- CC

(Project 5962-2011-001)

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 https://assist.daps.dla.mil.