INCH-POUND

MIL-M-38510/332C
25 November 2003
SUPERSEDING
MIL-M-38510/332B
30 October 1987

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, BIPOLAR ADVANCED SCHOTTKY TTL, OCTAL BUFFERS, MONOLITHIC SILICON

Reactivated after 25 November 2003 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 Scope. This specification covers the detail requirements for monolithic silicon, Advanced Schottky TTL, positive octal buffer (3-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 For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).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 should be in accordance with MIL-PRF-38535, and as specified herein.

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

Device type	Circuit
01	Octal buffer with active low enabled 3-state inverted outputs
02	Octal buffer with active low and active high enabled 3-state noninverted outputs
03	Octal buffer with active low enabled 3-state noninverted outputs
04	Octal buffer with active low enabled 3-state inverted outputs (inputs and outputs opposite side of package)

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

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

Outline letter	Descriptive designator	Terminals	Package style
R	GDIP1-T20 or CDIP2-T20	20	Dual-in-line
S	GDFP2-F20 or CDFP3-F20	20	Flat pack
X	CQCC2-N20	20	Square leadless chip carrier
2	CQCC1-N20	20	Square leadless chip carrier

Comments, suggestions, or questions on this document should be addressed to: Commander, Defense Supply Center Columbus, ATTN: DSCC-VAS, 3990 East Broad St., Columbus, OH 43216-5000, 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 www.dodssp.daps.mil.

AMSC N/A FSC 5962

1.3 Absolute maximum ratings.

Supply voltage range .... -0.5 V to +7.0 V
Input voltage range .... -1.2 V at -18 mA to +7.0 V
Storage temperature range .... -65°C to +150°C
Maximum power dissipation, (P_D) 1/ :
Device types 01 and 04 .... 412 mW
Device types 02 and 03 .... 495 mW
Lead temperature (soldering, 10 seconds) .... +300°C
Thermal resistance, junction to case (θ_{JC}):
Cases R, S, X, and 2 .... (See MIL-STD-1835)
Junction temperature (T_J) 2/ .... 175°C

1.4 Recommended operating conditions.

Supply voltage (V_{CC}) .... 4.5 V minimum to 5.5 V maximum
Minimum high level input voltage (V_{IH}) .... 2.0 V
Maximum low level input voltage (V_{IL}) .... 0.8 V
Normalized fanout (each output) 3/
At low logic level .... 33 maximum
At high logic level .... 50 maximum
Case operating temperature range (T_C) .... -55° to +125°C

2. APPLICABLE DOCUMENTS

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

2.2 Government documents.

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

DEPARTMENT OF DEFENSE SPECIFICATIONS

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

DEPARTMENT OF DEFENSE STANDARDS

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

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

1/ Must withstand the added P_D due to short-circuit test (e.g., I_{OS}).
2/ Maximum junction temperature shall not be exceeded except in accordance with allowable short duration burn-in screening condition in accordance with MIL-PRF-38535.
3/ Device will fanout in both high and low levels to the specified number of data inputs on the same device type as that being tested.

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

3. REQUIREMENTS

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

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

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

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

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

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

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

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

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

3.6 Electrical test requirements. 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 Microcircuit group assignment. The devices covered by this specification shall be in microcircuit group number 9 (see MIL-PRF-38535, appendix A).

4. VERIFICATION

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

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

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

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

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

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55°C \leq T_C \leq +125°C$	Device types	Limits Min	Limits Max	Unit
High level output voltage	V_{OH}	V_{CC} = 4.5 V, V_{IL} = 0.8 V, I_{OH} = -3.0 mA, V_{IH} = 2.0 V	All	2.4		V
Low level output voltage	V_{OL}	V_{CC} = 4.5 V, I_{OL} = 48 mA, V_{IL} = 0.8 V, V_{IH} = 2.0 V	All		0.55	V
Input clamp voltage	V_{IC}	V_{CC} = 4.5 V, I_{IN} = -18 mA, T_C = +25°C	All		-1.2	V
High level input current	I_{IH1}	V_{CC} = 5.5 V, V_{IN} = 2.7 V	All		20	μA
	I_{IH2}	V_{CC} = 5.5 V, V_{IN} = 7.0 V	All		100	μA
Low level input current	I_{IL1}	V_{CC} = 5.5 V, V_{IN} = 0.5 V	01	0	-1.0	mA
			04	-.25	-.60	
Low level input current (at data)	I_{IL1}		02, 03	0	-1.60	mA
Low level input enable current	I_{IL2}		02, 03	0	-1.0	mA
Short circuit output current 1/	I_{OS}	V_{CC} = 5.5 V	All	-100	-375	mA
Output drive	I_{OD}	V_{CC} = 4.5 V, V_{IN} = 5.5 V, V_{OUT} = 2.5 V	01, 02, 03	65		mA
High level supply current	I_{CCH}	V_{CC} = 5.5 V	01		35	mA
			02, 03		60	
			04		20	
Low level supply current	I_{CCL}	V_{CC} = 5.5 V	01, 04		75	mA
			02, 03		90	
Off state supply current	I_{CCZ}	V_{CC} = 5.5 V, outputs disabled	01		75	mA
			02, 03		90	
			04		45	
Off state output leakage current	I_{OZH}	V_{CC} = 5.5 V, V_{ZH} = 2.4 V	All		50	μA
	I_{OZL}	V_{CC} = 5.5 V, V_{ZL} = 0.5 V	All		-50	μA
Propagation delay time, low to high level, A to $\overline{Y}$	t_{PLH1}	V_{CC} = 5.0 V, C_L = 50 pF ±10%, R_L = 500Ω ±5% (see figure 3)	01	1.0	9.0	ns
	t_{PLH3}		04	1.0	6.0	
Propagation delay time, low to high level, A to Y	t_{PLH2}		02, 03	1.0	6.5	ns

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

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55°C \leq T_C \leq +125°C$	Device types	Limits Min	Limits Max	Unit
Propagation delay time, high to low level, A to $\overline{Y}$	t_{PHL1}	V_{CC} = 5.0 V, C_L = 50 pF ±10%, R_L = 500Ω ±5% (see figure 3)	01	1.0	6.0	ns
	t_{PHL3}		04	1.0	4.5	
Propagation delay time, high to low level, A to Y	t_{PHL2}		02, 03	1.0	7.0	ns
Propagation delay time, low level to off state, $\overline{OE}$ to $\overline{Y}$	t_{PLZ1}		01	2.0	12.5	ns
	t_{PLZ4}		04	1.0	7.5	
Propagation delay time, low level to off state, $\overline{OE}$ to Y	t_{PLZ2}		02, 03	2.0	7.5	ns
Propagation delay time, low level to off state, OE to Y	t_{PLZ3}		02	2.0	7.5	ns
Propagation delay time, high level to off state, $\overline{OE}$ to $\overline{Y}$	t_{PHZ1}		01	2.0	6.5	ns
	t_{PHZ4}		04	1.5	7.0	
Propagation delay time, high level to off state, $\overline{OE}$ to Y	t_{PHZ2}		02, 03	2.0	7.0	ns
Propagation delay time, high level to off state, OE to Y	t_{PHZ3}		02	2.0	7.0	ns
Propagation delay time, off state to low level, $\overline{OE}$ to $\overline{Y}$	t_{PZL1}		01	2.0	10.5	ns
	t_{PZL4}		04	3.5	11.0	
Propagation delay time, off state to low level, $\overline{OE}$ to Y	t_{PZL2}		02, 03	2.0	8.5	ns
Propagation delay time, off state to low level, OE to Y	t_{PZL3}		02	2.0	8.5	ns
Propagation delay time, off state to high level, $\overline{OE}$ to Y	t_{PZH1}		01	2.0	6.5	ns
	t_{PZH4}		04	2.5	9.0	
Propagation delay time, off state to high level, $\overline{OE}$ to Y	t_{PZH2}		02, 03	2.0	7.0	ns
Propagation delay time, off state to high level, OE to Y	t_{PZH3}		02	2.0	7.0	ns

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

TABLE II. Electrical test requirements.

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

*PDA applies to subgroup 1.

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

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

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

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

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

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

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

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

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

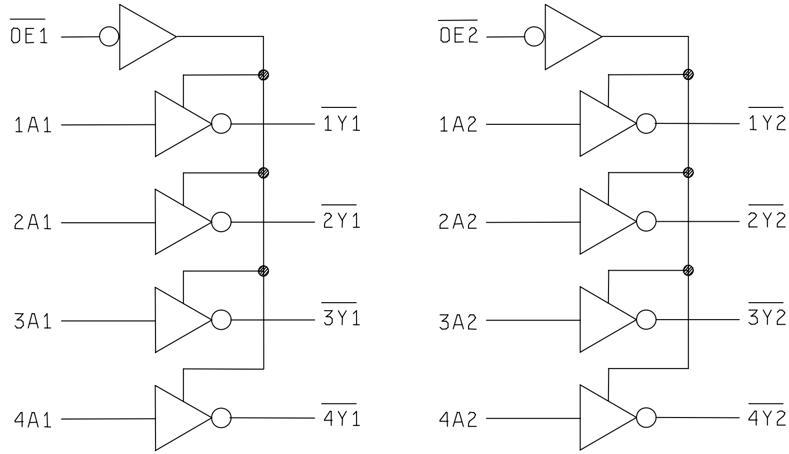
4.4.4 Group D inspection. Group D inspection shall be in accordance with table V of MIL-PRF-38535. End-point electrical parameters shall be as specified in table II herein.

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

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

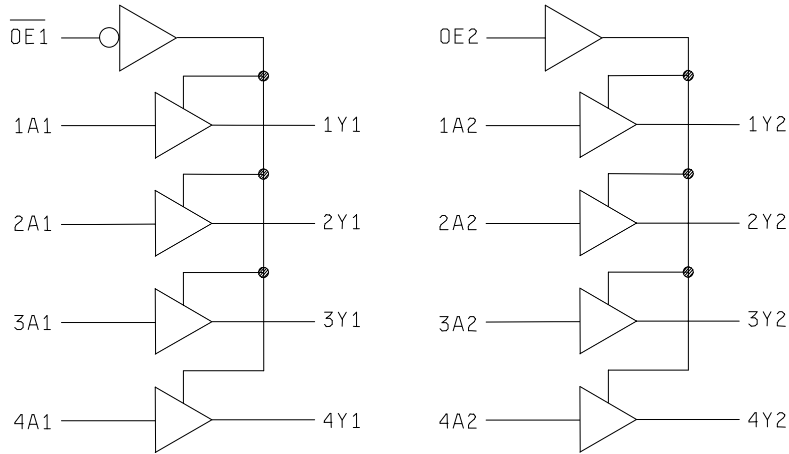
Terminal number	Device 01	Device 02	Device 03	Device 04
	Case R, S, X, 2	Case R, S, X, 2	Case R, S, X, 2	Case R, S, X, 2
1	$\overline{OE1}$	$\overline{OE1}$	$\overline{OE1}$	$\overline{OE1}$
2	1A1	1A1	1A1	1A
3	$\overline{4Y2}$	4Y2	4Y2	2A
4	2A1	2A1	2A1	3A
5	$\overline{3Y2}$	3Y2	3Y2	4A
6	3A1	3A1	3A1	5A
7	$\overline{2Y2}$	2Y2	2Y2	6A
8	4A1	4A1	4A1	7A
9	$\overline{1Y2}$	1Y2	1Y2	8A
10	GND	GND	GND	GND
11	1A2	1A2	1A2	8 $\overline{Y}$
12	$\overline{4Y1}$	4Y1	4Y1	7 $\overline{Y}$
13	2A2	2A2	2A2	6 $\overline{Y}$
14	$\overline{3Y1}$	3Y1	3Y1	5 $\overline{Y}$
15	3A2	3A2	3A2	4 $\overline{Y}$
16	$\overline{2Y1}$	2Y1	2Y1	3 $\overline{Y}$
17	4A2	4A2	4A2	2 $\overline{Y}$
18	$\overline{1Y1}$	1Y1	1Y1	1 $\overline{Y}$
19	$\overline{OE2}$	OE2	$\overline{OE2}$	$\overline{OE2}$
20	V_{CC}	V_{CC}	V_{CC}	V_{CC}

FIGURE 1. Terminal connections.



Inputs		Outputs
$\overline{OE1}$	A1	$\overline{Y1}$
L	L	H
L	H	L
H	X	Z

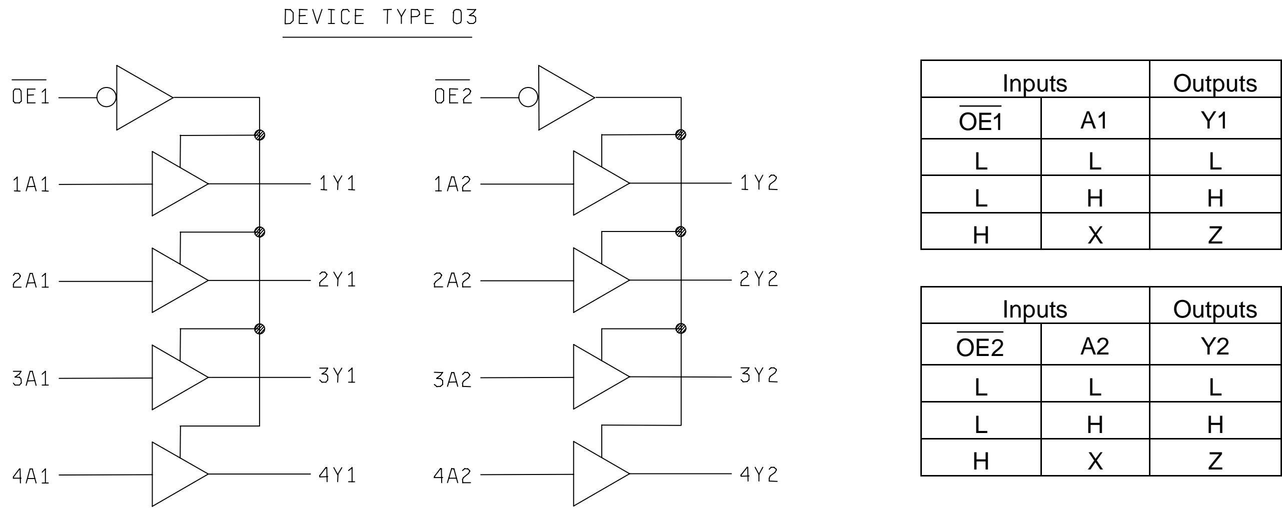
Inputs		Outputs
$\overline{OE2}$	A2	$\overline{Y2}$
L	L	H
L	H	L
H	X	Z



Inputs		Outputs
$\overline{OE1}$	A1	Y1
L	L	L
L	H	H
H	X	Z

Inputs		Outputs
OE2	A2	Y2
H	L	L
H	H	H
L	X	Z

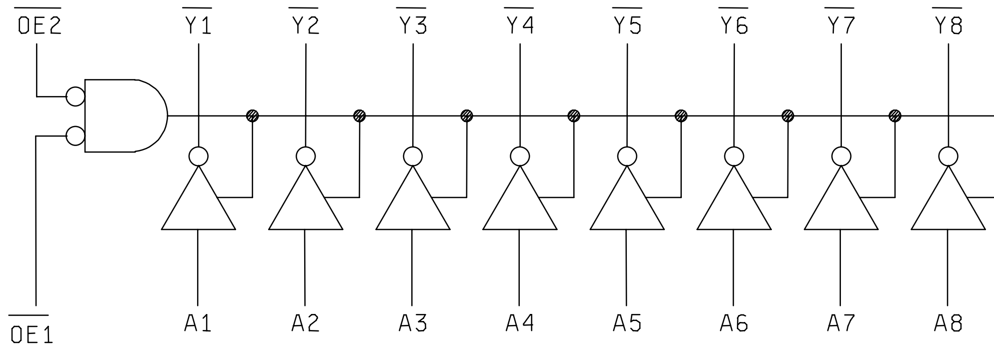
FIGURE 2. Logic diagrams and truth tables.



Inputs		Outputs
$\overline{OE1}$	A1	Y1
L	L	L
L	H	H
H	X	Z

Inputs		Outputs
$\overline{OE2}$	A2	Y2
L	L	L
L	H	H
H	X	Z

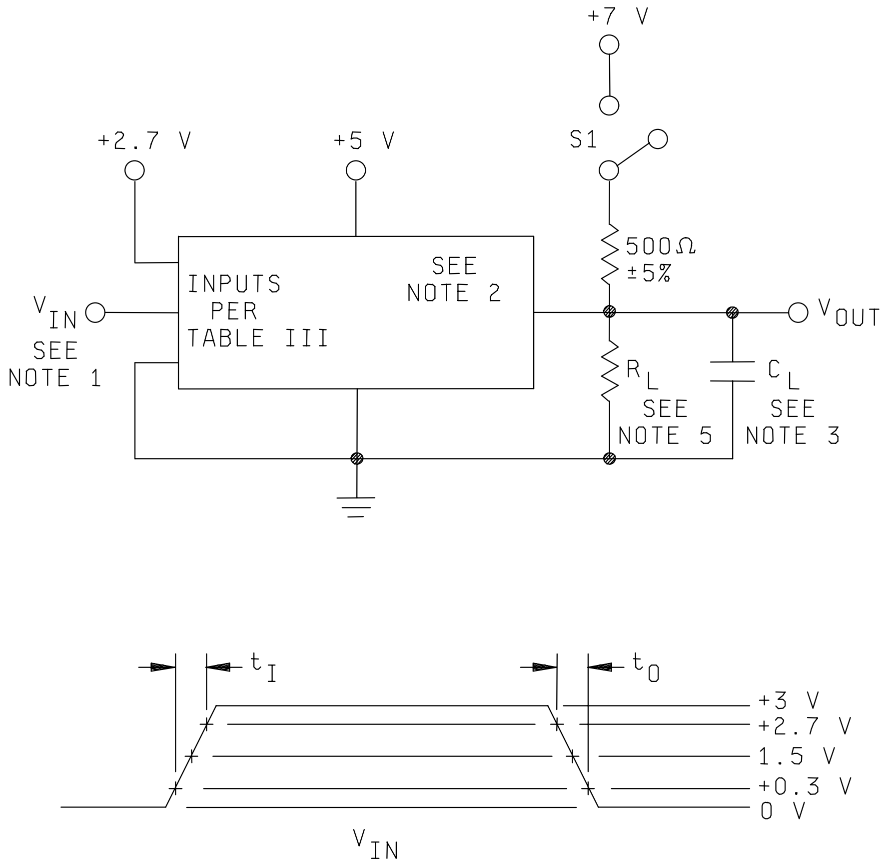
FIGURE 2. Logic diagrams and truth tables - Continued.



Inputs			Outputs
$\overline{OE1}$	$\overline{OE2}$	D	$\overline{Y}$
L	L	H	L
H	X	X	Z
X	H	X	Z
L	L	L	H

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

FIGURE 2. Logic diagrams and truth tables - Continued.



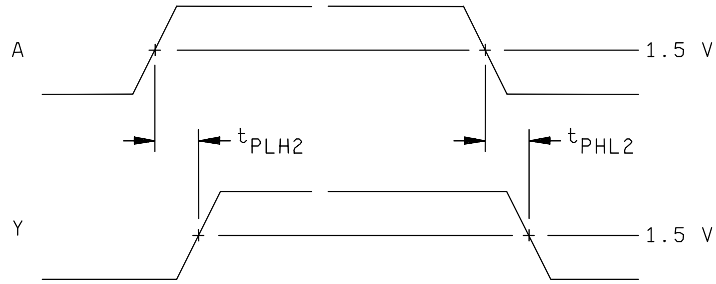
Test type	S!
t_{PLH}	Open
t_{PHL}	Open
t_{PHZ}	Open
t_{PZH}	Open
t^{PLZ}	Closed
t_{PZL}	Closed

NOTES:

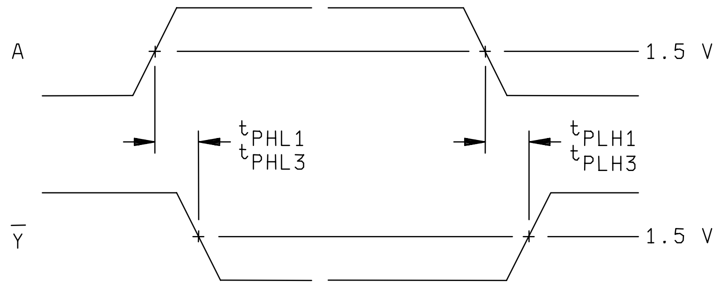
1. The pulse generator has the following characteristics:
   $t_I = t_O \leq 2.5$ ns, PRR $\leq$ 1 MHz, and $Z_{OUT} \cong$ 50Ω.
2. Inputs not under test are at 2.7 V or GND as specified in table III.
3. C_L = 50 pF ±10%, including scope probe, wiring, and stray capacitance, without package in test fixture.
4. Voltage measurements are to be made with respect to network ground terminal.
5. R_L = 500Ω ±5 %.

FIGURE 3. Switching time test circuit and waveforms (all device types).

DEVICE TYPES 02 AND 03



DEVICE TYPES 01 AND 04



DEVICE TYPES 01,02,03 AND 04

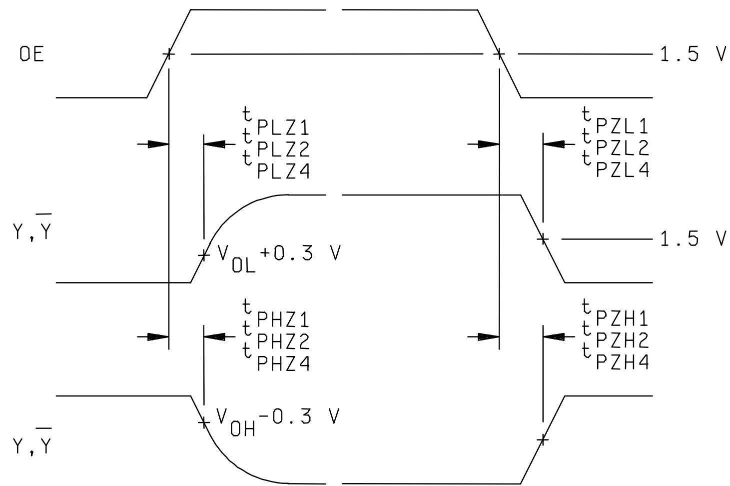


FIGURE 3. Switching time test circuit and waveforms (all device types).

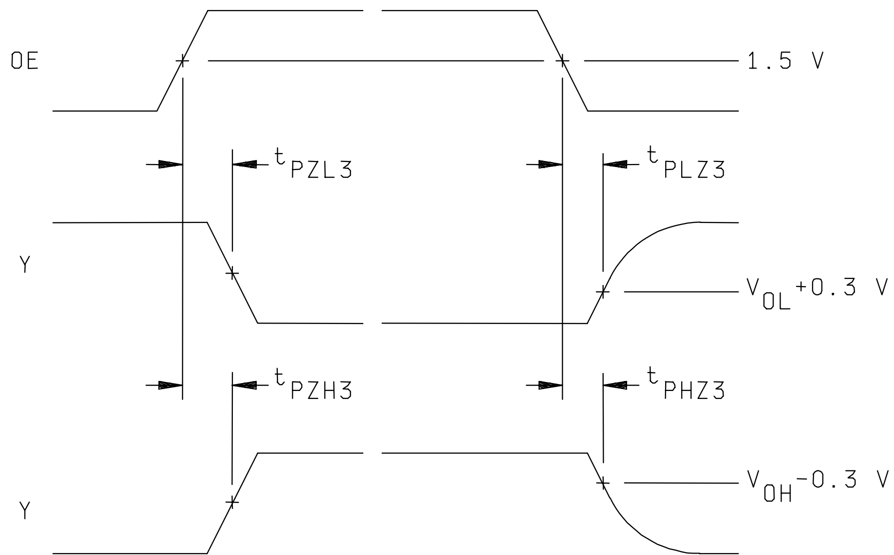


FIGURE 3. Switching time test circuit and waveforms (all device types).

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	$\overline{4Y2}$	2A1	$\overline{3Y2}$	3A1	$\overline{2Y2}$	4A1	$\overline{1Y2}$	GND	1A2	$\overline{4Y1}$	2A2	$\overline{3Y1}$	3A2	$\overline{2Y1}$	4A2	$\overline{1Y1}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	V_{OH}	3006	1	0.8 V	0.8 V								GND								-3 mA		4.5 V	$\overline{1Y1}$	2.4		V
Tc = 25°C		"	2	"			0.8 V						"						-3 mA				"	$\overline{2Y1}$	"		"
		"	3	"					0.8 V				"				-3 mA						"	$\overline{3Y1}$	"		"
		"	4	"							0.8 V		"		-3 mA								"	$\overline{4Y1}$	"		"
		"	5									-3 mA	"	0.8 V								0.8 V	"	$\overline{1Y2}$	"		"
		"	6							-3 mA			"			0.8 V						"	"	$\overline{2Y2}$	"		"
		"	7					-3 mA					"					0.8 V				"	"	$\overline{3Y2}$	"		"
		"	8			-3 mA							"							0.8 V		"	"	$\overline{4Y2}$	"		"
	V_{OL}	3007	9	0.8 V	2.0 V								"								48 mA		"	$\overline{1Y1}$		.55	"
		"	10	"			2.0 V						"						48 mA				"	$\overline{2Y1}$		"	"
		"	11	"					2.0 V				"				48 mA						"	$\overline{3Y1}$		"	"
		"	12	"							2.0 V		"		48 mA								"	$\overline{4Y1}$		"	"
		"	13									48 mA	"	2.0 V								0.8 V	"	$\overline{1Y2}$		"	"
		"	14							48 mA			"			2.0 V						"	"	$\overline{2Y2}$		"	"
		"	15					48 mA					"					2.0 V				"	"	$\overline{3Y2}$		"	"
		"	16			48 mA							"							2.0 V		"	"	$\overline{4Y2}$		"	"
	V_{IC}		17	-18 mA									"										"	$\overline{OE1}$		-1.2	"
			18		-18 mA								"										"	1A1		"	"
			19				-18 mA						"										"	2A1		"	"
			20						-18 mA				"										"	3A1		"	"
			21								-18 mA		"										"	4A1		"	"
			22										"	-18 mA									"	1A2		"	"
			23										"			-18 mA							"	2A2		"	"
			24										"					-18 mA					"	3A2		"	"
			25										"							-18 mA			"	4A2		"	"
			26										"									-18 mA	"	$\overline{OE2}$		"	"
	I_{IH1}	3010	27	2.7 V									GND										5.5 V	$\overline{OE1}$		20	µA
		"	28		2.7 V								"										"	1A1		"	"
		"	29				2.7 V						"										"	2A1		"	"
		"	30						2.7 V				"										"	3A1		"	"
		"	31								2.7 V		"										"	4A1		"	"
		"	32										"	2.7 V									"	1A2		"	"
		"	33										"			2.7 V							"	2A2		"	"
		"	34										"					2.7 V					"	3A2		"	"
		"	35										"							2.7 V			"	4A2		"	"
		"	36										"									2.7 V	"	$\overline{OE2}$		"	"
	I_{IH2}	"	37	7.0 V									"										"	$\overline{OE1}$		100	"
		"	38		7.0 V								"										"	1A1		"	"
		"	39				7.0 V						"										"	2A1		"	"
		"	40						7.0 V				"										"	3A1		"	"
		"	41								7.0 V		"										"	4A1		"	"
		"	42										"	7.0 V									"	1A2		"	"
		"	43										"			7.0 V							"	2A2		"	"
		"	44										"					7.0 V					"	3A2		"	"
		"	45										"							7.0 V			"	4A2		"	"
		"	46										"									7.0 V	"	$\overline{OE2}$		"	"

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	$\overline{4Y2}$	2A1	$\overline{3Y2}$	3A1	$\overline{2Y2}$	4A1	$\overline{1Y2}$	GND	1A2	$\overline{4Y1}$	2A2	$\overline{3Y1}$	3A2	$\overline{2Y1}$	4A2	$\overline{1Y1}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	I_{IL1}	3009	47	0.5 V									GND										5.5 V	$\overline{OE1}$	1/	1/	1/
Tc = 25°C		"	48		0.5 V								"										"	1A1	"	"	"
		"	49				0.5 V						"										"	2A1	"	"	"
		"	50						0.5 V				"										"	3A1	"	"	"
		"	51								0.5 V		"										"	4A1	"	"	"
		"	52										"	0.5 V									"	1A2	"	"	"
		"	53										"			0.5 V							"	2A2	"	"	"
		"	54										"					0.5 V					"	3A2	"	"	"
		"	55										"							0.5 V			"	4A2	"	"	"
		"	56										"									0.5 V	"	$\overline{OE2}$	"	"	"
	I_{OZH}		57	2.0 V	4.5 V								"								2.4 V		"	$\overline{1Y1}$		50	µA
			58	"			4.5 V						"						2.4 V				"	$\overline{2Y1}$		"	"
			59	"					4.5 V				"				2.4 V						"	$\overline{3Y1}$		"	"
			60	"							4.5 V		"		2.4 V								"	$\overline{4Y1}$		"	"
			61									2.4 V	"	4.5 V								2.0 V	"	$\overline{1Y2}$		"	"
			62							2.4 V			"			4.5 V						"	"	$\overline{2Y2}$		"	"
			63					2.4 V					"					4.5 V				"	"	$\overline{3Y2}$		"	"
			64			2.4 V							"							4.5 V		"	"	$\overline{4Y2}$		"	"
	I_{OZL}		65	2.0 V	0.0 V								"								0.5 V		"	$\overline{1Y1}$		-50	"
			66	"			0.0 V						"						0.5 V				"	$\overline{2Y1}$		"	"
			67	"					0.0 V				"				0.5 V						"	$\overline{3Y1}$		"	"
			68	"							0.0 V		"		0.5 V								"	$\overline{4Y1}$		"	"
			69									0.5 V	"	0.0 V								2.0 V	"	$\overline{1Y2}$		"	"
			70							0.5 V			"			0.0 V						"	"	$\overline{2Y2}$		"	"
			71					0.5 V					"					0.0 V				"	"	$\overline{3Y2}$		"	"
			72			0.5 V							"							0.0 V		"	"	$\overline{4Y2}$		"	"
	I_{OS}	3011	73	0.0 V	0.0 V								"								0.0 V		"	$\overline{1Y1}$	-100	-225 2/	mA
		"	74	"			0.0 V						"						0.0 V				"	$\overline{2Y1}$	"	"	"
		"	75	"					0.0 V				"				0.0 V						"	$\overline{3Y1}$	"	"	"
		"	76	"							0.0 V		"		0.0 V								"	$\overline{4Y1}$	"	"	"
		"	77									0.0 V	"	0.0 V								0.0 V	"	$\overline{1Y2}$	"	"	"
		"	78							0.0 V			"			0.0 V						"	"	$\overline{2Y2}$	"	"	"
		"	79					0.0 V					"					0.0 V				"	"	$\overline{3Y2}$	"	"	"
		"	80			0.0 V							"							0.0 V		"	"	$\overline{4Y2}$	"	"	"
	I_{OD}		81	GND	5.5 V								"								2.5 V		4.5 V	$\overline{1Y1}$	65		"
			82	"			5.5 V						"						2.5 V				"	$\overline{2Y1}$	"		"
			83	"					5.5 V				"				2.5 V						"	$\overline{3Y1}$	"		"
			84	"							5.5 V		"		2.5 V								"	$\overline{4Y1}$	"		"

See footnotes at end of device type 01.

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

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	$\overline{4Y2}$	2A1	$\overline{3Y2}$	3A1	$\overline{2Y2}$	4A1	$\overline{1Y2}$	GND	1A2	$\overline{4Y1}$	2A2	$\overline{3Y1}$	3A2	$\overline{2Y1}$	4A2	$\overline{1Y1}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	I_{OD}		85									2.5 V	"	5.5 V								GND	4.5 V	$\overline{1Y2}$	65		mA
Tc = 25°C			86							2.5 V			"			5.5 V						"	"	$\overline{2Y2}$	"		"
			87					2.5 V					"					5.5 V				"	"	$\overline{3Y2}$	"		"
			88			2.5 V							"							5.5 V		"	"	$\overline{4Y2}$	"		"
	I_{CCH}	3005	89	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}		35	"
	I_{CCL}	"	90	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	"	V_{CC}		75	"
	I_{CCZ}	"	91	4.5 V									"									4.5 V	"	V_{CC}		75	"
2	Same tests, terminal conditions, and limits as subgroup 1, except T_C = +125°C and V_{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T_C = -55°C and V_{IC} tests are omitted.																										
7 2/	Truth	3014	92	B	B	H	B	H	B	H	B	H	GND	B	H	B	H	B	H	B	H	B	4/	All outputs			
Tc = 25°C	table tests	3014	93	B	A	L	A	L	A	L	A	L	"	A	L	A	L	A	L	A	L	B	4/	All outputs			
9	t_{PLH1}	3003	94	0.0 V	IN								"								OUT		5.0 V	1A1 to $\overline{1Y1}$	1.0	7.0	ns
Tc = 25°C		See	95	"			IN						"						OUT				"	2A1 to $\overline{2Y1}$	"	"	"
		fig. 3	96	"					IN				"				OUT						"	3A1 to $\overline{3Y1}$	"	"	"
		"	97	"							IN		"		OUT								"	4A1 to $\overline{4Y1}$	"	"	"
		"	98									OUT	"	IN								0.0 V	"	1A2 to $\overline{1Y2}$	"	"	"
		"	99							OUT			"			IN						"	"	2A2 to $\overline{2Y2}$	"	"	"
		"	100					OUT					"					IN				"	"	3A2 to $\overline{3Y2}$	"	"	"
		"	101			OUT							"							IN		"	"	4A2 to $\overline{4Y2}$	"	"	"
	t_{PHL1}	"	102	0.0 V	IN								"								OUT		"	1A1 to $\overline{1Y1}$	"	4.7	"
		"	103	"			IN						"						OUT				"	2A1 to $\overline{2Y1}$	"	"	"
		"	104	"					IN				"				OUT						"	3A1 to $\overline{3Y1}$	"	"	"
		"	105	"							IN		"		OUT								"	4A1 to $\overline{4Y1}$	"	"	"
		"	106									OUT	"	IN								0.0 V	"	1A2 to $\overline{1Y2}$	"	"	"
		"	107							OUT			"			IN						"	"	2A2 to $\overline{2Y2}$	"	"	"
		"	108					OUT					"					IN				"	"	3A2 to $\overline{3Y2}$	"	"	"
		"	109			OUT							"							IN		"	"	4A2 to $\overline{4Y2}$	"	"	"
	t_{PHZ1}	"	110	IN	0.0 V								"								OUT		"	$\overline{OE1}$ to $\overline{1Y1}$	2.0	6.0	"
		"	111	"			0.0 V						"						OUT				"	$\overline{OE1}$ to $\overline{2Y1}$	"	"	"
		"	112	"					0.0 V				"				OUT						"	$\overline{OE1}$ to $\overline{3Y1}$	"	"	"
		"	113	"							0.0 V		"		OUT								"	$\overline{OE1}$ to $\overline{4Y1}$	"	"	"
		"	114									OUT	"	0.0 V								IN	"	$\overline{OE2}$ to $\overline{1Y2}$	"	"	"
		"	115							OUT			"			0.0 V						"	"	$\overline{OE2}$ to $\overline{2Y2}$	"	"	"
		"	116					OUT					"					0.0 V				"	"	$\overline{OE2}$ to $\overline{3Y2}$	"	"	"
		"	117			OUT							"							0.0 V		"	"	$\overline{OE2}$ to $\overline{4Y2}$	"	"	"

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	$\overline{4Y2}$	2A1	$\overline{3Y2}$	3A1	$\overline{2Y2}$	4A1	$\overline{1Y2}$	GND	1A2	$\overline{4Y1}$	2A2	$\overline{3Y1}$	3A2	$\overline{2Y1}$	4A2	$\overline{1Y1}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PLZ1}	3003	118	IN	2.7 V								GND								OUT		5.0 V	$\overline{OE1}$ to $\overline{1Y1}$	2.0	10.0	ns
T_C = 25°C		See	119	"			2.7 V						"						OUT				"	$\overline{OE1}$ to $\overline{2Y1}$	"	"	"
		fig. 3	120	"					2.7 V				"				OUT						"	$\overline{OE1}$ to $\overline{3Y1}$	"	"	"
		"	121	"							2.7 V		"		OUT								"	$\overline{OE1}$ to $\overline{4Y1}$	"	"	"
		"	122									OUT	"	2.7 V								IN	"	$\overline{OE2}$ to $\overline{1Y2}$	"	"	"
		"	123							OUT			"			2.7 V						"	"	$\overline{OE2}$ to $\overline{2Y2}$	"	"	"
		"	124					OUT					"					2.7 V				"	"	$\overline{OE2}$ to $\overline{3Y2}$	"	"	"
		"	125			OUT							"							2.7 V		"	"	$\overline{OE2}$ to $\overline{4Y2}$	"	"	"
	t_{PZH1}	"	126	IN	0.0 V								"								OUT		"	$\overline{OE1}$ to $\overline{1Y1}$	"	6.0	"
		"	127	"			0.0 V						"						OUT				"	$\overline{OE1}$ to $\overline{2Y1}$	"	"	"
		"	128	"					0.0 V				"				OUT						"	$\overline{OE1}$ to $\overline{3Y1}$	"	"	"
		"	129	"							0.0 V		"		OUT								"	$\overline{OE1}$ to $\overline{4Y1}$	"	"	"
		"	130									OUT	"	0.0 V								IN	"	$\overline{OE2}$ to $\overline{1Y2}$	"	"	"
		"	131							OUT			"			0.0 V						"	"	$\overline{OE2}$ to $\overline{2Y2}$	"	"	"
		"	132					OUT					"					0.0 V				"	"	$\overline{OE2}$ to $\overline{3Y2}$	"	"	"
		"	133			OUT							"							0.0 V		"	"	$\overline{OE2}$ to $\overline{4Y2}$	"	"	"
	t_{PZL1}	"	134	IN	2.7 V								"								OUT		"	$\overline{OE1}$ to $\overline{1Y1}$	"	9.0	"
		"	135	"			2.7 V						"						OUT				"	$\overline{OE1}$ to $\overline{2Y1}$	"	"	"
		"	136	"					2.7 V				"				OUT						"	$\overline{OE1}$ to $\overline{3Y1}$	"	"	"
		"	137	"							2.7 V		"		OUT								"	$\overline{OE1}$ to $\overline{4Y1}$	"	"	"
		"	138									OUT	"	2.7 V								IN	"	$\overline{OE2}$ to $\overline{1Y2}$	"	"	"
		"	139							OUT			"			2.7 V						"	"	$\overline{OE2}$ to $\overline{2Y2}$	"	"	"
		"	140					OUT					"					2.7 V				"	"	$\overline{OE2}$ to $\overline{3Y2}$	"	"	"
		"	141			OUT							"							2.7 V		"	"	$\overline{OE2}$ to $\overline{4Y2}$	"	"	"
10	t_{PLH1}	Same tests and terminal conditions as for subgroup 9, except T_C = +125°C																							1.0	9.0	"
	t_{PHL1}																								1.0	6.0	"
	t_{PHZ1}																								2.0	6.5	"
	t_{PLZ1}																								"	12.5	"
	t_{PZH1}																								"	6.5	"
	t_{PZL1}																								"	10.5	"
11	Same tests and terminal conditions as for subgroup 10, except T_C = -55°C																										

1/ I_{IL} limits shall be as follows:

Test	Min/Max limits in (mA)			
	Circuits			
	A	B	C	D
I_{IL1}	-.42/-1.0	-.03/-1.0	-.03/-1.0	0/-0.3

2/ I_{OS} limits (mA) min/max value for CKT B, -100/-325.

3/ A ≥ 2.4 V minimum; B ≤ 0.50 or GND, H ≥ 1.5 V, L ≤ 1.5 V.

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 02.

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883 method	Cases R,S,X,2 Test no.	1 $\overline{OE1}$	2 1A1	3 4Y2	4 2A1	5 3Y2	6 3A1	7 2Y2	8 4A1	9 1Y2	10 GND	11 1A2	12 4Y1	13 2A2	14 3Y1	15 3A2	16 2Y1	17 4A2	18 1Y1	19 OE2	20 V_{CC}	Measured terminal	Test limits Min	Test limits Max	Unit
1	V_{OH}	3006	1	0.8 V	2.0 V								GND								-3 mA		4.5 V	1Y1	2.4		V
Tc = 25°C		"	2	"			2.0 V						"						-3 mA				"	2Y1	"		"
		"	3	"					2.0 V				"				-3 mA						"	3Y1	"		"
		"	4	"							2.0 V		"		-3 mA								"	4Y1	"		"
		"	5									-3 mA	"	2.0 V								2.0 V	"	1Y2	"		"
		"	6							-3 mA			"			2.0 V						"	"	2Y2	"		"
		"	7					-3 mA					"					2.0 V				"	"	3Y2	"		"
		"	8			-3 mA							"							2.0 V		"	"	4Y2	"		"
	V_{OL}	3007	9	0.8 V	0.8 V								"								48 mA		"	1Y1		.55	"
		"	10	"			0.8 V						"						48 mA				"	2Y1		"	"
		"	11	"					0.8 V				"				48 mA						"	3Y1		"	"
		"	12	"							0.8 V		"		48 mA								"	4Y1		"	"
		"	13									48 mA	"	0.8 V								2.0 V	"	1Y2		"	"
		"	14							48 mA			"			0.8 V						"	"	2Y2		"	"
		"	15					48 mA					"					0.8 V				"	"	3Y2		"	"
		"	16			48 mA							"							0.8 V		"	"	4Y2		"	"
	V_{IC}		17	-18 mA									"										"	$\overline{OE1}$		-1.2	"
			18		-18 mA								"										"	1A1		"	"
			19				-18 mA						"										"	2A1		"	"
			20						-18 mA				"										"	3A1		"	"
			21								-18 mA		"										"	4A1		"	"
			22										"	-18 mA									"	1A2		"	"
			23										"			-18 mA							"	2A2		"	"
			24										"					-18 mA					"	3A2		"	"
			25										"							-18 mA			"	4A2		"	"
			26										"									-18 mA	"	OE2		"	"
	I_{IH1}	3010	27	2.7 V									"										5.5 V	$\overline{OE1}$		20	μA
		"	28		2.7 V								"										"	1A1		"	"
		"	29				2.7 V						"										"	2A1		"	"
		"	30						2.7 V				"										"	3A1		"	"
		"	31								2.7 V		"										"	4A1		"	"
		"	32										"	2.7 V									"	1A2		"	"
		"	33										"			2.7 V							"	2A2		"	"
		"	34										"					2.7 V					"	3A2		"	"
		"	35										"							2.7 V			"	4A2		"	"
		"	36										"									2.7 V	"	OE2		"	"
	I_{IH2}	"	37	7.0 V									"										"	$\overline{OE1}$		100	"
		"	38		7.0 V								"										"	1A1		"	"
		"	39				7.0 V						"										"	2A1		"	"
		"	40						7.0 V				"										"	3A1		"	"
		"	41								7.0 V		"										"	4A1		"	"
		"	42										"	7.0 V									"	1A2		"	"
		"	43										"			7.0 V							"	2A2		"	"
		"	44										"					7.0 V					"	3A2		"	"
		"	45										"							7.0 V			"	4A2		"	"
		"	46										"									7.0 V	"	OE2		"	"
	I_{IL1}	3009	47		0.5 V								"										"	1A1	1/	1/	1/
		"	48				0.5 V						"										"	2A1	"	"	"
		"	49						0.5 V				"										"	3A1	"	"	"
		"	50								0.5 V		"										"	4A1	"	"	"
		"	51										"	0.5 V									"	1A2	"	"	"
		"	52										"			0.5 V							"	2A2	"	"	"
		"	53										"					0.5 V					"	3A2	"	"	"
		"	54										"							0.5 V			"	4A2	"	"	"
	I_{IL2}	"	55	0.5 V									"										4.5 V	$\overline{OE1}$	"	"	"
		"	56										"									0.5 V	"	OE2	"	"	"

See footnotes at end of device type 02.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	OE2	V_{CC}	terminal	Min	Max	
1 Tc = 25°C	I_{OZH}		57	2.0 V	0.0 V								GND								2.4 V		5.5 V	1Y1		50	µA
			58	"			0.0 V						"						2.4 V				"	2Y1		"	"
			59	"					0.0 V				"				2.4 V						"	3Y1		"	"
			60	"							0.0 V		"		2.4 V								"	4Y1		"	"
			61									2.4 V	"	0.0 V								0.8 V	"	1Y2		"	"
			62							2.4 V			"			0.0 V						"	"	2Y2		"	"
			63					2.4 V					"					0.0 V				"	"	3Y2		"	"
			64			2.4 V							"							0.0 V		"	"	4Y2		"	"
	I_{OZL}		65	2.0 V	4.5 V								"								0.5 V		"	1Y1		-50	"
			66	"			4.5 V						"						0.5 V				"	2Y1		"	"
			67	"					4.5 V				"				0.5 V						"	3Y1		"	"
			68	"							4.5 V		"		0.5 V								"	4Y1		"	"
			69									0.5 V	"	4.5 V								0.8 V	"	1Y2		"	"
			70							0.5 V			"			4.5 V						"	"	2Y2		"	"
			71					0.5 V					"					4.5 V				"	"	3Y2		"	"
			72			0.5 V							"							4.5 V		"	"	4Y2		"	"
	I_{OS}	3011	73	0.0 V	4.5 V								"								0.0 V		"	1Y1	-100	-225 2/	mA
		"	74	"			4.5 V						"						0.0 V				"	2Y1	"	"	"
		"	75	"					4.5 V				"				0.0 V						"	3Y1	"	"	"
		"	76	"							4.5 V		"		0.0 V								"	4Y1	"	"	"
		"	77									0.0 V	"	4.5 V								4.5 V	"	1Y2	"	"	"
		"	78							0.0 V			"			4.5 V						"	"	2Y2	"	"	"
		"	79					0.0 V					"					4.5 V				"	"	3Y2	"	"	"
		"	80			0.0 V							"							4.5 V		"	"	4Y2	"	"	"
	I_{OD}		81	GND	GND								"								2.5 V		"	1Y1	65		"
			82	"			GND						"						2.5 V				"	2Y2	"		"
			83	"					GND				"				2.5 V						"	3Y2	"		"
			84	"							GND		"		2.5 V								"	4Y2	"		"
			85									2.5 V	"	GND								4.5 V	"	1Y2	"		"
			86							2.5 V			"			GND						"	"	2Y2	"		"
			87					2.5 V					"					GND				"	"	3Y2	"		"
			88			2.5 V							"							GND		"	"	4Y2	"		"
	I_{CCH}	3005	89	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		4.5 V	"	V_{CC}		60	"
	I_{CCL}	"	90	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}		90	"
	I_{CCZ}	"	91	4.5 V									"									0.0 V	"	V_{CC}		90	"
2	Same tests, terminal conditions, and limits as subgroup 1, except T_C = +125°C and V_{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T_C = -55°C and V_{IC} tests are omitted.																										
7 2/	Truth	3014	92	B	B	L	B	L	B	L	B	L	GND	B	L	B	L	B	L	B	L	A	4/	All outputs			
Tc = 25°C	table	3014	93	B	A	H	A	H	A	H	A	H	"	A	H	A	H	A	H	A	H	A	4/	All outputs			
	tests																										
9	t_{PLH2}	3003	94	0.0 V	IN								"								OUT		5.0 V	1A1 to 1Y1	1.0	5.2	ns
Tc = 25°C		See	95	"			IN						"						OUT				"	2A1 to 2Y1	"	"	"
		(Fig. 3)	96	"					IN				"				OUT						"	3A1 to 3Y1	"	"	"
		"	97	"							IN		"		OUT								"	4A1 to 4Y1	"	"	"
		"	98									OUT	"	IN								2.7 V	"	1A2 to 1Y2	"	"	"
		"	99							OUT			"			IN						"	"	2A2 to 2Y2	"	"	"
		"	100					OUT					"					IN				"	"	3A2 to 3Y2	"	"	"
		"	101			OUT							"							IN		"	"	4A2 to 4Y2	"	"	"

See footnotes at end of device type 02.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	OE2	V_{CC}	terminal	Min	Max	
9	t_{PHL2}	3003	102	0.0 V	IN								GND								OUT		5.0 V	1A1 to 1Y1	1.0	5.2	ns
Tc = 25°C		(Fig. 3)	103	"			IN						"						OUT				"	2A1 to 2Y1	"	"	"
		"	104	"					IN				"				OUT						"	3A1 to 3Y1	"	"	"
		"	105	"							IN		"		OUT								"	4A1 to 4Y1	"	"	"
		"	106									OUT	"	IN								2.7 V	"	1A2 to 1Y2	"	"	"
		"	107							OUT			"			IN						"	"	2A2 to 2Y2	"	"	"
		"	108					OUT					"					IN				"	"	3A2 to 3Y2	"	"	"
		"	109			OUT							"							IN		"	"	4A2 to 4Y2	"	"	"
	t_{PHZ2}	"	110	IN	2.7 V								"								OUT		"	$\overline{OE1}$ to 1Y1	2.0	6.0	"
		"	111	"			2.7 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	112	"					2.7 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	113	"							2.7 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
	t_{PHZ3}	"	114									OUT	"	2.7 V								IN	"	OE2 to 1Y2	"	"	"
		"	115							OUT			"			2.7 V						"	"	OE2 to 2Y2	"	"	"
		"	116					OUT					"					2.7 V				"	"	OE2 to 3Y2	"	"	"
		"	117			OUT							"							2.7 V		"	"	OE2 to 4Y2	"	"	"
	t_{PLZ2}	"	118	IN	0.0 V								"								OUT		"	$\overline{OE1}$ to 1Y1	"	"	"
		"	119	"			0.0 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	120	"					0.0 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	121	"							0.0 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
	t_{PLZ3}	"	122									OUT	"	0.0 V								IN	"	OE2 to 1Y2	"	"	"
		"	123							OUT			"			0.0 V						"	"	OE2 to 2Y2	"	"	"
		"	124					OUT					"					0.0 V				"	"	OE2 to 3Y2	"	"	"
		"	125			OUT							"							0.0 V		"	"	OE2 to 4Y2	"	"	"
	t_{PZH2}	"	126	IN	2.7 V								"								OUT		"	$\overline{OE1}$ to 1Y1	"	5.7	"
		"	127	"			2.7 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	128	"					2.7 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	129	"							2.7 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
	t_{PZH3}	"	130									OUT	"	2.7 V								IN	"	OE2 to 1Y2	"	"	"
		"	131							OUT			"			2.7 V						"	"	OE2 to 2Y2	"	"	"
		"	132					OUT					"					2.7 V				"	"	OE2 to 3Y2	"	"	"
		"	133			OUT							"							2.7 V		"	"	OE2 to 4Y2	"	"	"
	t_{PZL2}	"	134	IN	0.0 V								"								OUT		"	$\overline{OE1}$ to 1Y1	"	7.0	"
		"	135	"			0.0 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	136	"					0.0 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	137	"							0.0 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
	t_{PZL3}	"	138									OUT	"	0.0 V								IN	"	OE2 to 1Y2	"	"	"
		"	139							OUT			"			0.0 V						"	"	OE2 to 2Y2	"	"	"
		"	140					OUT					"					0.0 V				"	"	OE2 to 3Y2	"	"	"
		"	141			OUT							"							0.0 V		"	"	OE2 to 4Y2	"	"	"

See footnotes at end of device type 02.

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

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	OE2	V_{CC}	terminal	Min	Max	
10	t_{PLH2}																								1.0	6.5	ns
	t_{PHL2}	Same tests and terminal conditions as for subgroup 9, except T_C = +125°C																							1.0	7.0	"
	t_{PHZ2}																								2.0	7.0	"
	t_{PHZ3}																								"	7.0	"
	t_{PLZ2}																								"	7.5	"
	t_{PLZ3}																								"	7.5	"
	t_{PZH2}																								"	7.0	"
	t_{PZH3}																								"	7.0	"
	t_{PZL2}																								"	8.5	"
	t_{PZL3}																								"	8.5	"
11	Same tests and terminal conditions as for subgroup 10, except T_C = -55°C																										

1/ I_{IL} limits shall be as follows:

Test	Min/Max limits in (mA)			
	Circuits			
	A	B	C	D
I_{IL1}	-.03/-1.6	-.03/-1.6	-.03/-1.6	0/-.03
I_{IL2}	-.03/-1.0	-.03/-1.0	-.06/-1.0	0/-0.3

2/ I_{OS} limits (mA) min/max value for CKT B, -100/-325.

3/ A ≥ 2.4 V minimum; B ≤ 0.50 or GND, H ≥ 1.5 V, L ≤ 1.5 V.

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 03.

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	V_{OH}	3006	1	0.8 V	2.0 V								GND								-3 mA		4.5 V	1Y1	2.4		V
Tc = 25°C		"	2	"			2.0 V						"						-3 mA				"	2Y1	"		"
		"	3	"					2.0 V				"				-3 mA						"	3Y1	"		"
		"	4	"							2.0 V		"		-3 mA								"	4Y1	"		"
		"	5									-3 mA	"	2.0 V								0.8 V	"	1Y2	"		"
		"	6							-3 mA			"			2.0 V						"	"	2Y2	"		"
		"	7					-3 mA					"					2.0 V				"	"	3Y2	"		"
		"	8			-3 mA							"							2.0 V		"	"	4Y2	"		"
	V_{OL}	3007	9	0.8 V	0.8 V								"								48 mA		"	1Y1		.55	"
		"	10	"			0.8 V						"						48 mA				"	2Y1		"	"
		"	11	"					0.8 V				"				48 mA						"	3Y1		"	"
		"	12	"							0.8 V		"		48 mA								"	4Y1		"	"
		"	13									48 mA	"	0.8 V								0.8 V	"	1Y2		"	"
		"	14							48 mA			"			0.8 V						"	"	2Y2		"	"
		"	15					48 mA					"					0.8 V				"	"	3Y2		"	"
		"	16			48 mA							"							0.8 V		"	"	4Y2		"	"
	V_{IC}		17	-18 mA									"										"	$\overline{OE1}$		-1.2	"
			18		-18 mA								"										"	1A1		"	"
			19				-18 mA						"										"	2A1		"	"
			20						-18 mA				"										"	3A1		"	"
			21								-18 mA		"										"	4A1		"	"
			22										"	-18 mA									"	1A2		"	"
			23										"			-18 mA							"	2A2		"	"
			24										"					-18 mA					"	3A2		"	"
			25										"							-18 mA			"	4A2		"	"
			26										"									-18 mA	"	$\overline{OE2}$		"	"
	I_{IH1}	3010	27	2.7 V									"										5.5 V	$\overline{OE1}$		20	µA
		"	28		2.7 V								"										"	1A1		"	"
		"	29				2.7 V						"										"	2A1		"	"
		"	30						2.7 V				"										"	3A1		"	"
		"	31								2.7 V		"										"	4A1		"	"
		"	32										"	2.7 V									"	1A2		"	"
		"	33										"			2.7 V							"	2A2		"	"
		"	34										"					2.7 V					"	3A2		"	"
		"	35										"							2.7 V			"	4A2		"	"
		"	36										"									2.7 V	"	$\overline{OE2}$		"	"
	I_{IH2}	"	37	7.0 V									"										"	$\overline{OE1}$		100	"
		"	38		7.0 V								"										"	1A1		"	"
		"	39				7.0 V						"										"	2A1		"	"
		"	40						7.0 V				"										"	3A1		"	"
		"	41								7.0 V		"										"	4A1		"	"
		"	42										"	7.0 V									"	1A2		"	"
		"	43										"			7.0 V							"	2A2		"	"
		"	44										"					7.0 V					"	3A2		"	"
		"	45										"							7.0 V			"	4A2		"	"
		"	46										"									7.0 V	"	$\overline{OE2}$		"	"
	I_{IL1}	3009	47		0.5 V								"										"	1A1	1/	1/	mA
		"	48				0.5 V						"										"	2A1	"	"	"
		"	49						0.5 V				"										"	3A1	"	"	"
		"	50								0.5 V		"										"	4A1	"	"	"
		"	51										"	0.5 V									"	1A2	"	"	"
		"	52										"			0.5 V							"	2A2	"	"	"
		"	53										"					0.5 V					"	3A2	"	"	"
		"	54										"							0.5 V			"	4A2	"	"	"

See footnotes at end of device type 03.

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

Subgroup	Symbol	MIL-STD-883 method	Cases R,S,X,2 Test no.	1 $\overline{OE1}$	2 1A1	3 4Y2	4 2A1	5 3Y2	6 3A1	7 2Y2	8 4A1	9 1Y2	10 GND	11 1A2	12 4Y1	13 2A2	14 3Y1	15 3A2	16 2Y1	17 4A2	18 1Y1	19 $\overline{OE2}$	20 V_{CC}	Measured terminal	Test limits Min	Test limits Max	Unit
1	I_{IL2}	3009	55	0.5 V									GND										5.5 V	$\overline{OE1}$	1/	1/	mA
Tc = 25°C		3009	56										"									0.5 V	"	$\overline{OE2}$	1/	1/	mA
	I_{OZH}		57	2.0 V	0.0 V								"								2.4 V		5.5 V	1Y1		50	µA
			58	"			0.0 V						"						2.4 V				"	2Y1		"	"
			59	"					0.0 V				"				2.4 V						"	3Y1		"	"
			60	"							0.0 V		"		2.4 V								"	4Y1		"	"
			61									2.4 V	"	0.0 V								2.0 V	"	1Y2		"	"
			62							2.4 V			"			0.0 V						"	"	2Y2		"	"
			63					2.4 V					"					0.0 V				"	"	3Y2		"	"
			64			2.4 V							"							0.0 V		"	"	4Y2		"	"
	I_{OZL}		65	2.0 V	4.5 V								"								0.5 V		"	1Y1		-50	"
			66	"			4.5 V						"						0.5 V				"	2Y1		"	"
			67	"					4.5 V				"				0.5 V						"	3Y1		"	"
			68	"							4.5 V		"		0.5 V								"	4Y1		"	"
			69									0.5 V	"	4.5 V								2.0 V	"	1Y2		"	"
			70							0.5 V			"			4.5 V						"	"	2Y2		"	"
			71					0.5 V					"					4.5 V				"	"	3Y2		"	"
			72			0.5 V							"							4.5 V		"	"	4Y2		"	"
	I_{OS}	3011	73	0.0 V	4.5 V								"								0.0 V		"	1Y1	-100	-225 2/	mA
		"	74	"			4.5 V						"						0.0 V				"	2Y1	"	"	"
		"	75	"					4.5 V				"				0.0 V						"	3Y1	"	"	"
		"	76	"							4.5 V		"		0.0 V								"	4Y1	"	"	"
		"	77									0.0 V	"	4.5 V								0.0 V	"	1Y2	"	"	"
		"	78							0.0 V			"			4.5 V						"	"	2Y2	"	"	"
		"	79					0.0 V					"					4.5 V				"	"	3Y2	"	"	"
		"	80			0.0 V							"							4.5 V		"	"	4Y2	"	"	"
	I_{OD}		81	GND	GND								"								2.5 V		4.5 V	1Y1	65		"
			82	"			GND						"						2.5 V				"	2Y2	"		"
			83	"					GND				"				2.5 V						"	3Y2	"		"
			84	"							GND		"		2.5 V								"	4Y2	"		"
			85									2.5 V	"	GND								GND	"	1Y2	"		"
			86							2.5 V			"			GND						"	"	2Y2	"		"
			87					2.5 V					"					GND				"	"	3Y2	"		"
			88			2.5 V							"							GND		"	"	4Y2	"		"
	I_{CCH}	3005	89	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	5.5 V	V_{CC}		60	"
	I_{CCL}	"	90	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}		90	"
	I_{CCZ}	"	91	4.5 V									"									4.5 V	"	V_{CC}		90	"
2	Same tests, terminal conditions, and limits as subgroup 1, except T_C = +125°C and V_{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T_C = -55°C and V_{IC} tests are omitted.																										
7 2/	Truth	3014	92	B	B	L	B	L	B	L	B	L	GND	B	L	B	L	B	L	B	L	B	4/	All outputs			
Tc = 25°C	table	3014	93	B	A	H	A	H	A	H	A	H	"	A	H	A	H	A	H	A	H	B	4/	All outputs			
	tests																										
9	t_{PLH2}	3003	94	0.0 V	IN								"								OUT		5.0 V	1A1 to 1Y1	1.0	5.2	ns
Tc = 25°C		(Fig. 3)	95	"			IN						"						OUT				"	2A1 to 2Y1	"	"	"
			96	"					IN				"				OUT						"	3A1 to 3Y1	"	"	"
		"	97	"							IN		"		OUT								"	4A1 to 4Y1	"	"	"
		"	98									OUT	"	IN								0.0 V	"	1A2 to 1Y2	"	"	"
		"	99							OUT			"			IN						"	"	2A2 to 2Y2	"	"	"
		"	100					OUT					"					IN				"	"	3A2 to 3Y2	"	"	"
		"	101			OUT							"							IN		"	"	4A2 to 4Y2	"	"	"

See footnotes at end of device type 03.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PHL2}	3003	102	0.0 V	IN								GND								OUT		5.0 V	1A1 to 1Y1	1.0	6.0	ns
Tc = 25°C		(Fig. 3)	103	"			IN						"						OUT				"	2A1 to 2Y1	"	"	"
		"	104	"					IN				"				OUT						"	3A1 to 3Y1	"	"	"
		"	105	"							IN		"		OUT								"	4A1 to 4Y1	"	"	"
		"	106									OUT	"	IN								0.0 V	"	1A2 to 1Y2	"	"	"
		"	107							OUT			"			IN						"	"	2A2 to 2Y2	"	"	"
		"	108					OUT					"					IN				"	"	3A2 to 3Y2	"	"	"
		"	109			OUT							"							IN		"	"	4A2 to 4Y2	"	"	"
	t_{PHZ2}	"	110	IN	2.7 V								"								OUT		"	$\overline{OE1}$ to 1Y1	2.0	"	"
		"	111	"			2.7 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	112	"					2.7 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	113	"							2.7 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
		"	114									OUT	"	2.7 V								IN	"	$\overline{OE2}$ to 1Y2	"	"	"
		"	115							OUT			"			2.7 V						"	"	$\overline{OE2}$ to 2Y2	"	"	"
		"	116					OUT					"					2.7 V				"	"	$\overline{OE2}$ to 3Y2	"	"	"
		"	117			OUT							"							2.7 V		"	"	$\overline{OE2}$ to 4Y2	"	"	"
	t_{PLZ2}	"	118	IN	0.0 V								"								OUT		"	$\overline{OE1}$ to 1Y1	"	"	"
		"	119	"			0.0 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	120	"					0.0 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	121	"							0.0 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
		"	122									OUT	"	0.0 V								IN	"	$\overline{OE2}$ to 1Y2	"	"	"
		"	123							OUT			"			0.0 V						"	"	$\overline{OE2}$ to 2Y2	"	"	"
		"	124					OUT					"					0.0 V				"	"	$\overline{OE2}$ to 3Y2	"	"	"
		"	125			OUT							"							0.0 V		"	"	$\overline{OE2}$ to 4Y2	"	"	"
	t_{PZH2}	"	126	IN	2.7 V								"								OUT		"	$\overline{OE1}$ to 1Y1	"	5.7	"
		"	127	"			2.7 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	128	"					2.7 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	129	"							2.7 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
		"	130									OUT	"	2.7 V								IN	"	$\overline{OE2}$ to 1Y2	"	"	"
		"	131							OUT			"			2.7 V						"	"	$\overline{OE2}$ to 2Y2	"	"	"
		"	132					OUT					"					2.7 V				"	"	$\overline{OE2}$ to 3Y2	"	"	"
		"	133			OUT							"							2.7 V		"	"	$\overline{OE2}$ to 4Y2	"	"	"

See footnotes at end of device type 03.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A1	4Y2	2A1	3Y2	3A1	2Y2	4A1	1Y2	GND	1A2	4Y1	2A2	3Y1	3A2	2Y1	4A2	1Y1	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PZL2}	"	134	IN	0.0 V								GND								OUT		5.0 V	$\overline{OE1}$ to 1Y1	2.0	7.0	ns
T_C = 25°C		"	135	"			0.0 V						"						OUT				"	$\overline{OE1}$ to 2Y1	"	"	"
		"	136	"					0.0 V				"				OUT						"	$\overline{OE1}$ to 3Y1	"	"	"
		"	137	"							0.0 V		"		OUT								"	$\overline{OE1}$ to 4Y1	"	"	"
		"	138									OUT	"	0.0 V								IN	"	$\overline{OE2}$ to 1Y2	"	"	"
		"	139							OUT			"			0.0 V						"	"	$\overline{OE2}$ to 2Y2	"	"	"
		"	140					OUT					"					0.0 V				"	"	$\overline{OE2}$ to 3Y2	"	"	"
		"	141			OUT							"							0.0 V		"	"	$\overline{OE2}$ to 4Y2	"	"	"
10	t_{PLH2}	Same tests and terminal conditions as for subgroup 9, except T_C = +125°C																							1.0	6.5	"
	t_{PHL2}																								1.0	7.0	"
	t_{PHZ2}																								2.0	7.0	"
	t_{PLZ2}																								"	7.5	"
	t_{PZH2}																								"	7.0	"
	t_{PZL2}																								"	8.5	"
11	Same tests and terminal conditions as for subgroup 10, except T_C = -55°C																										

1/ I_{IL} limits shall be as follows:

Test	Min/Max limits in (mA)			
	Circuits			
	A	B	C	D
I_{IL1}	-.03/-1.6	-.03/-1.6	-.03/-1.6	0/-.03
I_{IL2}	-.03/-1.0	-.03/-1.0	-.06/-1.0	0/-0.3

2/ I_{OS} limits (mA) min/max value for CKT B, -100/-325.

3/ A ≥ 2.4 V minimum; B ≤ 0.50 or GND, H ≥ 1.5 V, L ≤ 1.5 V.

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 04.
Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	V_{OH}	3006	1	0.8 V								0.8 V	GND	-3.0 mA								0.8 V	4.5 V	$\overline{8Y}$	2.4		V
Tc = 25°C		"	2	"							0.8 V		"		-3.0 mA							"	"	$\overline{7Y}$	"		"
		"	3	"						0.8 V			"			-3.0 mA						"	"	$\overline{6Y}$	"		"
		"	4	"					0.8 V				"				-3.0 mA					"	"	$\overline{5Y}$	"		"
		"	5	"				0.8 V					"					-3.0 mA				"	"	$\overline{4Y}$	"		"
		"	6	"			0.8 V						"						-3.0 mA			"	"	$\overline{3Y}$	"		"
		"	7	"		0.8 V							"							-3.0 mA		"	"	$\overline{2Y}$	"		"
		"	8	"	0.8 V								"								-3.0 mA	"	"	$\overline{1Y}$	"		"
	V_{OL}	3007	9	"								2.0 V	"	48 mA								"	"	$\overline{8Y}$		.55	"
		"	10	"							2.0 V		"		48 mA							"	"	$\overline{7Y}$		"	"
		"	11	"						2.0 V			"			48 mA						"	"	$\overline{6Y}$		"	"
		"	12	"					2.0 V				"				48 mA					"	"	$\overline{5Y}$		"	"
		"	13	"				2.0 V					"					48 mA				"	"	$\overline{4Y}$		"	"
		"	14	"			2.0 V						"						48 mA			"	"	$\overline{3Y}$		"	"
		"	15	"		2.0 V							"							48 mA		"	"	$\overline{2Y}$		"	"
		"	16	"	2.0 V								"								48 mA	"	"	$\overline{1Y}$		"	"
	V_{IC}		17	-18 mA									"									0.0 V	4.5 V	$\overline{OE1}$		-1.2	"
			18	5.5 V	-18 mA								"									5.5 V	"	1A		"	"
			19	"		-18 mA							"									"	"	2A		"	"
			20	"			-18 mA						"									"	"	3A		"	"
			21	"				-18 mA					"									"	"	4A		"	"
			22	"					-18 mA				"									"	"	5A		"	"
			23	"						-18 mA			"									"	"	6A		"	"
			24	"							-18 mA		"									"	"	7A		"	"
			25	"								-18 mA	"									"	"	8A		"	"
			26	0.0 V									"									-18 mA	"	$\overline{OE2}$		"	"
	I_{IH1}	3010	27	2.7 V									"									0.0 V	5.5 V	$\overline{OE1}$		20	µA
		"	28	5.5 V	2.7 V								"									5.5 V	"	1A		"	"
		"	29	"		2.7 V							"									"	"	2A		"	"
		"	30	"			2.7 V						"									"	"	3A		"	"
		"	31	"				2.7 V					"									"	"	4A		"	"
		"	32	"					2.7 V				"									"	"	5A		"	"
		"	33	"						2.7 V			"									"	"	6A		"	"
		"	34	"							2.7 V		"									"	"	7A		"	"
		"	35	"								2.7 V	"									"	"	8A		"	"
		"	36	0.0 V									"									2.7 V	"	$\overline{OE2}$		"	"
	I_{IH2}	"	37	7.0 V									"									0.0 V	"	$\overline{OE1}$		100	"
		"	38	5.5 V	7.0 V								"									5.5 V	"	1A		"	"
		"	39	"		7.0 V							"									"	"	2A		"	"
		"	40	"			7.0 V						"									"	"	3A		"	"
		"	41	"				7.0 V					"									"	"	4A		"	"
		"	42	"					7.0 V				"									"	"	5A		"	"
		"	43	"						7.0 V			"									"	"	6A		"	"
		"	44	"							7.0 V		"									"	"	7A		"	"
		"	45	"								7.0 V	"									"	"	8A		"	"
		"	46	0.0 V									"									7.0 V	"	$\overline{OE2}$		"	"

See footnotes at end of device type 04.

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

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883 method	Cases R,S,X,2 Test no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured terminal	Test limits		Unit
				$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}		Min	Max	
1	I_{IL}	3009	47	0.5 V									GND									5.5 V	5.5 V	$\overline{OE1}$	1/	1/	mA
Tc = 25°C		"	48	0.0 V	0.5 V								"									0.0 V	"	1A	"	"	"
		"	49	"		0.5 V							"									"	"	2A	"	"	"
		"	50	"			0.5 V						"									"	"	3A	"	"	"
		"	51	"				0.5 V					"									"	"	4A	"	"	"
		"	52	"					0.5 V				"									"	"	5A	"	"	"
		"	53	"						0.5 V			"									"	"	6A	"	"	"
		"	54	"							0.5 V		"									"	"	7A	"	"	"
		"	55	"								0.5 V	"									"	"	8A	"	"	"
		"	56	5.5 V									"									0.5 V	"	$\overline{OE2}$	"	"	"
	I_{OS}	3011	57	0.0 V								0.0 V	"	0.0 V								0.0 V	"	$\overline{8Y}$	-100	-225	mA
		"	58	"							0.0 V		"		0.0 V							"	"	$\overline{7Y}$	"	"	"
		"	59	"						0.0 V			"			0.0 V						"	"	$\overline{6Y}$	"	"	"
		"	60	"					0.0 V				"				0.0 V					"	"	$\overline{5Y}$	"	"	"
		"	61	"				0.0 V					"					0.0 V				"	"	$\overline{4Y}$	"	"	"
		"	62	"			0.0 V						"						0.0 V			"	"	$\overline{3Y}$	"	"	"
		"	63	"		0.0 V							"							0.0 V		"	"	$\overline{2Y}$	"	"	"
		"	64	"	0.0 V								"								0.0 V	"	"	$\overline{1Y}$	"	"	"
	I_{CCH}	3005	65	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}		20	"
	I_{CCL}	"	66	0.0 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	5.5 V	"									"	"	V_{CC}		75	"
	I_{CCZ}	"	67	5.5 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	"									"	"	V_{CC}		45	"
	I_{OZH}		68	2.0 V								5.5 V	"	2.7 V								"	"	$\overline{8Y}$		50	µA
			69	"							5.5 V		"		2.7 V							"	"	$\overline{7Y}$		"	"
			70	"						5.5 V			"			2.7 V						"	"	$\overline{6Y}$		"	"
			71	"					5.5 V				"				2.7 V					"	"	$\overline{5Y}$		"	"
			72	"				5.5 V					"					2.7 V				"	"	$\overline{4Y}$		"	"
			73	"			5.5 V						"						2.7 V			"	"	$\overline{3Y}$		"	"
			74	"		5.5 V							"							2.7 V		"	"	$\overline{2Y}$		"	"
			75	"	5.5 V								"								2.7 V	"	"	$\overline{1Y}$		"	"
			76	0.0 V								5.5 V	"	2.7 V								2.0 V	"	$\overline{8Y}$		"	"
			77	"							5.5 V		"		2.7 V							"	"	$\overline{7Y}$		"	"
			78	"						5.5 V			"			2.7 V						"	"	$\overline{6Y}$		"	"
			79	"					5.5 V				"				2.7 V					"	"	$\overline{5Y}$		"	"
			80	"				5.5 V					"					2.7 V				"	"	$\overline{4Y}$		"	"
			81	"			5.5 V						"						2.7 V			"	"	$\overline{3Y}$		"	"
			82	"		5.5 V							"							2.7 V		"	"	$\overline{2Y}$		"	"
			83	"	5.5 V								"								2.7 V	"	"	$\overline{1Y}$		"	"

See footnotes at end of device type 04.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
1	I_{OZL}		84	2.0 V								0.0 V	"	0.5 V								0.0 V	5.5 V	$\overline{8Y}$		-50	µA
Tc = 25°C			85	"							0.0 V		"		0.5 V							"	"	$\overline{7Y}$		"	"
			86	"						0.0 V			"			0.5 V						"	"	$\overline{6Y}$		"	"
			87	"					0.0 V				"				0.5 V					"	"	$\overline{5Y}$		"	"
			88	"				0.0 V					"					0.5 V				"	"	$\overline{4Y}$		"	"
			89	"			0.0 V						"						0.5 V			"	"	$\overline{3Y}$		"	"
			90	"		0.0 V							"							0.5 V		"	"	$\overline{2Y}$		"	"
			91	"	0.0 V								"								0.5 V	"	"	$\overline{1Y}$		"	"
			92	0.0 V								0.0 V	"	0.5 V								2.0 V	"	$\overline{8Y}$		"	"
			93	"							0.0 V		"		0.5 V							"	"	$\overline{7Y}$		"	"
			94	"						0.0 V			"			0.5 V						"	"	$\overline{6Y}$		"	"
			95	"					0.0 V				"				0.5 V					"	"	$\overline{5Y}$		"	"
			96	"				0.0 V					"					0.5 V				"	"	$\overline{4Y}$		"	"
			97	"			0.0 V						"						0.5 V			"	"	$\overline{3Y}$		"	"
			98	"		0.0 V							"							0.5 V		"	"	$\overline{2Y}$		"	"
			99	"	0.0 V								"								0.5 V	"	"	$\overline{1Y}$		"	"
2	Same tests, terminal conditions, and limits as subgroup 1, except T_C = +125°C and V_{IC} tests are omitted.																										
3	Same tests, terminal conditions, and limits as subgroup 1, except T_C = -55°C and V_{IC} tests are omitted.																										
7 2/	Truth	3014	100	B	B	B	B	B	B	B	B	B	GND	H	H	H	H	H	H	H	H	B	2/	All outputs			
Tc = 25°C	table	"	101	B	A	A	A	A	A	A	A	A	"	L	L	L	L	L	L	L	L	"	"				
	tests	"	102	B	A	B	A	B	A	B	A	B	"	H	L	H	L	H	L	H	L	"	"				
		"	103	B	B	A	B	A	B	A	B	A	"	L	H	L	H	L	H	L	H	"	"				
9	t_{PLH3}	3003	104	0.0 V	IN								"								OUT	0.0 V	5.0 V	1A to $\overline{1Y}$	1.5	5.0	ns
Tc = 25°C		See	105	"		IN							"							OUT		"	"	2A to $\overline{2Y}$	"	"	"
		fig. 3	106	"			IN						"						OUT			"	"	3A to $\overline{3Y}$	"	"	"
		"	107	"				IN					"					OUT				"	"	4A to $\overline{4Y}$	"	"	"
		"	108	"					IN				"				OUT					"	"	5A to $\overline{5Y}$	"	"	"
		"	109	"						IN			"			OUT						"	"	6A to $\overline{6Y}$	"	"	"
		"	110	"							IN		"		OUT							"	"	7A to $\overline{7Y}$	"	"	"
		"	111	"								IN	"	OUT								"	"	8A to $\overline{8Y}$	"	"	"

See footnotes at end of device type 04.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PHL3}	3003	112	0.0 V	IN								GND								OUT	0.0 V	5.0 V	1A to $\overline{1Y}$	1.0	4.0	ns
Tc = 25°C		"	113	"		IN							"							OUT		"	"	2A to $\overline{2Y}$	"	"	"
		"	114	"			IN						"						OUT			"	"	3A to $\overline{3Y}$	"	"	"
		"	115	"				IN					"					OUT				"	"	4A to $\overline{4Y}$	"	"	"
		"	116	"					IN				"				OUT					"	"	5A to $\overline{5Y}$	"	"	"
		"	117	"						IN			"			OUT						"	"	6A to $\overline{6Y}$	"	"	"
		"	118	"							IN		"		OUT							"	"	7A to $\overline{7Y}$	"	"	"
		"	119	"								IN	"	OUT								"	"	8A to $\overline{8Y}$	"	"	"
	t_{PZH4}	"	120	IN	0.0 V								"								OUT	"	"	$\overline{OE1}$ to $\overline{1Y}$	2.5	8.0	"
		"	121	"		0.0 V							"							OUT		"	"	$\overline{OE1}$ to $\overline{2Y}$	"	"	"
		"	122	"			0.0 V						"						OUT			"	"	$\overline{OE1}$ to $\overline{3Y}$	"	"	"
		"	123	"				0.0 V					"					OUT				"	"	$\overline{OE1}$ to $\overline{4Y}$	"	"	"
		"	124	"					0.0 V				"				OUT					"	"	$\overline{OE1}$ to $\overline{5Y}$	"	"	"
		"	125	"						0.0 V			"			OUT						"	"	$\overline{OE1}$ to $\overline{6Y}$	"	"	"
		"	126	"							0.0 V		"		OUT							"	"	$\overline{OE1}$ to $\overline{7Y}$	"	"	"
		"	127	"								0.0 V	"	OUT								"	"	$\overline{OE1}$ to $\overline{8Y}$	"	"	"
		"	128	0.0 V	0.0 V								"								OUT	IN	"	$\overline{OE2}$ to $\overline{1Y}$	"	"	"
		"	129	"		0.0 V							"							OUT		"	"	$\overline{OE2}$ to $\overline{2Y}$	"	"	"
		"	130	"			0.0 V						"						OUT			"	"	$\overline{OE2}$ to $\overline{3Y}$	"	"	"
		"	131	"				0.0 V					"					OUT				"	"	$\overline{OE2}$ to $\overline{4Y}$	"	"	"
		"	132	"					0.0 V				"				OUT					"	"	$\overline{OE2}$ to $\overline{5Y}$	"	"	"
		"	133	"						0.0 V			"			OUT						"	"	$\overline{OE2}$ to $\overline{6Y}$	"	"	"
		"	134	"							0.0 V		"		OUT							"	"	$\overline{OE2}$ to $\overline{7Y}$	"	"	"
		"	135	"								0.0 V	"	OUT								"	"	$\overline{OE2}$ to $\overline{8Y}$	"	"	"
	t_{PZL4}	"	136	IN	2.7 V								"								OUT	0.0 V	"	$\overline{OE1}$ to $\overline{1Y}$	3.5	10.0	"
		"	137	"		2.7 V							"							OUT		"	"	$\overline{OE1}$ to $\overline{2Y}$	"	"	"
		"	138	"			2.7 V						"						OUT			"	"	$\overline{OE1}$ to $\overline{3Y}$	"	"	"
		"	139	"				2.7 V					"					OUT				"	"	$\overline{OE1}$ to $\overline{4Y}$	"	"	"
		"	140	"					2.7 V				"				OUT					"	"	$\overline{OE1}$ to $\overline{5Y}$	"	"	"
		"	141	"						2.7 V			"			OUT						"	"	$\overline{OE1}$ to $\overline{6Y}$	"	"	"
		"	142	"							2.7 V		"		OUT							"	"	$\overline{OE1}$ to $\overline{7Y}$	"	"	"
		"	143	"								2.7 V	"	OUT								"	"	$\overline{OE1}$ to $\overline{8Y}$	"	"	"

See footnotes at end of device type 04.

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

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PZL4}	3003	144	0.0 V	2.7 V								GND								OUT	IN	5.0 V	$\overline{OE2}$ to $\overline{1Y}$	3.5	10.0	ns
Tc = 25°C		"	145	"		2.7 V							"							OUT		"	"	$\overline{OE2}$ to $\overline{2Y}$	"	"	"
		"	146	"			2.7 V						"						OUT			"	"	$\overline{OE2}$ to $\overline{3Y}$	"	"	"
		"	147	"				2.7 V					"					OUT				"	"	$\overline{OE2}$ to $\overline{4Y}$	"	"	"
		"	148	"					2.7 V				"				OUT					"	"	$\overline{OE2}$ to $\overline{5Y}$	"	"	"
		"	149	"						2.7 V			"			OUT						"	"	$\overline{OE2}$ to $\overline{6Y}$	"	"	"
		"	150	"							2.7 V		"		OUT							"	"	$\overline{OE2}$ to $\overline{7Y}$	"	"	"
		"	151	"								2.7 V	"	OUT								"	"	$\overline{OE2}$ to $\overline{8Y}$	"	"	"
	t_{PHZ4}	"	152	IN	0.0 V								"								OUT	0.0 V	"	$\overline{OE1}$ to $\overline{1Y}$	1.5	6.0	"
		"	153	"		0.0 V							"							OUT		"	"	$\overline{OE1}$ to $\overline{2Y}$	"	"	"
		"	154	"			0.0 V						"						OUT			"	"	$\overline{OE1}$ to $\overline{3Y}$	"	"	"
		"	155	"				0.0 V					"					OUT				"	"	$\overline{OE1}$ to $\overline{4Y}$	"	"	"
		"	156	"					0.0 V				"				OUT					"	"	$\overline{OE1}$ to $\overline{5Y}$	"	"	"
		"	157	"						0.0 V			"			OUT						"	"	$\overline{OE1}$ to $\overline{6Y}$	"	"	"
		"	158	"							0.0 V		"		OUT							"	"	$\overline{OE1}$ to $\overline{7Y}$	"	"	"
		"	159	"								0.0 V	"	OUT								"	"	$\overline{OE1}$ to $\overline{8Y}$	"	"	"
		"	160	0.0 V	0.0 V								"								OUT	IN	"	$\overline{OE2}$ to $\overline{1Y}$	"	"	"
		"	161	"		0.0 V							"							OUT		"	"	$\overline{OE2}$ to $\overline{2Y}$	"	"	"
		"	162	"			0.0 V						"						OUT			"	"	$\overline{OE2}$ to $\overline{3Y}$	"	"	"
		"	163	"				0.0 V					"					OUT				"	"	$\overline{OE2}$ to $\overline{4Y}$	"	"	"
		"	164	"					0.0 V				"				OUT					"	"	$\overline{OE2}$ to $\overline{5Y}$	"	"	"
		"	165	"						0.0 V			"			OUT						"	"	$\overline{OE2}$ to $\overline{6Y}$	"	"	"
		"	166	"							0.0 V		"		OUT							"	"	$\overline{OE2}$ to $\overline{7Y}$	"	"	"
		"	167	"								0.0 V	"	OUT								"	"	$\overline{OE2}$ to $\overline{8Y}$	"	"	"
	t_{PLZ4}	3003	168	IN	2.7 V								"								OUT	0.0 V	"	$\overline{OE2}$ to $\overline{1Y}$	1.0	5.5	"
		"	169	"		2.7 V							"							OUT		"	"	$\overline{OE2}$ to $\overline{2Y}$	"	"	"
		"	170	"			2.7 V						"						OUT			"	"	$\overline{OE2}$ to $\overline{3Y}$	"	"	"
		"	171	"				2.7 V					"					OUT				"	"	$\overline{OE2}$ to $\overline{4Y}$	"	"	"
		"	172	"					2.7 V				"				OUT					"	"	$\overline{OE2}$ to $\overline{5Y}$	"	"	"
		"	173	"						2.7 V			"			OUT						"	"	$\overline{OE2}$ to $\overline{6Y}$	"	"	"
		"	174	"							2.7 V		"		OUT							"	"	$\overline{OE2}$ to $\overline{7Y}$	"	"	"
		"	175	"								2.7 V	"	OUT								"	"	$\overline{OE2}$ to $\overline{8Y}$	"	"	"

See footnotes at end of device type 04.

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

Terminal conditions (pins not designated may be high ≥ 2.0 V; low ≤ 0.8 V; or open).

Subgroup	Symbol	MIL-STD-883	Cases R,S,X,2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Measured	Test limits		Unit
		method	Test no.	$\overline{OE1}$	1A	2A	3A	4A	5A	6A	7A	8A	GND	$\overline{8Y}$	$\overline{7Y}$	$\overline{6Y}$	$\overline{5Y}$	$\overline{4Y}$	$\overline{3Y}$	$\overline{2Y}$	$\overline{1Y}$	$\overline{OE2}$	V_{CC}	terminal	Min	Max	
9	t_{PLZ4}	3003	176	0.0 V	2.7 V								GND								OUT	IN	5.0 V	$\overline{OE2}$ to $\overline{1Y}$	1.0	5.5	ns
Tc = 25°C		"	177	"		2.7 V							"							OUT		"	"	$\overline{OE2}$ to $\overline{2Y}$	"	"	"
		"	178	"			2.7 V						"						OUT			"	"	$\overline{OE2}$ to $\overline{3Y}$	"	"	"
		"	179	"				2.7 V					"					OUT				"	"	$\overline{OE2}$ to $\overline{4Y}$	"	"	"
		"	180	"					2.7 V				"				OUT					"	"	$\overline{OE2}$ to $\overline{5Y}$	"	"	"
		"	181	"						2.7 V			"			OUT						"	"	$\overline{OE2}$ to $\overline{6Y}$	"	"	"
		"	182	"							2.7 V		"		OUT							"	"	$\overline{OE2}$ to $\overline{7Y}$	"	"	"
		"	83	"								2.7 V	"	OUT								"	"	$\overline{OE2}$ to $\overline{8Y}$	"	"	"
10	Same tests and terminal conditions as for subgroup 9, except T_C = +125°C and use limits from table I.																										
11	Same tests and terminal conditions as for subgroup 10, except T_C = -55°C																										

1/ I_{IL} limits shall be as follows:

Test	Min/Max limits in (mA)			
	Circuits			
	A	B	C	D
I_{IL}	-.25/-.60			

2/ Perform function sequence at V_{CC} = 4.5 V and repeat at V_{CC} = 5.5 V.

3/ A = 2.4 V minimum; B = 0.55 or GND, H ≥ 1.5 V, L ≤ 1.5 V.

5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When 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 Intended use. Microcircuits conforming to this specification are intended for original equipment design applications and logistic support of existing equipment.

6.2 Acquisition requirements. Acquisition documents should specify the following:

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

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

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

d. Requirements for certificate of compliance, if applicable.

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

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

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

6.5 Abbreviations, symbols, and definitions. 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} .... Voltage level at an input terminal

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

6.7 Substitutability. The cross-reference information below is presented for the convenience of users. Microcircuits covered by this specification will functionally replace the listed generic-industry type. Generic-industry microcircuit types may not have equivalent operational performance characteristics across military temperature ranges or reliability factors equivalent to MIL-M-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	54F240
02	54F241
03	54F244
04	54F540

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

TABLE IV. Manufacturers' designations.

Device type	Manufacturer's designation			
	Circuit A	Circuit B	Circuit C	Circuit D
	National Semi/ Fairchild Semi	Motorola Inc	Signetics Corporation	Texas Instruments
01	X	X		X
02	X	X		X
03	X	X		X
04	X			

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

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC

(Project 5962-2003)

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 www.dodssp.daps.mil.