

MILITARY SPECIFICATION

MICROCIRCUITS, DIGITAL, BIPOLAR, ADVANCED LOW POWER SCHOTTKY TTL,
D-TYPE LATCHES, CASCADABLE, MONOLITHIC SILICON

Inactive for new design after 8 July 1997.

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 low power Schottky TTL, D-type latches, bistable logic microcircuits. Two product assurance classes and a choice of case outlines and lead finishes are provided for each type and are reflected in the complete part number. For this product, the requirements of MIL-M-38510 have been superseded by MIL-PRF-38535, (see 6.3).

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

1.2.1 Device types. The device types are as follows:

<u>Device type</u>	<u>Circuit</u>
01	Octal D-type transparent latch with 3-state outputs, cascadable
02	Octal D-type transparent latch with inverted 3-state outputs, cascadable
03	Dual 4-bit D-type transparent latch with 3-state outputs, cascadable
04	Dual 4-bit D-type transparent latch with inverted 3-state outputs, cascadable

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

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

<u>Outline letter</u>	<u>Descriptive designator</u>	<u>Terminals</u>	<u>Package style</u>
K	GDFP2-F24 or GDFP3-F24	24	Flat package
L	GDIP3-T24 or GDIP4-T24	24	Dual-in-line
R	GDIP1-T20 or CDIP2-T20	20	Dual-in-line
S	GDFP2-F20 or CDFP3-F20	20	Flat pack
2	CQCC1-N20	20	Square leadless chip carrier
3	CQCC1-N28	28	Square leadless chip carrier

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

1.3 Absolute maximum ratings.

Supply voltage range	-0.5 V dc to +7.0 V dc
Input voltage range	-1.5 V dc at -18 mA to +7.0 V dc
Storage temperature range	-65° to +150°C
Maximum power dissipation, per device (P_D) <u>1/</u>	
Device types 01 and 02	148.5 mW
Device types 03 and 04	170.5 mW
Lead temperature (soldering, 10 seconds)	+300°C
Thermal resistance, junction to case (θ_{JC})	(See MIL-STD-1835)
Junction temperature (T_J) <u>2/</u>	175°C

1.4 Recommended operating conditions.

Supply voltage (V_{CC})	4.5 V dc minimum to 5.5 V dc maximum
Minimum high level input voltage (V_{IH})	2.0 V dc
Maximum low level input voltage (V_{IL})	0.8 V dc
Case operating temperature range (T_C)	-55°C to +125°C
Input set-up time, $t_{(SETUP)}$:	
Device types 01, 02, 03, and 04	10 ns minimum
Input hold time, $t_{(HOLD)}$:	
Device types 01 and 03	7 ns minimum
Device types 02 and 04	10 ns minimum
Input pulse width, (t_P):	
Device types 01 and 03 (Enable)	10 ns minimum
Device types 02 and 04 (Enable)	15 ns minimum
Device type 03 (Clear)	15 ns minimum
Device type 04 (Preset)	15 ns minimum

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

1/ Must withstand the added P_D due to short-circuit test (e.g., I_O).

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

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

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

3.3.5 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 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 10 (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 conformance inspection. The following additional criteria shall apply:

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

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

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

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

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

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

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C unless otherwise specified	Device type	Limits		Unit
				Min	Max	
High level output voltage	V _{OH}	V _{CC} = 4.5 V, V _{IH} = 2.0 V, I _{OH} = 1.0 mA	All	2.4		V
Low level output voltage	V _{OL}	V _{CC} = 4.5 V, V _{IL} = 0.8 V, I _{OL} = 12 mA	All		0.4	V
Input clamp voltage	V _{IC}	V _{CC} = 4.5 V, I _{IN} = -18 mA, T _C = +25°C	All		-1.5	V
Low level input current	I _{IL}	V _{CC} = 5.5 V, V _{IL} = 0.4 V	All	0	-200	μA
High level input current	I _{IH1}	V _{CC} = 5.5 V, V _{IH} = 2.7 V	All		20	μA
	I _{IH2}	V _{CC} = 5.5 V, V _{IH} = 7.0 V	All		110	μA
Output current <u>1</u> /	I _O	V _{CC} = 5.5 V, V _O = 2.25 V	01	-15	-112	mA
			02,03,04	-15	-110	
Output current, high level outputs off	I _{OZH}	V _{CC} = 5.5 V, V _{OH} = 2.7 V	All		20	μA
Output current, low level outputs off	I _{OZL}	V _{CC} = 5.5 V, V _{OH} = 0.4 V	All		-20	μA
Supply current, outputs high	I _{CCH}	V _{CC} = 5.5 V	V _{IN} = 5.0 V	01	19	mA
				03	21	
			V _{IN} = 0 V	02	17	
				04	21	
Supply current, outputs low	I _{CCL}	V _{CC} = 5.5 V	V _{IN} = 0 V	01	24	mA
				03	29	
			V _{IN} = 5.0 V	02	24	
				04	29	
Supply current, outputs disabled	I _{CCZ}	V _{CC} = 5.5 V V _{OC} = 5.0 V	V _{IN} = 0 V	01	27	mA
				03	31	
			V _{IN} = 5.5 V	02	27	
				04	31	

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

Test	Symbol	Conditions -55°C ≤ T _C ≤ +125°C unless otherwise specified	Device type	Limits		Unit
				Min	Max	
Propagation delay time to low level (clear or preset to output)	t _{PHL1}	V _{CC} = 5.0 V, C _L = 50 pF ± 10%, R _L = 500 Ω	03, 04	6	24	ns
Propagation delay time to high level (enable to output)	t _{PLH2}		01	8	27	ns
			02, 03	8	29	
			04	8	31	
Propagation delay time to low level (enable to output)	t _{PHL2}		01	8	20	ns
			02, 03, 04	8	22	
Propagation delay time to high level (data to output)	t _{PLH3}		01, 03	2	15	ns
			02	3	21	
			04	3	23	
Propagation delay time to low level (data to output)	t _{PHL3}		01, 03	2	15	ns
			02, 04	3	15	
Output control on to high level output	t _{PZH}		All	4	21	ns
Output control on to low level output	t _{PZL}		All	4	21	ns
High level output to output control off	t _{PHZ}		01	2	12	ns
			02, 03, 04	2	10	
Low level output to output control off	t _{PLZ}		01	3	18	ns
			02, 04	3	15	
			03	2	15	

1/ The output conditions have been chosen to produce a current that closely approximates one-half of the true short circuit output current, I_{OS}.

TABLE II. Electrical test requirements.

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

*PDA applies to subgroup 1.

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 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 type 01	Device type 02	Device type 03		Device type 04	
	Cases R, S, 2	Cases R, S, 2	Cases K and L	Case 3	Cases K and L	Case 3
1	$\overline{OC}$	$\overline{OC}$	$1\overline{CLR}$	N/C	$1\overline{PRE}$	N/C
2	1D	1D	$1\overline{OC}$	$1\overline{CLR}$	$1\overline{OC}$	$1\overline{PRE}$
3	2D	2D	1D1	$1\overline{OC}$	1D1	$1\overline{OC}$
4	3D	3D	1D2	1D1	1D2	1D1
5	4D	4D	1D3	1D2	1D3	1D2
6	5D	5D	1D4	1D3	1D4	1D3
7	6D	6D	2D1	1D4	2D1	1D4
8	7D	7D	2D2	N/C	2D2	N/C
9	8D	8D	2D3	2D1	2D3	2D1
10	GND	GND	2D4	2D2	2D4	2D2
11	ENABLE C	ENABLE C	$2\overline{OC}$	2D3	$2\overline{OC}$	2D3
12	8Q	$8\overline{Q}$	GND	2D4	GND	2D4
13	7Q	$7\overline{Q}$	$2\overline{CLR}$	$2\overline{OC}$	$2\overline{PRE}$	$2\overline{OC}$
14	6Q	$6\overline{Q}$	ENABLE 2C	GND	ENABLE 2C	GND
15	5Q	$5\overline{Q}$	2Q4	N/C	$2\overline{Q}4$	N/C
16	4Q	$4\overline{Q}$	2Q3	$2\overline{CLR}$	$2\overline{Q}3$	$2\overline{PRE}$
17	3Q	$3\overline{Q}$	2Q2	ENABLE 2C	$2\overline{Q}2$	ENABLE 2C
18	2Q	$2\overline{Q}$	2Q1	2Q4	$2\overline{Q}1$	$2\overline{Q}4$
19	1Q	$1\overline{Q}$	1Q4	2Q3	$1\overline{Q}4$	$2\overline{Q}3$
20	V _{CC}	V _{CC}	1Q3	2Q2	$1\overline{Q}3$	$2\overline{Q}2$
21			1Q2	2Q1	$1\overline{Q}2$	$2\overline{Q}1$
22			1Q1	N/C	$1\overline{Q}1$	N/C
23			ENABLE 1C	1Q4	ENABLE 1C	$1\overline{Q}4$
24			V _{CC}	1Q3	V _{CC}	$1\overline{Q}3$
25				1Q2		$1\overline{Q}2$
26				1Q1		$1\overline{Q}1$
27				ENABLE 1C		ENABLE 1C
28				V _{CC}		V _{CC}

FIGURE 1. Terminal connections.

MIL-M-38510/382B

DEVICE TYPE 01

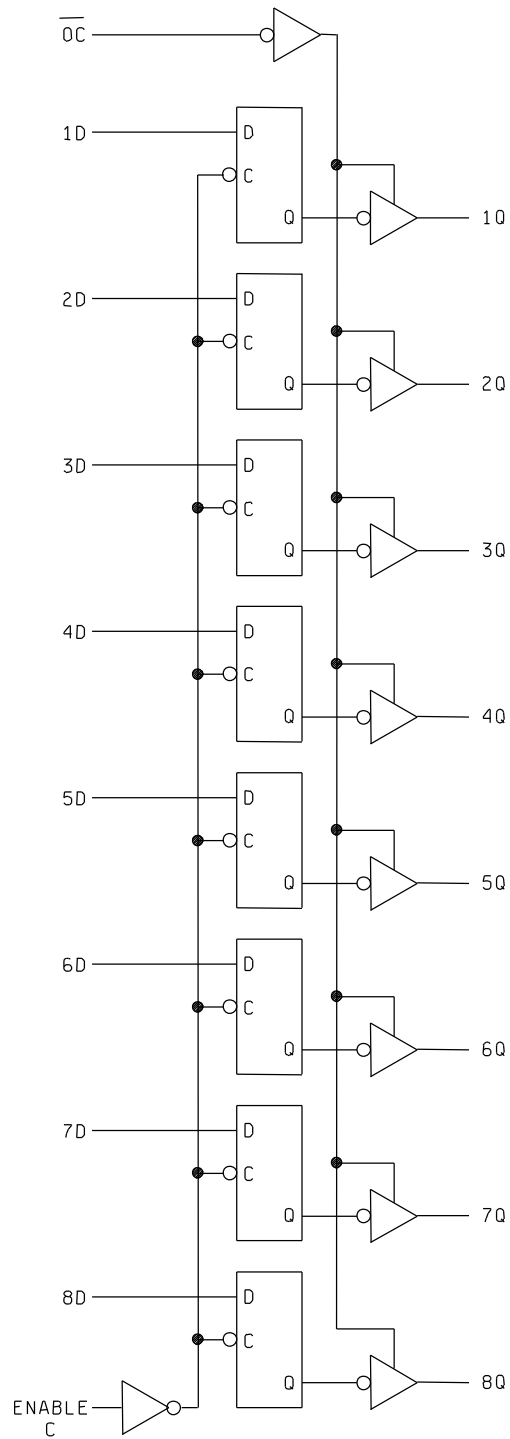
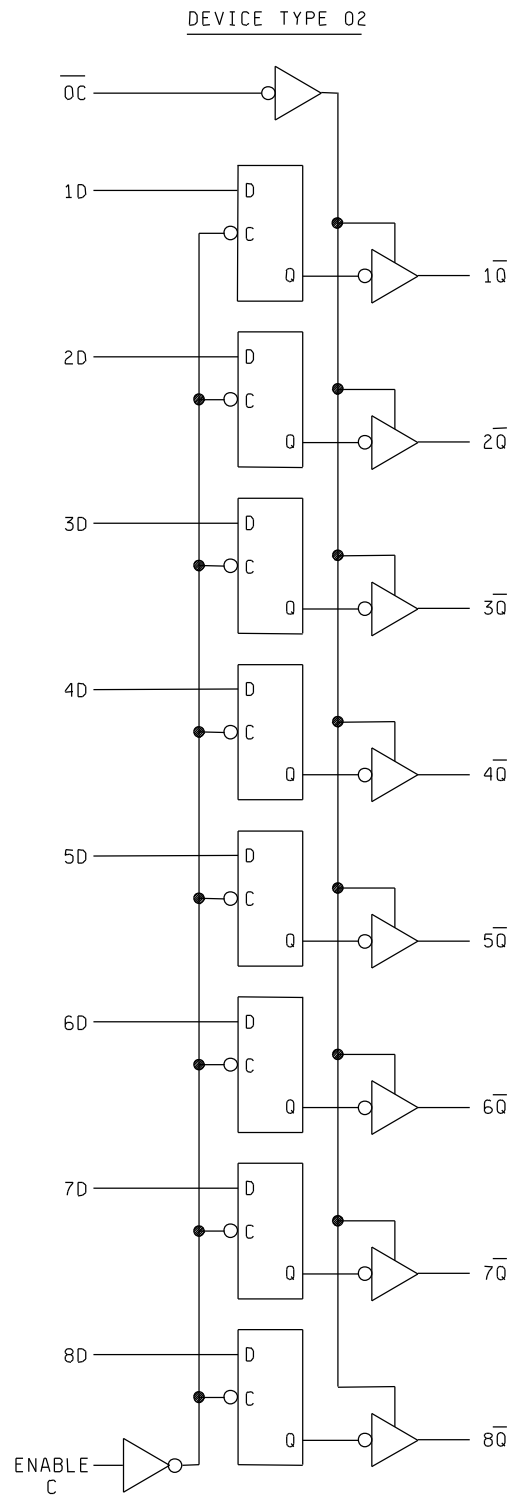
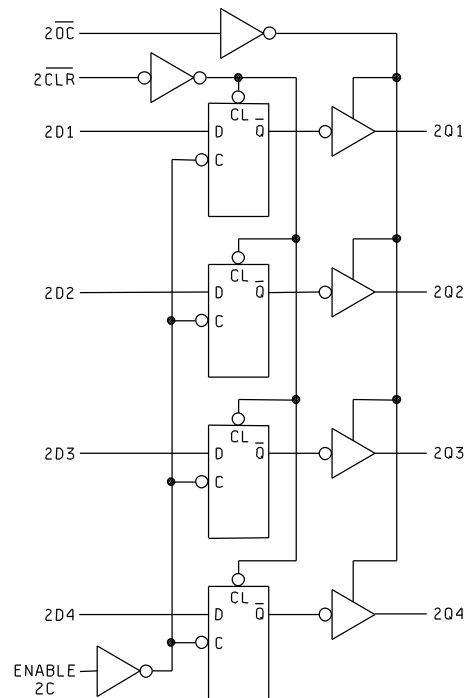
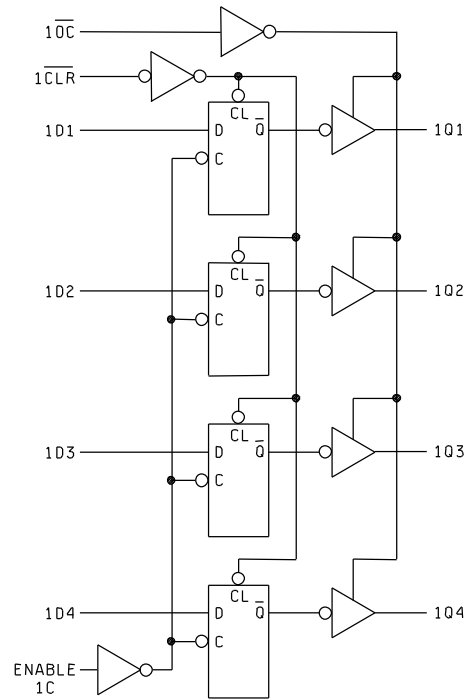


FIGURE 2. Logic diagrams.

FIGURE 2. Logic diagrams.

DEVICE TYPE 03

FIGURE 2. Logic diagrams - Continued.

DEVICE TYPE 04

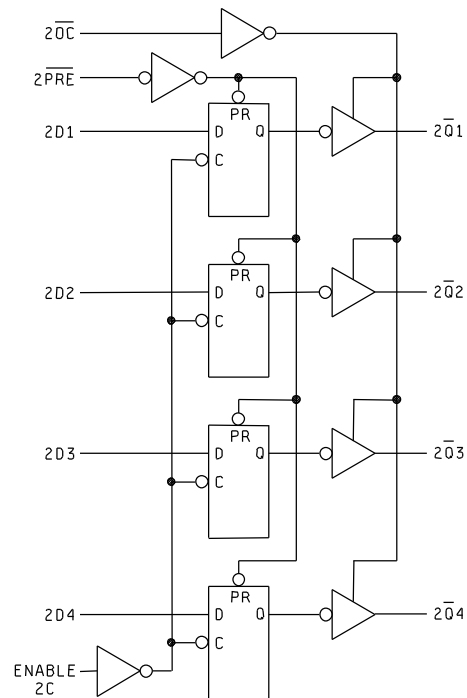
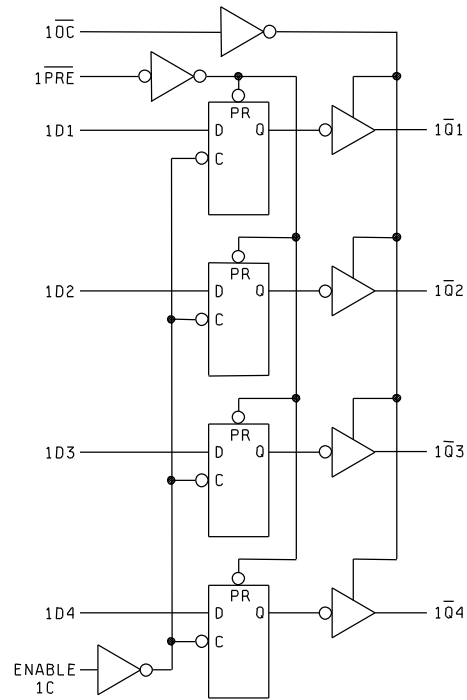


FIGURE 2. Logic diagrams - Continued.

Device type 01

Output control	Enable	Data	Output
$\overline{OC}$	EN C	D	Q
H	X	X	Z
L	L	X	Q0
L	H	L	L
L	H	H	H

Device type 02

Output control	Enable	Data	Output
$\overline{OC}$	EN C	D	$\overline{Q}$
H	X	X	Z
L	L	X	$\overline{Q}0$
L	H	L	H
L	H	H	L

Device type 03

Output control	Clear	Enable	Data	Output
$\overline{OC}$	$\overline{CLR}$	EN C	D	Q
H	X	X	X	Z
L	L	X	X	L
L	H	L	X	Q0
L	H	H	L	L
L	H	H	H	H

Device type 04

Output control	Preset	Enable	Data	Output
$\overline{OC}$	$\overline{PRE}$	EN C	D	$\overline{Q}$
H	X	X	X	Z
L	L	X	X	L
L	H	L	X	Q0
L	H	H	L	H
L	H	H	H	L

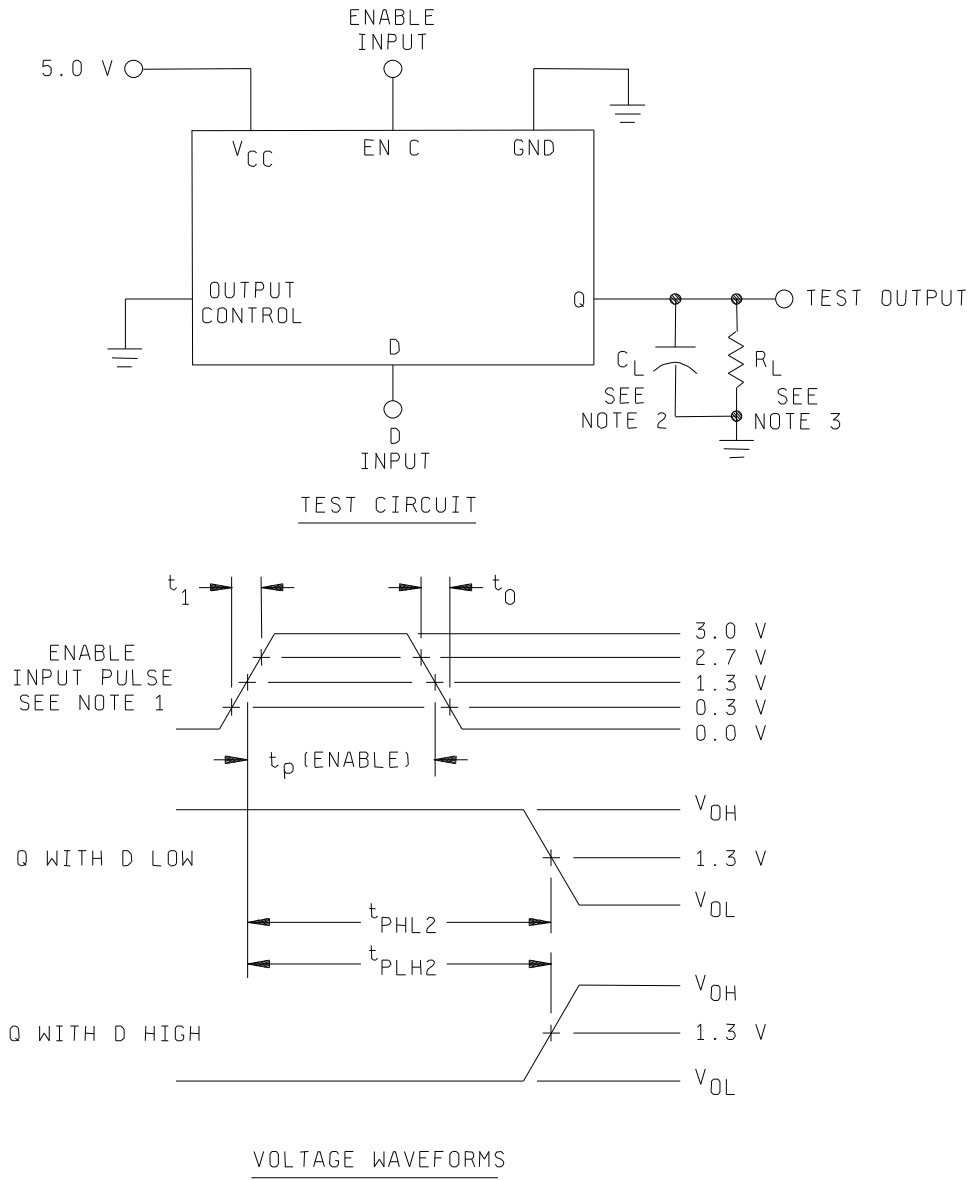
H = High level (steady state)

L = Low level (steady state)

Z = High impedance state

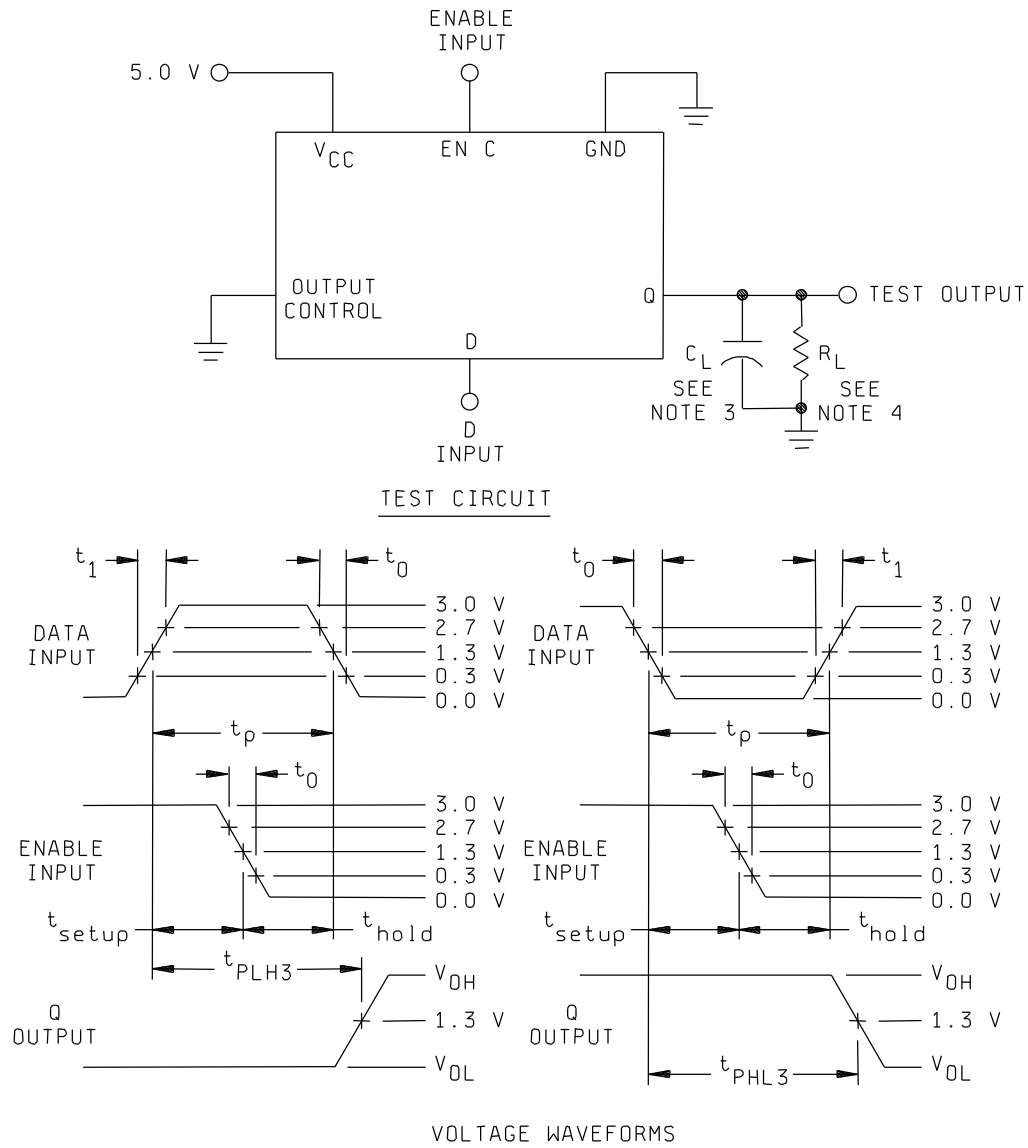
X = Irrelevant

Q0 = The level of Q or $\overline{Q}$ before the
indicated input conditions were establishedFIGURE 3. Truth tables.

**NOTES:**

1. Enable input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5 \text{ ns}$; $t_{p(\text{ENABLE})} = 10 \text{ ns}$; $\text{PRR} \leq 1 \text{ MHz}$; $Z_{\text{OUT}} \cong 50 \Omega$.
2. $C_L = 50 \text{ pF} \pm 10\%$. (including jig and probe capacitance).
3. $R_L = 499 \Omega \pm 1\%$.

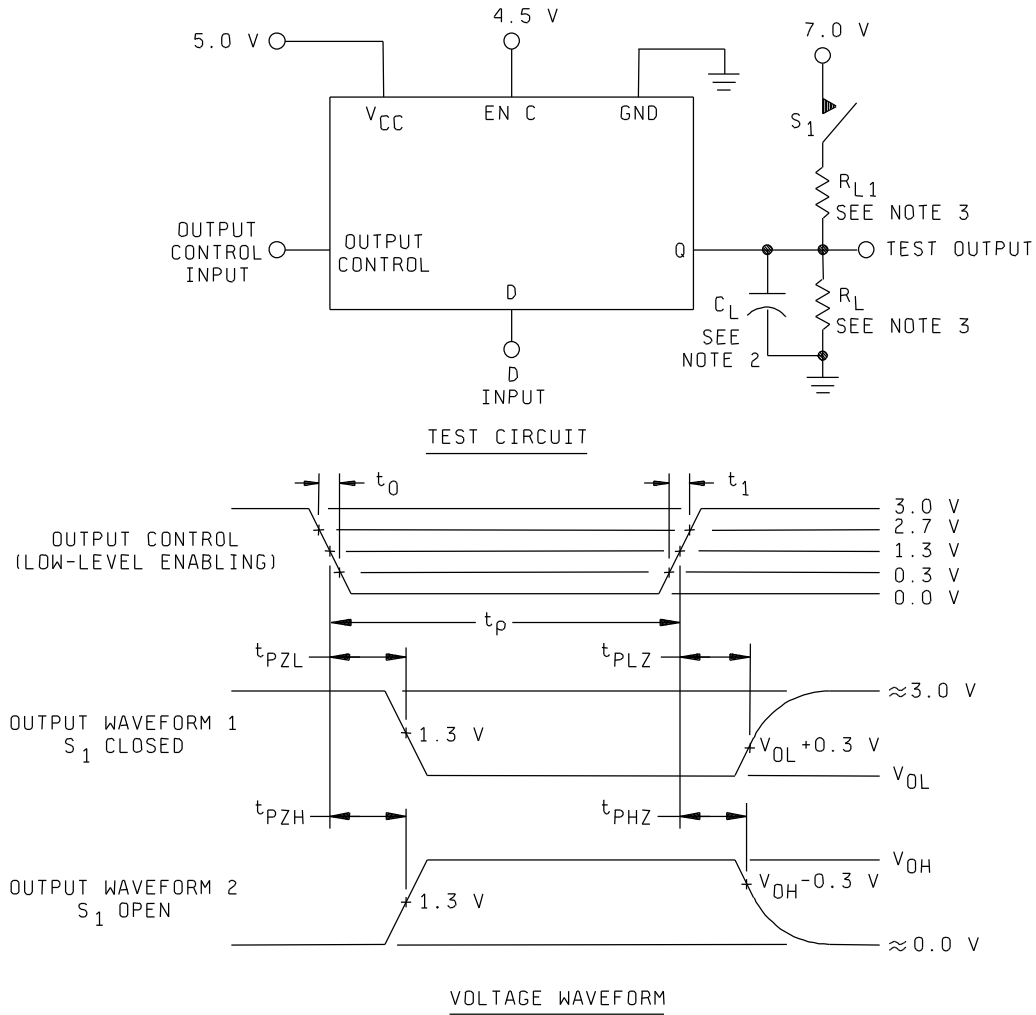
FIGURE 4. Enable switching test circuit and waveforms (device type 01).



NOTES:

1. Enable input pulse characteristics: $t_0 = 6 \pm 1.5\text{ ns}$; $\text{PRR} \leq 1\text{ MHz}$; $Z_{\text{OUT}} \cong 50\ \Omega$.
2. D input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5\text{ ns}$; $t_{p(\text{SETUP})} = 10\text{ ns}$; $t_{p(\text{HOLD})} = 7\text{ ns}$; $t_p = 17\text{ ns}$; $Z_{\text{OUT}} \cong 50\ \Omega$.
3. $C_L = 50\text{ pF} \pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499\ \Omega \pm 1\%$.

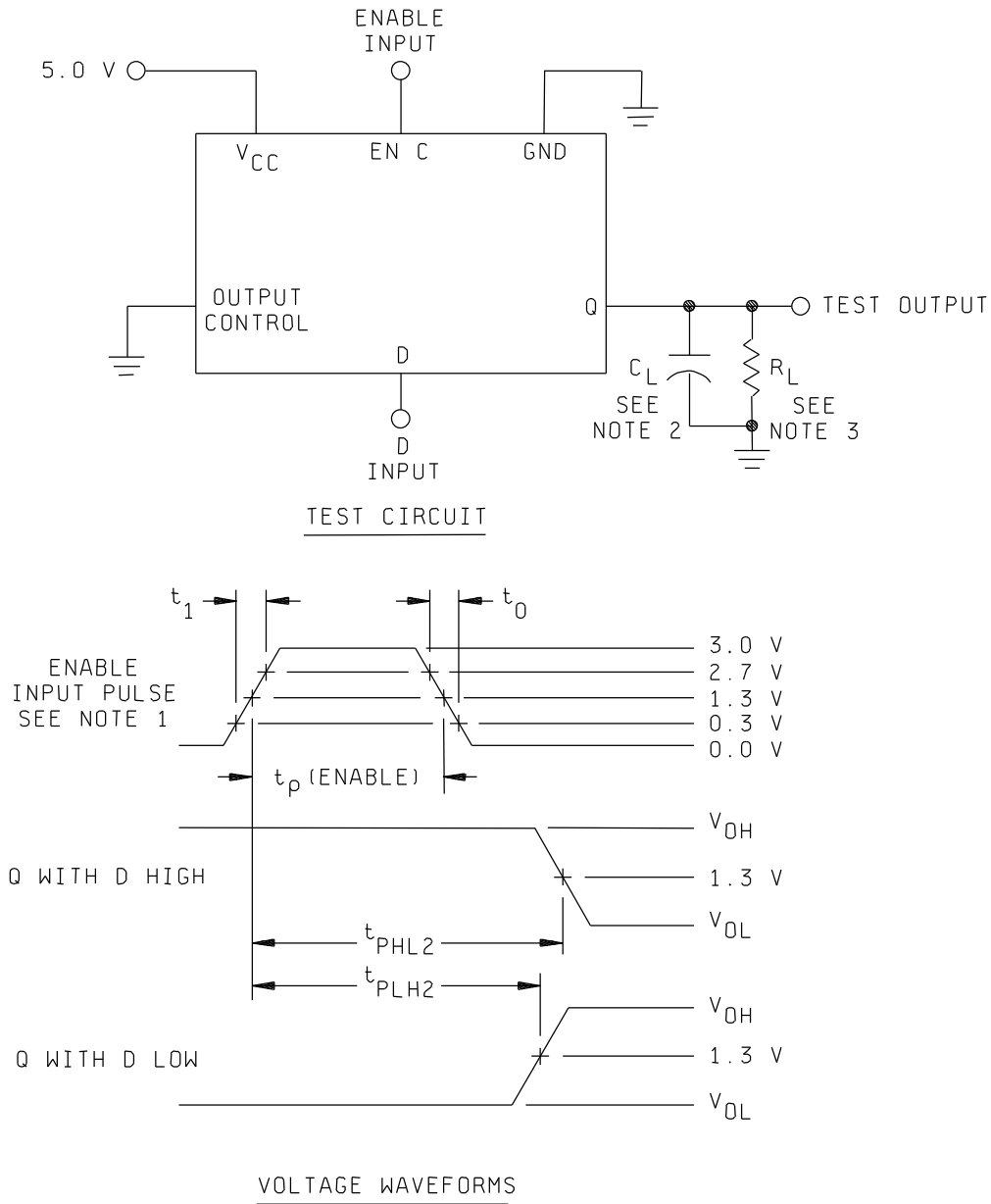
FIGURE 4. Data switching test circuit and waveforms (device type 01) - Continued.



NOTES:

1. Output control input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_P \geq 200$ ns; $PRR \leq 1$ MHz; $Z_{OUT} \approx 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = 499 \Omega \pm 1\%$.

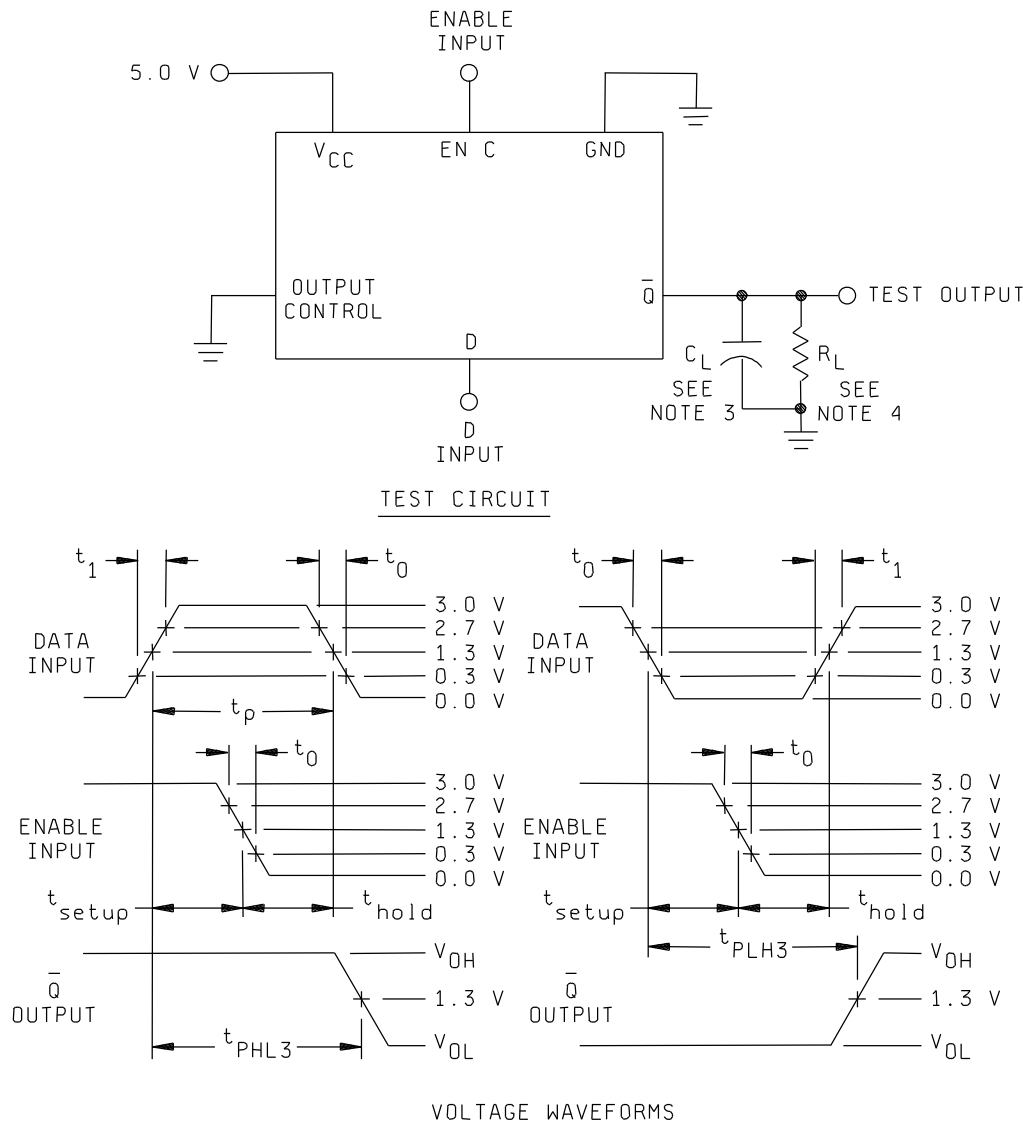
FIGURE 4. 3-state switching test circuit and waveforms for device type 01.



NOTES:

1. Enable input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_p(\text{ENABLE}) = 15$ ns; $\text{PRR} \leq 1$ MHz; $Z_{OUT} \cong 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = 499 \Omega \pm 1\%$.

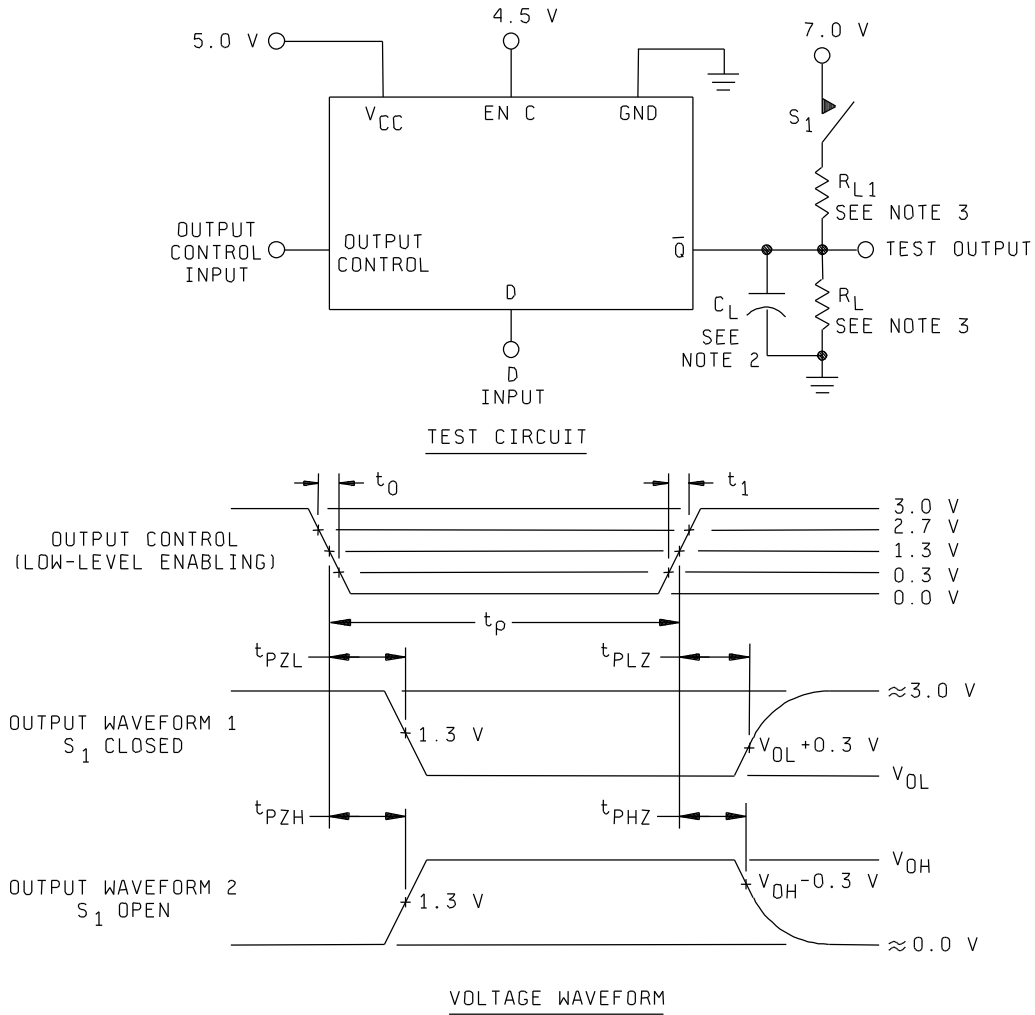
FIGURE 4. Enable switching test circuit and waveforms (device type 02).



NOTES:

1. Enable input pulse characteristics: $t_0 = 6 \pm 1.5$ ns; $t_p = 15$ ns; $PRR \leq 1$ MHz; $Z_{OUT} \cong 50 \Omega$.
2. D input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_{p(SETUP)} = 10$ ns; $t_{p(HOLD)} = 10$ ns; $t_p = 20$ ns; PRR is 50% of enable PRR ; $Z_{OUT} \cong 50 \Omega$.
3. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499 \Omega \pm 1\%$.

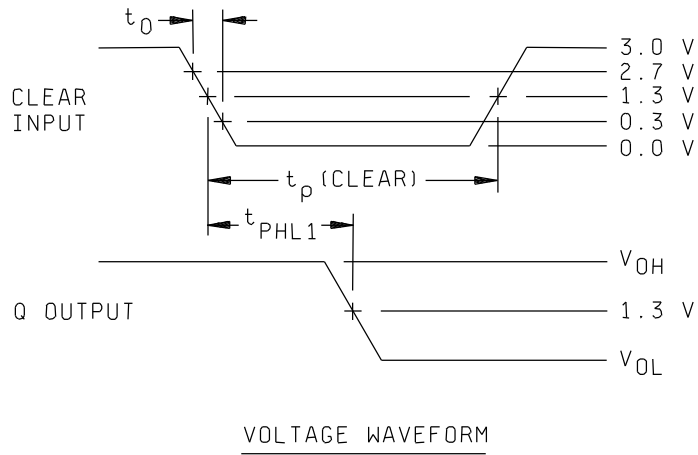
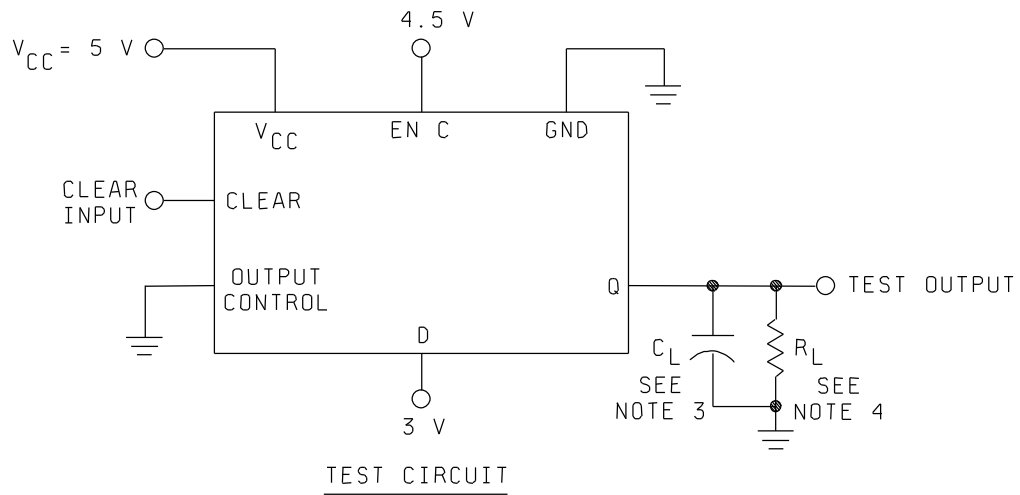
FIGURE 4. Data switching test circuit and waveforms (device type 02) - Continued.



NOTES:

1. Output control input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_P \geq 200$ ns; $PRR \leq 1$ MHz; $Z_{OUT} \cong 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = R_{L1} = 499 \Omega \pm 1\%$.

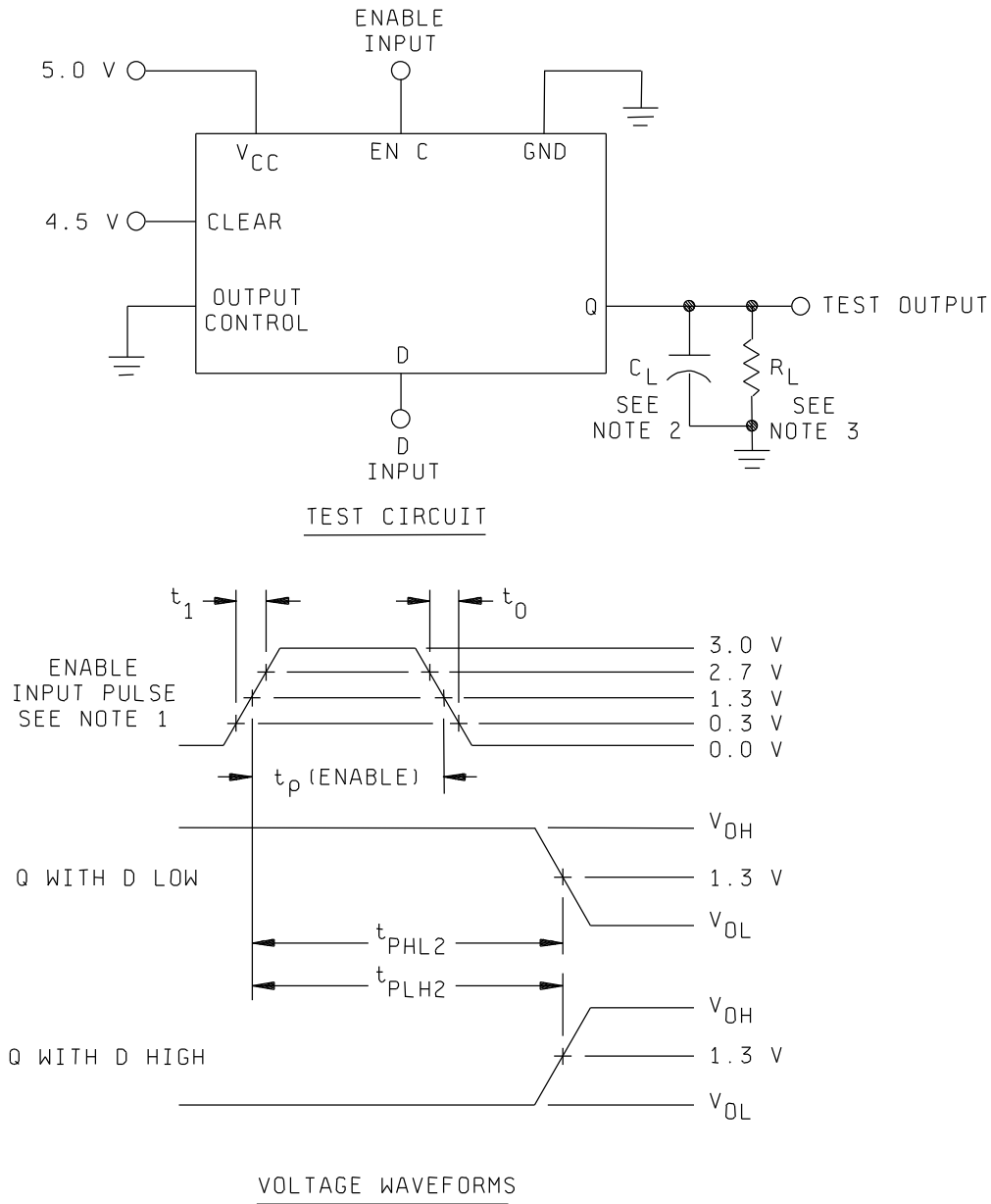
FIGURE 4. 3-state switching test circuit and waveforms for device type 02.



NOTES:

1. Clear input dominates regardless of state of D input.
2. Clear input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5 \text{ ns}$; $t_{P(\text{CLEAR})} = 15 \text{ ns}$; $\text{PRR} \leq 1 \text{ MHz}$; $Z_{\text{OUT}} \cong 50 \Omega$.
3. $C_L = 50 \text{ pF} \pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499 \Omega \pm 1\%$.

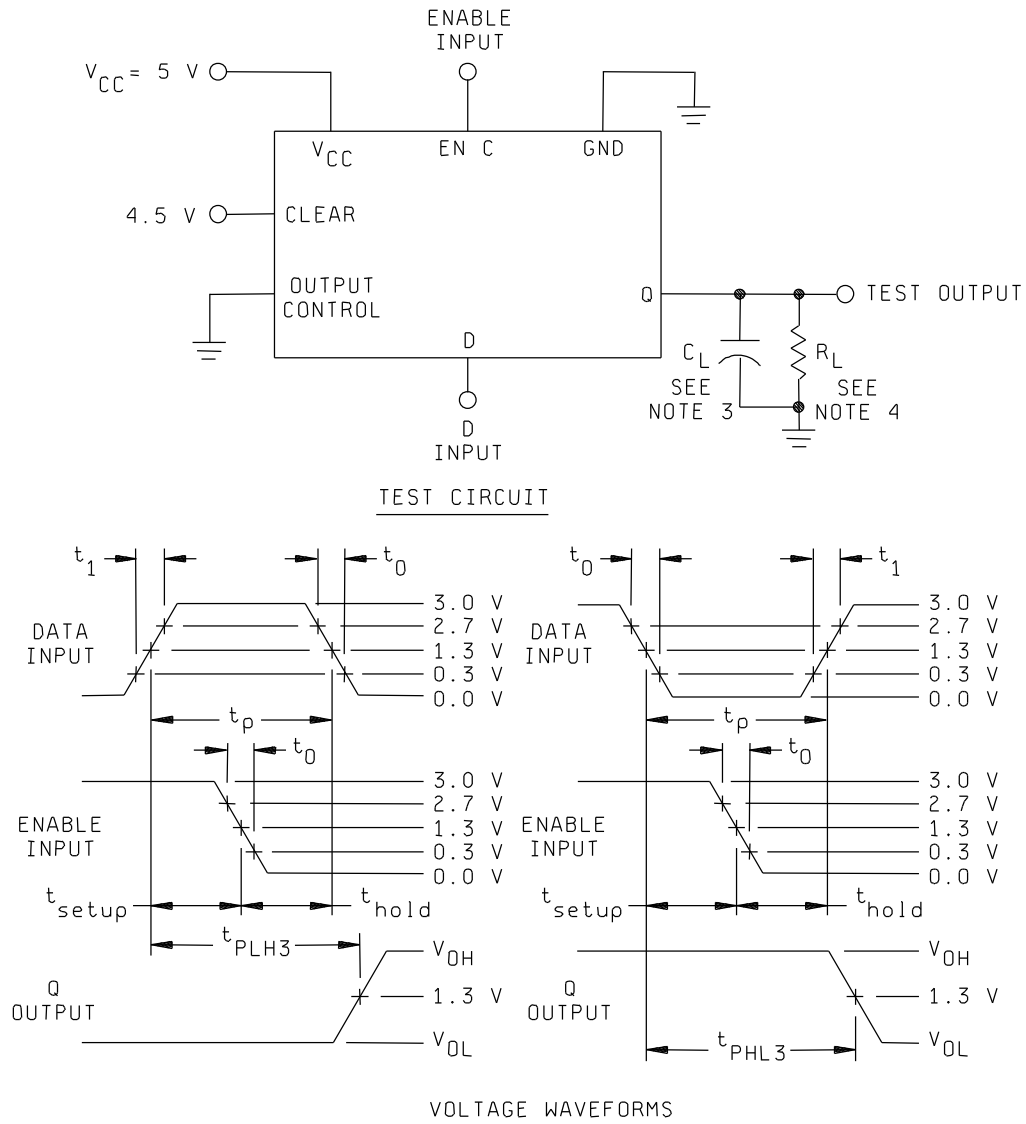
FIGURE 4. Clear switching test circuit and waveforms (device type 03) - Continued.



NOTES:

1. Enable input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_p(\text{ENABLE}) = 10$ ns; $\text{PRR} \leq 1$ MHz; $Z_{OUT} \cong 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = 499 \Omega \pm 1\%$.

FIGURE 4. Enable switching test circuit and waveforms (device type 03).

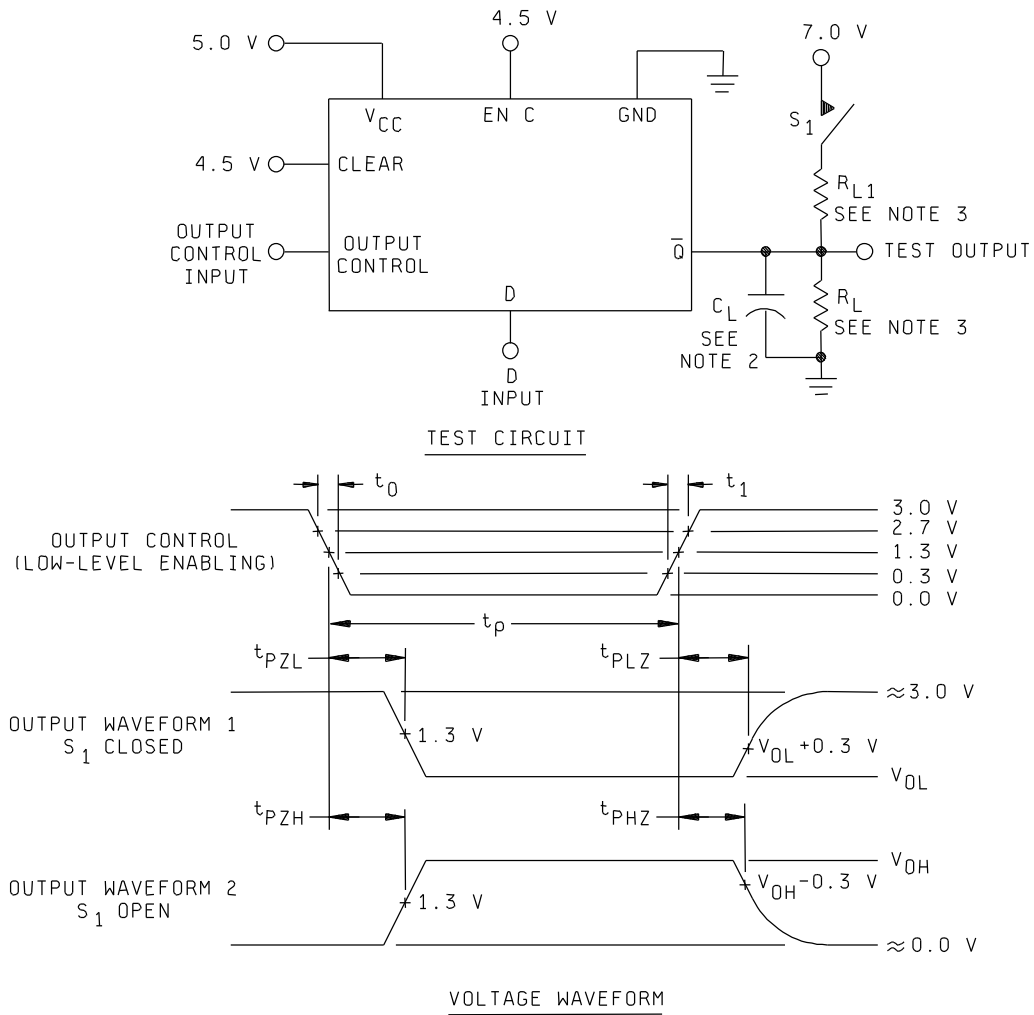


NOTES:

1. Enable input pulse characteristics: $t_0 = 6 \pm 1.5\text{ ns}$; $t_p = 10\text{ ns}$; $PRR \leq 1\text{ MHz}$; $Z_{OUT} \cong 50\ \Omega$.
2. D input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5\text{ ns}$; $t_{p(SETUP)} = 10\text{ ns}$; $t_{p(HOLD)} = 7\text{ ns}$; $t_p = 17\text{ ns}$; PRR is 50% of enable PRR ; $Z_{OUT} \cong 50\ \Omega$.
3. $C_L = 50\text{ pF} \pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499\ \Omega \pm 1\%$.

FIGURE 4. Data switching test circuit and waveforms (device type 03) - Continued.

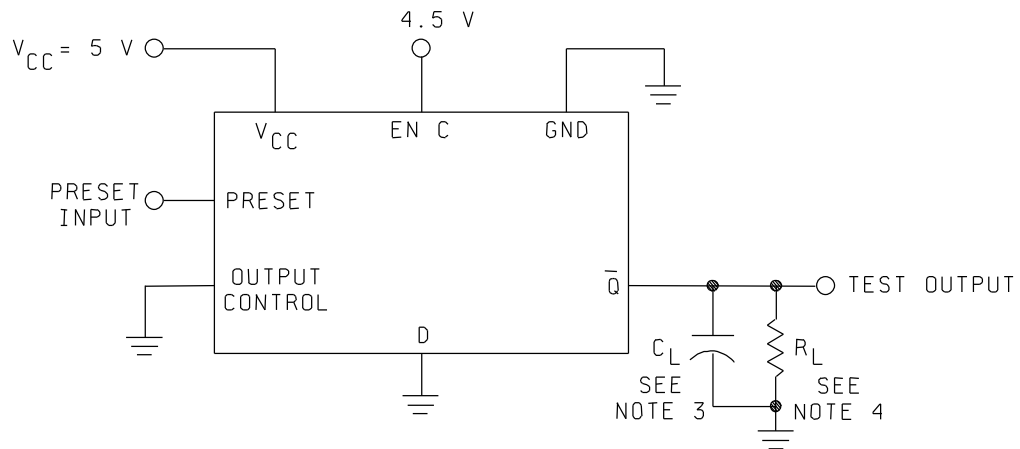
MIL-M-38510/382B



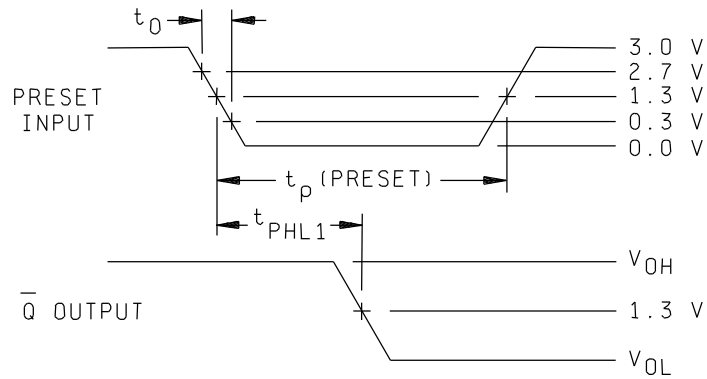
NOTES:

1. Output control input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_P \geq 200$ ns; $PRR \leq 1$ MHz; $Z_{OUT} \cong 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = R_{L1} = 499 \Omega \pm 1\%$.

FIGURE 4. 3-state switching test circuit and waveforms for device type 03.



TEST CIRCUIT

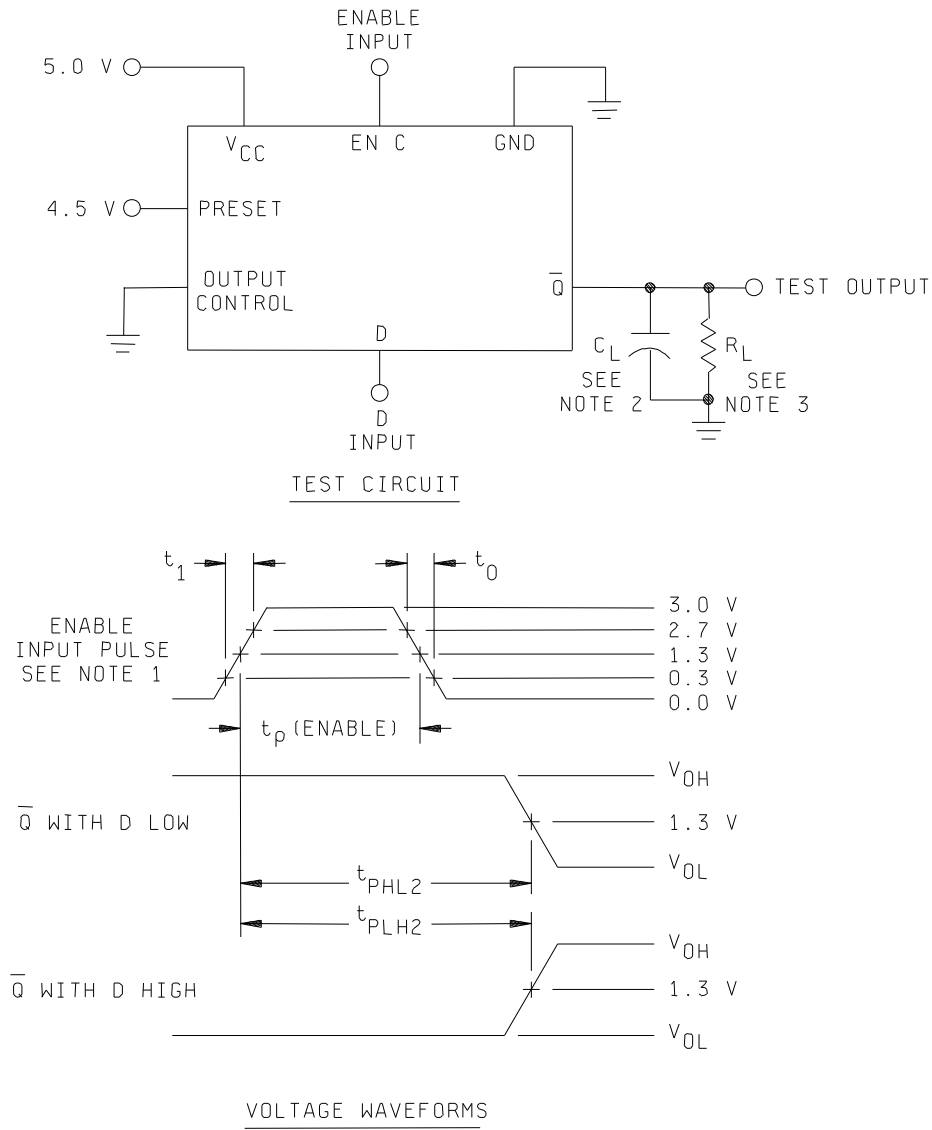


VOLTAGE WAVEFORM

NOTES:

1. Preset input dominates regardless of state of D input.
2. Preset input pulse characteristics: $t_0 = 6 \pm 1.5\text{ ns}$; $t_p(PRESET) = 15\text{ ns}$; $PRR \leq 1\text{ MHz}$; $Z_{OUT} \cong 50\ \Omega$.
3. $C_L = 50\text{ pF} \pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499\ \Omega \pm 1\%$.

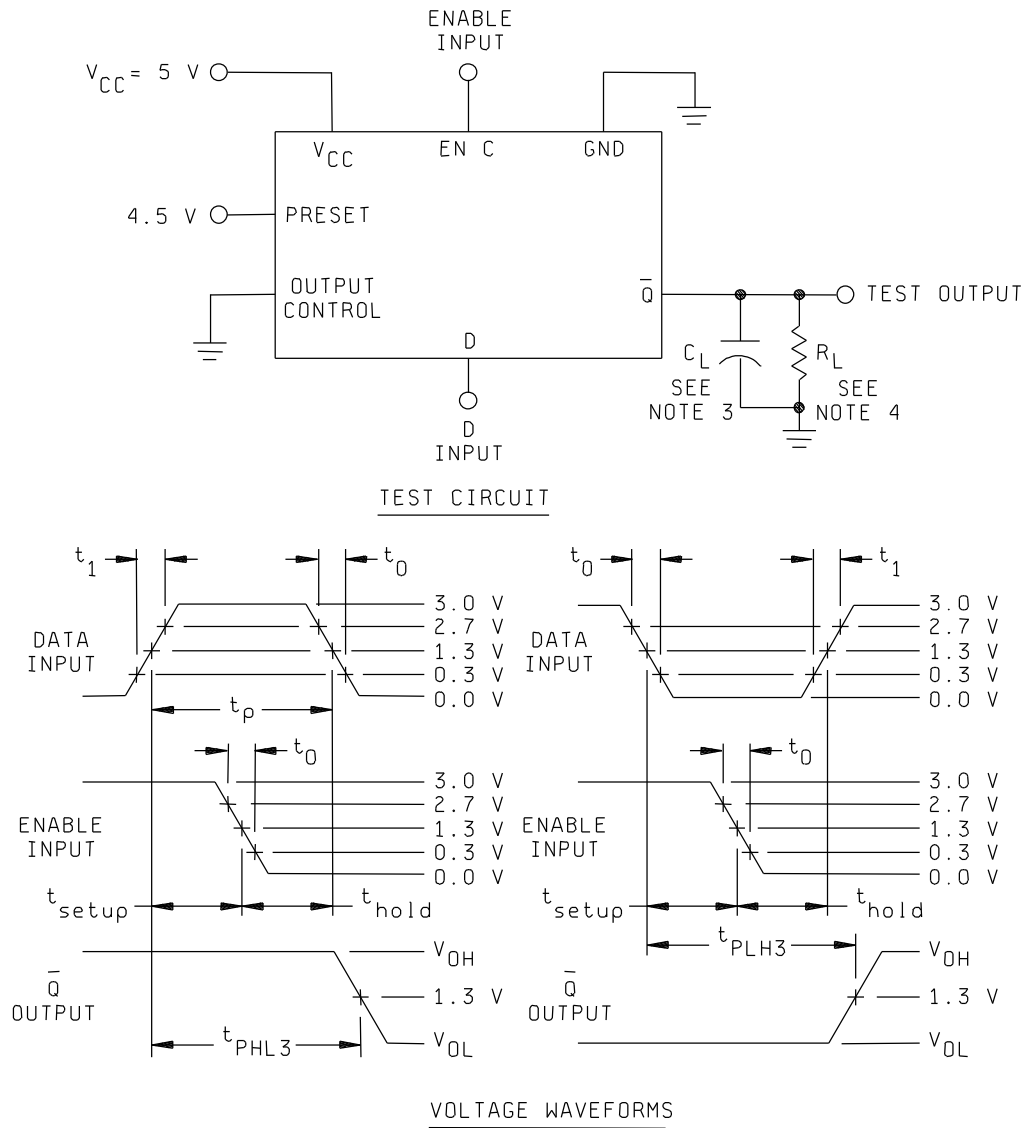
FIGURE 4. Preset switching test circuit and waveforms (device type 04) - Continued.



NOTES:

1. Enable input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5$ ns; $t_{p(\text{ENABLE})} = 15$ ns; $\text{PRR} \leq 1$ MHz; $Z_{\text{OUT}} \cong 50 \Omega$.
2. $C_L = 50$ pF $\pm 10\%$. (including jig and probe capacitance).
3. $R_L = 499 \Omega \pm 1\%$.

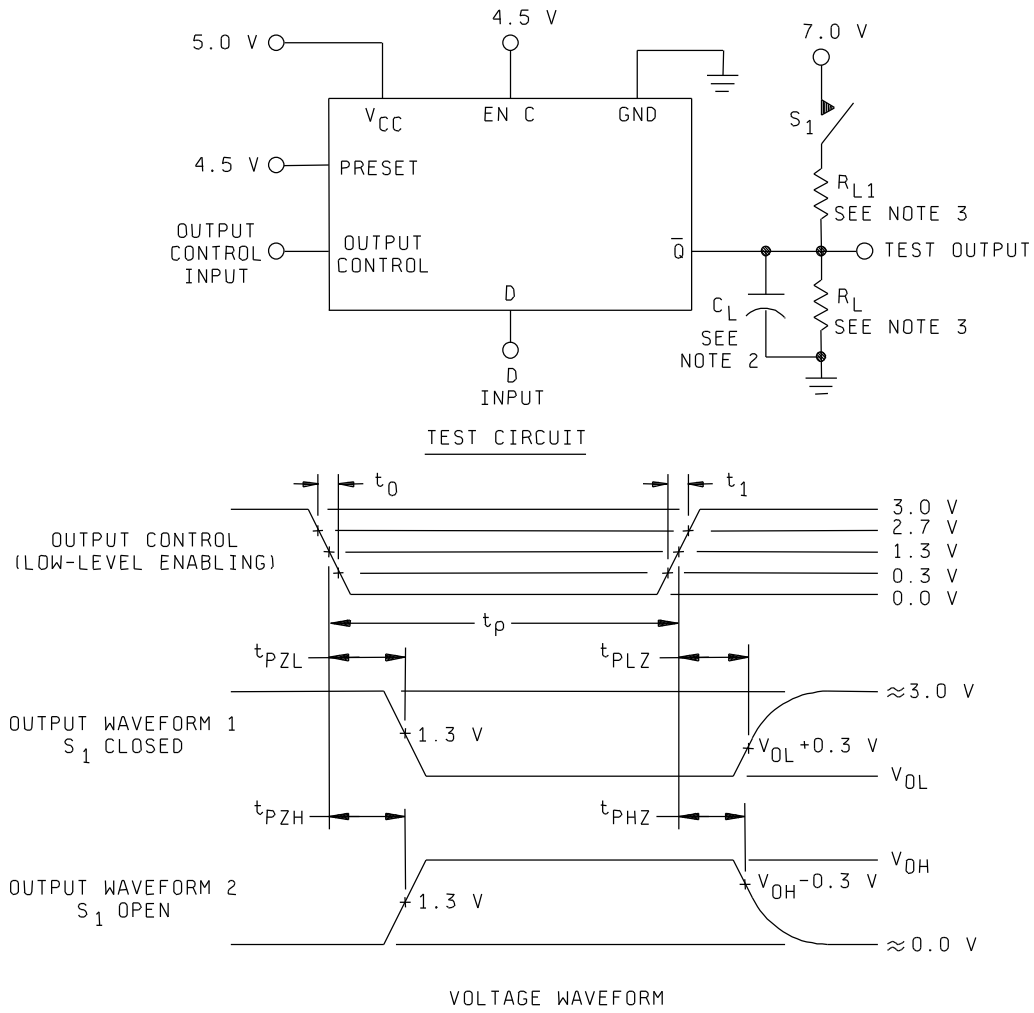
FIGURE 4. Enable switching test circuit and waveforms (device type 04).



NOTES:

1. Enable input pulse characteristics: $t_0 = 6 \pm 1.5\text{ ns}$; $t_p = 15\text{ ns}$; $PRR \leq 1\text{ MHz}$; $Z_{OUT} \cong 50\ \Omega$.
2. D input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5\text{ ns}$; $t_{p(SETUP)} = 10\text{ ns}$; $t_{p(HOLD)} = 10\text{ ns}$; $t_p = 20\text{ ns}$; PRR is 50% of enable PRR ; $Z_{OUT} \cong 50\ \Omega$.
3. $C_L = 50\text{ pF} \pm 10\%$. (including jig and probe capacitance).
4. $R_L = 499\ \Omega \pm 1\%$.

FIGURE 4. Data switching test circuit and waveforms (device type 04) - Continued.



NOTES:

1. Output control input pulse characteristics: $t_1 = t_0 = 6 \pm 1.5 \text{ ns}$; $t_p \geq 200 \text{ ns}$; $\text{PRR} \leq 1 \text{ MHz}$; $Z_{\text{OUT}} \cong 50 \Omega$.
2. $C_L = 50 \text{ pF} \pm 10\%$. (including jig and probe capacitance).
3. $R_L = R_{L1} = 499 \Omega \pm 1\%$.

FIGURE 4. 3-state switching test circuit and waveforms for device type 04.

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

Subgroup	Symbol	MIL-STD-883 method	Cases R, S, 2	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
			Test no.	OC	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8Q	7Q	6Q	5Q	4Q	3Q	2Q	1Q	V _{CC}		Min	Max	
1 T _c = 25°C	V _{OH}	3006	1	0.8 V	2.0 V								GND	2.0 V								-1.0 mA	4.5 V	1Q	2.4		V
		"	2	"		2.0 V							"	"							-1.0 mA		"	2Q	"		"
		"	3	"			2.0 V						"	"						-1.0 mA			"	3Q	"		"
		"	4	"				2.0 V					"	"					-1.0 mA				"	4Q	"		"
		"	5	"					2.0 V				"	"				-1.0 mA					"	5Q	"		"
		"	6	"						2.0 V			"	"			-1.0 mA						"	6Q	"		"
		"	7	"							2.0 V		"	"			-1.0 mA						"	7Q	"		"
		"	8	"								2.0 V	"	"	-1.0 mA								"	8Q	"		"
	V _{OL}	3007	9	"	0.8 V								"	"		-1.0 mA						12 mA	"	1Q		0.4	"
		"	10	"		0.8 V							"	"							12 mA		"	2Q			"
		"	11	"			0.8 V						"	"									"	3Q			"
		"	12	"				0.8 V					"	"							12 mA		"	4Q			"
		"	13	"					0.8 V				"	"				12 mA					"	5Q			"
		"	14	"						0.8 V			"	"			12 mA						"	6Q			"
		"	15	"							0.8 V		"	"		12 mA							"	7Q			"
		"	16	"								0.8 V	"	"	12 mA								"	8Q			"
	V _{IC}		17	-18 mA									"	"									"	OC		-1.5	"
			18		-18 mA								"	"									"	1D			"
			19			-18 mA							"	"									"	2D			"
			20				-18 mA						"	"									"	3D			"
			21					-18 mA					"	"									"	4D			"
			22						-18 mA				"	"									"	5D			"
			23							-18 mA			"	"									"	6D			"
			24								-18 mA		"	"									"	7D			"
			25									-18 mA	"	"									"	8D			"
			26										"	-18 mA									"	ENC			"
	I _{IL}	3009	27	0.4 V									"	"	-18 mA								5.5 V	OC	1/	1/	μA
		"	28		0.4 V								"	"									"	1D			"
		"	29			0.4 V							"	"									"	2D			"
		"	30				0.4 V						"	"									"	3D			"
		"	31					0.4 V					"	"									"	4D			"
		"	32						0.4 V				"	"									"	5D			"
		"	33							0.4 V			"	"									"	6D			"
		"	34								0.4 V		"	"									"	7D			"
		"	35									0.4 V	"	"									"	8D			"
		"	36										"	0.4 V									"	ENC			"
	I _{IH1}	3010	37	2.7 V									"	"									"	OC		20	"
		"	38		2.7 V								"	"									"	1D			"
		"	39			2.7 V							"	"									"	2D			"
		"	40				2.7 V						"	"									"	3D			"
		"	41					2.7 V					"	"									"	4D			"
		"	42						2.7 V				"	"									"	5D			"
		"	43							2.7 V			"	"									"	6D			"
		"	44								2.7 V		"	"									"	7D			"
		"	45									2.7 V	"	"									"	8D			"
		"	46										"	2.7 V									"	ENC			"
	I _{IH2}	3010	47	7.0 V									"	"									"	OC		100	"
		"	48		7.0 V								"	"									"	1D			"
		"	49			7.0 V							"	"									"	2D			"
		"	50				7.0 V						"	"									"	3D			"
		"	51					7.0 V					"	"									"	4D			"
		"	52						7.0 V				"	"									"	5D			"
		"	53							7.0 V			"	"									"	6D			"
		"	54								7.0 V		"	"									"	7D			"
		"	55									7.0 V	"	"									"	8D			"
		"	56										"	7.0 V									"	ENC			"

See footnotes at end of device type 01.

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).

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, 2	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		
			Test no.	$\overline{\text{OC}}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8Q	7Q	6Q	5Q	4Q	3Q	2Q	1Q	V _{CC}		Min	Max			
1 T _C = 25°C	I _O 2/	3011	57	GND	5.0 V								GND	5.0 V								2.25 V	5.5 V	1Q	-15 3/	-70	mA		
			58	"		5.0 V								"	"							2.25 V		"	2Q		"	"	
			59	"			5.0 V							"	"						2.25 V			"	3Q		"	"	
			60	"				5.0 V						"	"					2.25 V				"	4Q		"	"	
			61	"					5.0 V					"	"					2.25 V				"	5Q		"	"	
			62	"						5.0 V				"	"				2.25 V					"	6Q		"	"	
			63	"							5.0 V			"	"			2.25 V						"	7Q		"	"	
			64	"								5.0 V		"	"	2.25 V								"	8Q		"	"	
	I _{OZH}	65	5.0 V	2.0 V									"	"		2.25 V						2.7 V	2.7 V	"	1Q		20	μA	
		66	"		2.0 V								"	"								2.7 V		"	2Q		"	"	
		67	"			2.0 V							"	"						2.7 V				"	3Q		"	"	
		68	"				2.0 V						"	"					2.7 V				"	4Q		"	"		
		69	"					2.0 V					"	"					2.7 V				"	5Q		"	"		
		70	"						2.0 V				"	"				2.7 V					"	6Q		"	"		
		71	"							2.0 V			"	"			2.7 V						"	7Q		"	"		
		72	"								2.0 V		"	"	2.7 V								"	8Q		"	"		
	I _{OZL}	73	"	0.8 V									"	"		2.7 V						0.4 V	0.4 V	"	1Q		-20	"	
		74	"		0.8 V								"	"								0.4 V		"	2Q		"	"	
		75	"			0.8 V							"	"						0.4 V			"	3Q		"	"		
		76	"				0.8 V						"	"					0.4 V				"	4Q		"	"		
		77	"					0.8 V					"	"					0.4 V				"	5Q		"	"		
		78	"						0.8 V				"	"				0.4 V					"	6Q		"	"		
		79	"							0.8 V			"	"			0.4 V						"	7Q		"	"		
		80	"									0.8 V	"	"	0.4 V								"	8Q		"	"		
	I _{OCH}	3005	81	GND	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	GND	GND	GND	GND	GND	GND	GND	GND	GND		"	V _{CC}		19	mA		
	I _{OCL}	"	82	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	"	"								"	"		24	"		
	I _{OZZ}	"	83	5.0 V	GND	GND	GND	GND	GND	GND	GND	GND	"	"									"	"		27	"		
2 Same tests, terminal conditions, and limits as for subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																													
3 Same tests, terminal conditions, and limits as for subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																													
7 4/ T _C = 25°C	Truth table test	3014	84	B	B	B	B	B	B	B	B	B	B	GND	A	L	L	L	L	L	L	L	5.0 V	All outputs	5/	5/			
			85	"	A	A	A	A	A	A	A	A	A	"	"	H	H	H	H	H	H	H	H	"				"	
			86	"	B	B	B	B	B	B	B	B	B	"	"	L	L	L	L	L	L	L	L	"				"	
			87	"	B	B	B	B	B	B	B	B	B	"	B	"	"	"	"	"	"	"	"	"				"	
			88	"	A	A	A	A	A	A	A	A	A	"	B	"	"	"	"	"	"	"	"	"				"	"
			89	"	"	"	"	"	"	"	"	"	"	"	A	H	H	H	H	H	H	H	H	"				"	
			90	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"	"	"	"	"	"	"				"	"
			91	"	B	B	B	B	B	B	B	B	B	"	B	"	"	"	"	"	"	"	"	"				"	"
			92	"	B	B	B	B	B	B	B	B	B	"	A	L	L	L	L	L	L	L	L	"				"	"
			8 Same tests, terminal conditions, and limits as for subgroup 7, except T _C = +125°C and T _C = -55°C.																										
9 T _C = 25°C	t _{PLH2}	3003 Fig. 4	93	GND	4.5 V								GND	IN								OUT	5.0 V	ENC to 1Q	8	20	ns		
			94	"		4.5 V							"	"								OUT		"	ENC to 2Q	"	"	"	
			95	"			4.5 V						"	"								OUT		"	ENC to 3Q	"	"	"	
			96	"				4.5 V					"	"						OUT				"	ENC to 4Q	"	"	"	
			97	"					4.5 V				"	"					OUT					"	ENC to 5Q	"	"	"	
			98	"						4.5 V			"	"				OUT						"	ENC to 6Q	"	"	"	
			99	"							4.5 V		"	"			OUT							"	ENC to 7Q	"	"	"	
			100	"								4.5 V	"	"	OUT	OUT								"	ENC to 8Q	"	"	"	
	t _{PHL2}	101	"	GND									"	"								OUT	"	ENC to 1Q	6	19	"		
		102	"		GND								"	"							OUT		"	ENC to 2Q	"	"	"		
		103	"			GND							"	"							OUT		"	ENC to 3Q	"	"	"		
		104	"				GND						"	"					OUT				"	ENC to 4Q	"	"	"		
		105	"					GND					"	"				OUT					"	ENC to 5Q	"	"	"		
		106	"						GND				"	"				OUT					"	ENC to 6Q	"	"	"		
		107	"								GND		"	"									"	ENC to 7Q	"	"	"		
108		"									GND	"	"	OUT	OUT							"	ENC to 8Q	"	"	"			

See footnotes at end of device type 01.

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

Subgroup	Symbol	MIL-STD-883 method	Cases R, S, 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
				$\overline{OC}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8Q	7Q	6Q	5Q	4Q	3Q	2Q	1Q	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PLH3}	3003 Fig. 4	109	GND	IN								GND	IN								OUT	5.0 V	1D to 1Q	2	14	ns
			110	"		IN							"	"							OUT		"	2D to 2Q	"	"	"
			111	"			IN						"	"						OUT			"	3D to 3Q	"	"	"
			112	"				IN					"	"					OUT				"	4D to 4Q	"	"	"
			113	"					IN				"	"				OUT					"	5D to 5Q	"	"	"
			114	"						IN			"	"			OUT						"	6D to 6Q	"	"	"
			115	"							IN		"	"		OUT							"	7D to 7Q	"	"	"
			116	"								IN	"	"									"	8D to 8Q	"	"	"
	t _{PHL3}	"	117	"	IN								"	"								OUT	"	1D to 1Q	"	"	"
			118	"		IN							"	"							OUT		"	2D to 2Q	"	"	"
			119	"			IN						"	"						OUT			"	3D to 3Q	"	"	"
			120	"				IN					"	"					OUT				"	4D to 4Q	"	"	"
			121	"					IN				"	"				OUT					"	5D to 5Q	"	"	"
			122	"						IN			"	"			OUT						"	6D to 6Q	"	"	"
			123	"							IN		"	"		OUT							"	7D to 7Q	"	"	"
			124	"								IN	"	"									"	8D to 8Q	"	"	"
	t _{PZH}	"	125	IN	4.5 V								"	4.5 V		OUT						OUT	5.0 V	$\overline{OC}$ to 1Q	4	18	"
			126	"		4.5 V							"	"							OUT		"	$\overline{OC}$ to 2Q	"	"	"
			127	"			4.5 V						"	"						OUT			"	$\overline{OC}$ to 3Q	"	"	"
			128	"				4.5 V					"	"					OUT				"	$\overline{OC}$ to 4Q	"	"	"
			129	"					4.5 V				"	"				OUT					"	$\overline{OC}$ to 5Q	"	"	"
			130	"						4.5 V			"	"			OUT						"	$\overline{OC}$ to 6Q	"	"	"
			131	"							4.5 V		"	"		OUT							"	$\overline{OC}$ to 7Q	"	"	"
			132	"								4.5 V	"	"	OUT								"	$\overline{OC}$ to 8Q	"	"	"
	t _{PZL}	"	133	"	GND								"	"							OUT		"	$\overline{OC}$ to 1Q	"	"	"
			134	"		GND							"	"							OUT		"	$\overline{OC}$ to 2Q	"	"	"
			135	"			GND						"	"						OUT			"	$\overline{OC}$ to 3Q	"	"	"
			136	"				GND					"	"					OUT				"	$\overline{OC}$ to 4Q	"	"	"
			137	"					GND				"	"				OUT					"	$\overline{OC}$ to 5Q	"	"	"
			138	"						GND			"	"			OUT						"	$\overline{OC}$ to 6Q	"	"	"
			139	"							GND		"	"		OUT							"	$\overline{OC}$ to 7Q	"	"	"
			140	"								GND	"	"	OUT								"	$\overline{OC}$ to 8Q	"	"	"
	t _{PHZ}	"	141	"	4.5 V								"	"								OUT	"	$\overline{OC}$ to 1Q	2	10	"
			142	"		4.5 V							"	"							OUT		"	$\overline{OC}$ to 2Q	"	"	"
			143	"			4.5 V						"	"						OUT			"	$\overline{OC}$ to 3Q	"	"	"
			144	"				4.5 V					"	"					OUT				"	$\overline{OC}$ to 4Q	"	"	"
			145	"					4.5 V				"	"				OUT					"	$\overline{OC}$ to 5Q	"	"	"
			146	"						4.5 V			"	"			OUT						"	$\overline{OC}$ to 6Q	"	"	"
			147	"							4.5 V		"	"		OUT							"	$\overline{OC}$ to 7Q	"	"	"
			148	"								4.5 V	"	"	OUT								"	$\overline{OC}$ to 8Q	"	"	"

See footnotes at end of device type 01.

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).

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, 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.	$\overline{OC}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8Q	7Q	6Q	5Q	4Q	3Q	2Q	1Q	V _{CC}	terminal	Min	Max		
9 T _C = 25°C	t _{PLZ}	3003 Fig. 4	149	IN	GND								GND	IN								OUT	5.0 V	$\overline{OC}$ to 1Q	2	15	ns	
			150	"		GND								"	"							OUT		"	$\overline{OC}$ to 2Q	"	"	"
			151	"			GND							"	"							OUT		"	$\overline{OC}$ to 3Q	"	"	"
			152	"				GND						"	"					OUT				"	$\overline{OC}$ to 4Q	"	"	"
			153	"					GND					"	"					OUT				"	$\overline{OC}$ to 5Q	"	"	"
			154	"						GND				"	"					OUT				"	$\overline{OC}$ to 6Q	"	"	"
			155	"							GND			"	"			OUT						"	$\overline{OC}$ to 7Q	"	"	"
			156	"										GND	"	"	OUT							"	$\overline{OC}$ to 8Q	"	"	"
10	t _{PLH2}	Same tests, terminal conditions as for subgroup 9, except T _C = +125°C.																								8	27	"
	t _{PHL2}																									4	20	"
	t _{PLH3}																									2	15	"
	t _{PHL3}																									2	15	"
	t _{PZH}																									4	21	"
	t _{PZL}																									4	21	"
	t _{PHZ}																									2	12	"
11	t _{PLZ}	Same tests, terminal conditions, and limits as for subgroup 10, except T _C = -55°C.																								2	18	"

1/ I_L limits shall be as follows:

Test	Min/Max limits in μ A for circuit		
	A	B	C
I _L	0/-200	0/-100	0/-200

2/ Method 3011 shall be used, except the output voltage shall be as specified herein, and the output current shall be operating rather than short circuit current. The output conditions have been chosen to produce a current that closely approximates one-half of the true short circuit output current I_{OS}.

3/ I_O limits shall be as follows:

Test	Min/Max limits in μ A for circuit		
	A	B	C
I _O	-20/-112	-15/-110	-70/-110

4/ Tests shall be performed in sequence, attributes data only.

5/ Outputs shall be high ≥ 1.5 V; low ≤ 1.5 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, 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
				$\overline{\text{OC}}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	$8\overline{\text{Q}}$	$7\overline{\text{Q}}$	$6\overline{\text{Q}}$	$5\overline{\text{Q}}$	$4\overline{\text{Q}}$	$3\overline{\text{Q}}$	$2\overline{\text{Q}}$	$1\overline{\text{Q}}$	V _{CC}		Min	Max	
1 Tc = 25°C	V _{OH}	3006	1	0.8 V	0.8 V								GND	2.0 V								-1.0 mA	4.5 V	$1\overline{\text{Q}}$	2.4		V
		"	2	"		0.8 V						"	"								-1.0 mA	"	$2\overline{\text{Q}}$	"		"	
		"	3	"			0.8 V					"	"							-1.0 mA		"	$3\overline{\text{Q}}$	"		"	
		"	4	"				0.8 V				"	"					-1.0 mA			"	$4\overline{\text{Q}}$	"		"		
		"	5	"					0.8 V			"	"					-1.0 mA			"	$5\overline{\text{Q}}$	"		"		
		"	6	"						0.8 V		"	"				-1.0 mA				"	$6\overline{\text{Q}}$	"		"		
		"	7	"							0.8 V		"	"		-1.0 mA					"	$7\overline{\text{Q}}$	"		"		
		"	8	"								0.8 V	"	"	-1.0 mA						"	$8\overline{\text{Q}}$	"		"		
	V _{OL}	3007	9	"	2.0 V								"	"								12 mA	"	$1\overline{\text{Q}}$		0.4	"
		"	10	"		2.0 V							"	"							12 mA		"	$2\overline{\text{Q}}$		"	"
		"	11	"			2.0 V						"	"						12 mA		"	$3\overline{\text{Q}}$		"	"	
		"	12	"				2.0 V					"	"				12 mA				"	$4\overline{\text{Q}}$		"	"	
		"	13	"					2.0 V				"	"				12 mA				"	$5\overline{\text{Q}}$		"	"	
		"	14	"						2.0 V			"	"			12 mA				"	$6\overline{\text{Q}}$		"	"		
		"	15	"							2.0 V		"	"		12 mA					"	$7\overline{\text{Q}}$		"	"		
		"	16	"								2.0 V	"	"	12 mA						"	$8\overline{\text{Q}}$		"	"		
	V _{IC}		17	-18 mA									"									"	OC		-1.5	"	
			18		-18 mA								"									"	1D		"	"	
			19			-18 mA							"									"	2D		"	"	
			20				-18 mA						"									"	3D		"	"	
			21					-18 mA					"									"	4D		"	"	
			22						-18 mA				"									"	5D		"	"	
			23							-18 mA			"									"	6D		"	"	
			24								-18 mA		"									"	7D		"	"	
			25									-18 mA	"									"	8D		"	"	
			26										"	-18 mA								"	ENC		"	"	
	I _{IL}	3009	27	0.4 V									"									5.5 V	$\overline{\text{OC}}$	$\frac{1}{\text{}}$	$\frac{1}{\text{}}$	μA	
		"	28		0.4 V								"									"	1D	"	"	"	
		"	29			0.4 V							"									"	2D	"	"	"	
		"	30				0.4 V						"									"	3D	"	"	"	
		"	31					0.4 V					"									"	4D	"	"	"	
		"	32						0.4 V				"									"	5D	"	"	"	
		"	33							0.4 V			"									"	6D	"	"	"	
		"	34								0.4 V		"									"	7D	"	"	"	
		"	35									0.4 V	"									"	8D	"	"	"	
		"	36										"	0.4 V								"	ENC	"	"	"	
	I _{IHL}	3010	37	2.7 V									"									"	$\overline{\text{OC}}$		20	"	
		"	38		2.7 V								"									"	1D		"	"	
		"	39			2.7 V							"									"	2D		"	"	
		"	40				2.7 V						"									"	3D		"	"	
		"	41					2.7 V					"									"	4D		"	"	
		"	42						2.7 V				"									"	5D		"	"	
		"	43							2.7 V			"									"	6D		"	"	
		"	44								2.7 V		"									"	7D		"	"	
		"	45									2.7 V	"									"	8D		"	"	
		"	46										"	2.7 V								"	ENC		"	"	

See footnotes at end of device type 02.

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, 2	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	
				Test no.	$\overline{OC}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	$8\overline{Q}$	$7\overline{Q}$	$6\overline{Q}$	$5\overline{Q}$	$4\overline{Q}$	$3\overline{Q}$	$2\overline{Q}$	$1\overline{Q}$		V_{CC}	Min		Max
1 Tc = 25°C	I _{IH2}	3010	47	7.0 V									GND										5.5 V	$\overline{OC}$		100	μA	
		"	48		7.0 V								"										"	1D		"	"	
		"	49			7.0 V							"										"	2D		"	"	
		"	50				7.0 V						"										"	3D		"	"	
		"	51					7.0 V					"										"	4D		"	"	
		"	52						7.0 V				"										"	5D		"	"	
		"	53								7.0 V		"										"	6D		"	"	
		"	54									7.0 V		"									"	7D		"	"	
		"	55										7.0 V	"									"	8D		"	"	
		"	56											"	7.0 V								"	ENC		"	"	
	I _{O 2/}	3011	57	GND	GND									"	5.0 V								2.25 V	"	1 $\overline{Q}$	-15 $\frac{3}{4}$	-70 $\frac{3}{4}$	mA
		"	58	"		GND								"	"							2.25 V	"	2 $\overline{Q}$		"	"	
		"	59	"			GND							"	"						2.25 V		"	3 $\overline{Q}$		"	"	
		"	60	"				GND						"	"					2.25 V			"	4 $\overline{Q}$		"	"	
		"	61	"					GND					"	"					2.25 V			"	5 $\overline{Q}$		"	"	
		"	62	"						GND				"	"			2.25 V					"	6 $\overline{Q}$		"	"	
		"	63	"							GND			"	"		2.25 V						"	7 $\overline{Q}$		"	"	
		"	64	"								GND	"	"		2.25 V							"	8 $\overline{Q}$		"	"	
	I _{OZH}		65	5.0 V	0.8 V									"	"								2.7 V	"	1 $\overline{Q}$		20	μA
			66	"		0.8 V								"	"							2.7 V	"	2 $\overline{Q}$		"	"	
			67	"			0.8 V							"	"							2.7 V		3 $\overline{Q}$		"	"	
			68	"				0.8 V						"	"					2.7 V			"	4 $\overline{Q}$		"	"	
			69	"					0.8 V					"	"					2.7 V			"	5 $\overline{Q}$		"	"	
			70	"						0.8 V				"	"			2.7 V					"	6 $\overline{Q}$		"	"	
			71	"							0.8 V			"	"		2.7 V						"	7 $\overline{Q}$		"	"	
			72	"								0.8 V	"	"		2.7 V							"	8 $\overline{Q}$		"	"	
	I _{OZL}		73	"	2.0 V									"	"								0.4 V	"	1 $\overline{Q}$		-20	"
			74	"		2.0 V								"	"							0.4 V		"	2 $\overline{Q}$		"	"
			75	"			2.0 V							"	"							0.4 V		"	3 $\overline{Q}$		"	"
			76	"				2.0 V						"	"					0.4 V			"	4 $\overline{Q}$		"	"	
			77	"					2.0 V					"	"					0.4 V			"	5 $\overline{Q}$		"	"	
			78	"						2.0 V				"	"			0.4 V					"	6 $\overline{Q}$		"	"	
			79	"							2.0 V			"	"		0.4 V						"	7 $\overline{Q}$		"	"	
			80	"								2.0 V	"	"		0.4 V							"	8 $\overline{Q}$		"	"	
	I _{CCH}	3005	81	GND	GND	GND	GND	GND	GND	GND	GND	GND	"	"									"	V _{CC}		17	mA	
	I _{CCL}	"	82	GND	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	"	"									"	"		24	"	
	I _{CCZ}	"	83	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	"	"									"	"		27	"	
2	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																											
3	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																											

See footnotes at end of device type 02.

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	Cases R, S, 2	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		
		method	Test no.	$\overline{OC}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	$8\overline{Q}$	$7\overline{Q}$	$6\overline{Q}$	$5\overline{Q}$	$4\overline{Q}$	$3\overline{Q}$	$2\overline{Q}$	$1\overline{Q}$	V_{CC}		Min	Max			
7 4/ Tc = 25°C	Truth table test	3014	84	B	A	A	A	A	A	A	A	A	GND	A	L	L	L	L	L	L	L	L	5.0 V	All outputs	5/	5/			
			85	"	B	B	B	B	B	B	B	B	"	"	H	H	H	H	H	H	H	H	H	"				"	
			86	"	A	A	A	A	A	A	A	A	"	"	L	L	L	L	L	L	L	L	L	"				"	
			87	"	A	A	A	A	A	A	A	A	"	B	"	"	"	"	"	"	"	"	"	"				"	"
			88	"	B	B	B	B	B	B	B	B	"	B	"	"	"	"	"	"	"	"	"	"				"	"
			89	"	"	"	"	"	"	"	"	"	"	"	A	H	H	H	H	H	H	H	H	"				"	"
			90	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"	"	"	"	"	"	"				"	"
			91	"	A	A	A	A	A	A	A	A	A	"	B	"	"	"	"	"	"	"	"	"				"	"
92	"	A	A	A	A	A	A	A	A	A	"	A	L	L	L	L	L	L	L	L	L	"	"	"					
8	Same tests, terminal conditions, and limits as for subgroup 7, except Tc = +125°C and Tc = -55°C.																												
9 Tc = 25°C	tPLH2	3003 Fig. 4	93	GND	GND								GND	IN								OUT	5.0 V	ENC to 1 Q	8	22	ns		
			94	"		GND							"	"								OUT		"	ENC to 2 Q	"	"	"	
			95	"			GND						"	"							OUT		"	"	ENC to 3 Q	"	"	"	
			96	"				GND					"	"						OUT			"	"	ENC to 4 Q	"	"	"	
			97	"					GND				"	"					OUT				"	"	ENC to 5 Q	"	"	"	
			98	"						GND			"	"			OUT						"	"	ENC to 6 Q	"	"	"	
			99	"							GND		"	"			OUT						"	"	ENC to 7 Q	"	"	"	
			100	"								GND	"	"		OUT							"	"	ENC to 8 Q	"	"	"	
			101	"	4.5 V								"	"									OUT	"	"	ENC to 1 Q	8	21	"
			102	"		4.5 V							"	"							OUT		"	"	ENC to 2 Q	"	"	"	
	103	"			4.5 V						"	"								OUT		"	"	ENC to 3 Q	"	"	"		
	104	"				4.5 V					"	"							OUT			"	"	ENC to 4 Q	"	"	"		
	105	"					4.5 V				"	"						OUT				"	"	ENC to 5 Q	"	"	"		
	106	"						4.5 V			"	"				OUT						"	"	ENC to 6 Q	"	"	"		
	107	"							4.5 V		"	"			OUT							"	"	ENC to 7 Q	"	"	"		
	108	"									4.5 V	"	"	OUT								"	"	ENC to 8 Q	"	"	"		
	tPLH3		109	"	IN								"	"								OUT	"	"	1D to 1 Q	3	18	"	
			110	"		IN							"	"							OUT		"	"	2D to 2 Q	"	"	"	
			111	"			IN						"	"							OUT		"	"	3D to 3 Q	"	"	"	
			112	"				IN					"	"						OUT			"	"	4D to 4 Q	"	"	"	
			113	"					IN				"	"					OUT				"	"	5D to 5 Q	"	"	"	
			114	"						IN			"	"			OUT						"	"	6D to 6 Q	"	"	"	
			115	"							IN		"	"			OUT						"	"	7D to 7 Q	"	"	"	
			116	"								IN	"	"	OUT								"	"	8D to 8 Q	"	"	"	

See footnotes at end of device type 02.

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	Cases R, S, 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.	$\overline{\text{OC}}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8 $\overline{\text{Q}}$	7 $\overline{\text{Q}}$	6 $\overline{\text{Q}}$	5 $\overline{\text{Q}}$	4 $\overline{\text{Q}}$	3 $\overline{\text{Q}}$	2 $\overline{\text{Q}}$	1 $\overline{\text{Q}}$	V _{CC}	terminal	Min	Max		
9 Tc = 25°C	t _{PHL3}	3003	117	GND	IN								GND	IN	8 $\overline{\text{Q}}$	7 $\overline{\text{Q}}$	6 $\overline{\text{Q}}$	5 $\overline{\text{Q}}$	4 $\overline{\text{Q}}$	3 $\overline{\text{Q}}$	2 $\overline{\text{Q}}$	1 $\overline{\text{Q}}$	V _{CC}	1D to 1 $\overline{\text{Q}}$	3	12	ns	
		Fig. 4	118	"		IN							"	"								OUT		"	2D to 2 $\overline{\text{Q}}$	"	"	"
		"	119	"			IN						"	"							OUT			"	3D to 3 $\overline{\text{Q}}$	"	"	"
		"	120	"				IN					"	"						OUT				"	4D to 4 $\overline{\text{Q}}$	"	"	"
		"	121	"					IN				"	"					OUT					"	5D to 5 $\overline{\text{Q}}$	"	"	"
		"	122	"						IN			"	"				OUT						"	6D to 6 $\overline{\text{Q}}$	"	"	"
		"	123	"							IN		"	"			OUT							"	7D to 7 $\overline{\text{Q}}$	"	"	"
		"	124	"								IN	"	"	OUT									"	8D to 8 $\overline{\text{Q}}$	"	"	"
	t _{PZH}	"	125	IN	GND								"	4.5 V									OUT	"	$\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$	4	18	"
		"	126	"		GND							"	"								OUT		"	$\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$	"	"	"
		"	127	"			GND						"	"							OUT			"	$\overline{\text{OC}}$ to 3 $\overline{\text{Q}}$	"	"	"
		"	128	"				GND					"	"					OUT					"	$\overline{\text{OC}}$ to 4 $\overline{\text{Q}}$	"	"	"
		"	129	"					GND				"	"					OUT					"	$\overline{\text{OC}}$ to 5 $\overline{\text{Q}}$	"	"	"
		"	130	"						GND			"	"				OUT						"	$\overline{\text{OC}}$ to 6 $\overline{\text{Q}}$	"	"	"
		"	131	"							GND		"	"			OUT							"	$\overline{\text{OC}}$ to 7 $\overline{\text{Q}}$	"	"	"
		"	132	"								GND	"	"	OUT									"	$\overline{\text{OC}}$ to 8 $\overline{\text{Q}}$	"	"	"
	t _{PZL}	"	133	"	4.5 V								"	"									OUT	"	$\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$	"	"	"
		"	134	"		4.5 V							"	"								OUT		"	$\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$	"	"	"
		"	135	"			4.5 V						"	"							OUT			"	$\overline{\text{OC}}$ to 3 $\overline{\text{Q}}$	"	"	"
		"	136	"				4.5 V					"	"					OUT					"	$\overline{\text{OC}}$ to 4 $\overline{\text{Q}}$	"	"	"
		"	137	"					4.5 V				"	"					OUT					"	$\overline{\text{OC}}$ to 5 $\overline{\text{Q}}$	"	"	"
		"	138	"						4.5 V			"	"				OUT						"	$\overline{\text{OC}}$ to 6 $\overline{\text{Q}}$	"	"	"
		"	139	"							4.5 V		"	"			OUT							"	$\overline{\text{OC}}$ to 7 $\overline{\text{Q}}$	"	"	"
		"	140	"								4.5 V	"	"	OUT									"	$\overline{\text{OC}}$ to 8 $\overline{\text{Q}}$	"	"	"
	t _{PHZ}	"	141	"	GND								"	"									OUT	"	$\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$	2	18	"
		"	142	"		GND							"	"								OUT		"	$\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$	"	"	"
		"	143	"			GND						"	"							OUT			"	$\overline{\text{OC}}$ to 3 $\overline{\text{Q}}$	"	"	"
		"	144	"				GND					"	"					OUT					"	$\overline{\text{OC}}$ to 4 $\overline{\text{Q}}$	"	"	"
		"	145	"					GND				"	"					OUT					"	$\overline{\text{OC}}$ to 5 $\overline{\text{Q}}$	"	"	"
		"	146	"						GND			"	"				OUT						"	$\overline{\text{OC}}$ to 6 $\overline{\text{Q}}$	"	"	"
		"	147	"							GND		"	"			OUT							"	$\overline{\text{OC}}$ to 7 $\overline{\text{Q}}$	"	"	"
		"	148	"									GND	"	"	OUT								"	$\overline{\text{OC}}$ to 8 $\overline{\text{Q}}$	"	"	"

See footnotes at end of device type 02.

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, 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
				$\overline{\text{OC}}$	1D	2D	3D	4D	5D	6D	7D	8D	GND	ENC	8Q	7Q	6Q	5Q	4Q	3Q	2Q	1Q	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PLZ}	3003	149	IN	4.5 V								GND	4.5 V								OUT	5.0 V	$\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$	3	13	ns
		Fig. 4	150	"		4.5 V							"	"							OUT		"	$\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$	"	"	"
			151	"			4.5 V						"	"						OUT			"	$\overline{\text{OC}}$ to 3 $\overline{\text{Q}}$	"	"	"
			152	"				4.5 V					"	"					OUT				"	$\overline{\text{OC}}$ to 4 $\overline{\text{Q}}$	"	"	"
			153	"					4.5 V				"	"					OUT				"	$\overline{\text{OC}}$ to 5 $\overline{\text{Q}}$	"	"	"
			154	"						4.5 V			"	"				OUT					"	$\overline{\text{OC}}$ to 6 $\overline{\text{Q}}$	"	"	"
			155	"							4.5 V		"	"			OUT						"	$\overline{\text{OC}}$ to 7 $\overline{\text{Q}}$	"	"	"
			156	"								4.5 V	"	"	OUT								"	$\overline{\text{OC}}$ to 8 $\overline{\text{Q}}$	"	"	"
10	t _{PLH2}	Same tests, terminal conditions as for subgroup 9, except T _C = +125°C.																							8	29	"
	t _{PHL2}																								8	22	"
	t _{PLH3}																								3	21	"
	t _{PHL3}																								3	15	"
	t _{PZH}																								4	21	"
	t _{PZL}																								4	21	"
	t _{PHZ}																								2	10	"
11	t _{PLZ}	Same tests, terminal conditions, and limits as for subgroup 10, except T _c = -55°C.																							3	15	"

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

Test	Min/Max limits in μA for circuit		
	A	B	C
I _{IL}	0/-100	0/-100	0/-200

2/ Method 3011 shall be used, except the output voltage shall be as specified herein, and the output current shall be operating rather than short circuit current. The output conditions have been chosen to produce a current that closely approximates one-half of the true short circuit output current I_{OS}.

3/ I_O limits for circuit C shall be -70 to -110 mA.

4/ Tests shall be performed in sequence, attributes data only.

5/ Outputs shall be high ≥ 1.5 V; low ≤ 1.5 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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 CLR	1 $\overline{\text{OC}}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{\text{OC}}$	GND		Min	Max	
1 T _c = 25°C	V _{OH}	3006	1	2.0 V	0.8 V	2.0 V									GND	1Q1	2.4		V
		"	2	"	"		2.0 V									1Q2	"		"
		"	3	"	"			2.0 V								1Q3	"		"
		"	4	"	"				2.0 V							1Q4	"		"
		"	5							2.0 V				0.8 V		2Q1	"		"
		"	6								2.0 V			"		2Q2	"		"
		"	7									2.0 V		"		2Q3	"		"
		"	8										2.0 V	"		2Q4	"		"
	V _{OL}	3007	9	2.0 V	0.8 V	0.8 V										1Q1		0.4	"
		"	10	"	"		0.8 V									1Q2			"
		"	11	"	"			0.8 V								1Q3			"
		"	12	"	"				0.8 V							1Q4			"
		"	13							0.8 V				0.8 V		2Q1			"
		"	14								0.8 V			"		2Q2			"
		"	15									0.8 V		"		2Q3			"
		"	16										0.8 V	"		2Q4			"
		"	17	0.8 V	0.8 V											1Q1			"
		"	18	"	"											1Q2			"
		"	19	"	"											1Q3			"
		"	20	"	"											1Q4			"
		"	21											0.8 V		2Q1			"
		"	22											"		2Q2			"
		"	23											"		2Q3			"
		"	24											"		2Q4			"
	V _{IC}		25	-18 mA												1 CLR		-1.5	"
			26		-18 mA											1 OC			"
			27			-18 mA										1D1			"
			28				-18 mA									1D2			"
			29					-18 mA								1D3			"
			30						-18 mA							1D4			"
			31							-18 mA						2D1			"
			32								-18 mA					2D2			"
			33									-18 mA				2D3			"
			34										-18 mA			2D4			"
			35											-18 mA		2 OC			"
			36													2 CLR			"
			37													EN2C			"
			38													EN1C			"
	I _{IL}	3009	39	0.4 V												1 CLR	2/	2/	μA
		"	40		0.4 V											1 OC	"	"	"
		"	41			0.4 V										1D1	"	"	"
		"	42				0.4 V									1D2	"	"	"
		"	43					0.4 V								1D3	"	"	"
		"	44						0.4 V							1D4	"	"	"
		"	45							0.4 V						2D1	"	"	"
		"	46								0.4 V					2D2	"	"	"
		"	47									0.4 V				2D3	"	"	"
		"	48										0.4 V			2D4	"	"	"
		"	49											0.4 V		2 OC	"	"	"
		"	50													2 CLR	"	"	"
		"	51													EN2C	"	"	"
		"	52													EN1C	"	"	"

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 method	Cases K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 CLR	EN2C	2Q4	2Q3	2Q2	2Q1	1Q4	1Q3	1Q2	1Q1	EN1C	V _{CC}		Min	Max	
1 T _c = 25°C	V _{OH}	3006	1										-1.0 mA	2.0 V	4.5 V	1Q1	2.4		V
			2									-1.0 mA				1Q2			
			3								-1.0 mA					1Q3			
			4							-1.0 mA						1Q4			
			5	2.0 V	2.0 V				-1.0 mA							2Q1			
			6	"	"			-1.0 mA								2Q2			
			7	"	"		-1.0 mA									2Q3			
			8	"	"	-1.0 mA										2Q4			
	V _{OL}	3007	9										12 mA	2.0 V	"	1Q1		0.4	"
			10									12 mA			"	1Q2			"
			11								12 mA			"	"	1Q3			"
			12							12 mA				"	"	1Q4			"
			13	2.0 V	2.0 V				12 mA						"	2Q1			"
			14	"	"			12 mA							"	2Q2			"
			15	"	"		12 mA								"	2Q3			"
			16	"	"	12 mA							12 mA	2.0 V	"	2Q4			"
			17												"	1Q1			"
			18									12 mA			"	1Q2			"
			19								12 mA			"	"	1Q3			"
			20							12 mA				"	"	1Q4			"
			21	0.8 V	2.0 V				12 mA						"	2Q1			"
			22	"	"			12 mA							"	2Q2			"
			23	"	"		12 mA								"	2Q3			"
			24	"	"	12 mA									"	2Q4			"
	V _{IC}		25												"	1 CLR		-1.5	"
			26												"	1 OC			"
			27												"	1D1			"
			28												"	1D2			"
			29												"	1D3			"
			30												"	1D4			"
			31												"	2D1			"
			32												"	2D2			"
			33												"	2D3			"
			34												"	2D4			"
			35												"	2 OC			"
			36	-18 mA											"	2 CLR			"
			37		-18 mA										"	EN2C			"
			38											-18 mA	"	EN1C			"
	I _{IL}	3009	39												5.5 V	1 CLR	2/	2/	μA
			40												"	1 OC			"
			41												"	1D1			"
			42												"	1D2			"
			43												"	1D3			"
			44												"	1D4			"
			45												"	2D1			"
			46												"	2D2			"
			47												"	2D3			"
			48												"	2D4			"
			49												"	2 OC			"
			50	0.4 V											"	2 CLR			"
			51		0.4 V										"	EN2C			"
			52											0.4 V	"	EN1C			"

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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 CLR	1 $\overline{\text{OC}}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{\text{OC}}$	GND		Min	Max	
1 Tc = 25°C	I _{IHL}	3010	53	2.7 V											GND	1 CLR		20	μA
		"	54		2.7 V										"	1 $\overline{\text{OC}}$		"	"
		"	55			2.7 V									"	1D1		"	"
		"	56				2.7 V								"	1D2		"	"
		"	57					2.7 V							"	1D3		"	"
		"	58						2.7 V						"	1D4		"	"
		"	59							2.7 V					"	2D1		"	"
		"	60								2.7 V				"	2D2		"	"
		"	61									2.7 V			"	2D3		"	"
		"	62										2.7 V		"	2D4		"	"
		"	63											2.7 V	"	2 $\overline{\text{OC}}$		"	"
		"	64												"	2 CLR		"	"
		"	65												"	EN2C		"	"
		"	66												"	EN1C		"	"
	I _{IH2}	"	67	7.0 V											"	1 CLR		100	"
		"	68		7.0 V										"	1 $\overline{\text{OC}}$		"	"
		"	69			7.0 V									"	1D1		"	"
		"	70				7.0 V								"	1D2		"	"
		"	71					7.0 V							"	1D3		"	"
		"	72						7.0 V						"	1D4		"	"
		"	73							7.0 V					"	2D1		"	"
		"	74								7.0 V				"	2D2		"	"
		"	75									7.0 V			"	2D3		"	"
		"	76										7.0 V		"	2D4		"	"
		"	77											7.0 V	"	2 $\overline{\text{OC}}$		"	"
		"	78												"	2 CLR		"	"
		"	79												"	EN2C		"	"
		"	80												"	EN1C		"	"
	I _{O 3/}	3011	81	5.0 V	GND	5.0 V									"	1Q1	-15 4/	-70 4/	mA
		"	82	"	"		5.0 V								"	1Q2	"	"	"
		"	83	"	"			5.0 V							"	1Q3	"	"	"
		"	84	"	"				5.0 V						"	1Q4	"	"	"
		"	85							5.0 V					"	2Q1	"	"	"
		"	86								5.0 V				"	2Q2	"	"	"
		"	87									5.0 V		"	"	2Q3	"	"	"
		"	88										5.0 V	"	"	2Q4	"	"	"
	I _{OZH}		89	5.0 V	5.0 V	2.0 V									"	1Q1		20	μA
			90	"	"		2.0 V								"	1Q2		"	"
			91	"	"			2.0 V							"	1Q3		"	"
			92	"	"				2.0 V						"	1Q4		"	"
			93							2.0 V					"	2Q1		"	"
			94								2.0 V				"	2Q2		"	"
			95									2.0 V		"	"	2Q3		"	"
			96										2.0 V	"	"	2Q4		"	"

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 method	Cases K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit	
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28		Min	Max		
			Test no.	2 CLR	EN2C	2Q4	2Q3	2Q2	2Q1	1Q4	1Q3	1Q2	1Q1	EN1C	V _{CC}					
1 T _C = 25°C	I _{IHL}	3010	53												5.5 V	1 $\overline{\text{CLR}}$		20	μA	
		"	54												"	1 $\overline{\text{OC}}$		"	"	
		"	55												"	1D1		"	"	
		"	56												"	1D2		"	"	
		"	57												"	1D3		"	"	
		"	58												"	1D4		"	"	
		"	59												"	2D1		"	"	
		"	60												"	2D2		"	"	
		"	61												"	2D3		"	"	
		"	62												"	2D4		"	"	
		"	63												"	2 $\overline{\text{OC}}$		"	"	
		"	64	2.7 V											"	2 CLR		"	"	
		"	65		2.7 V										"	EN2C		"	"	
		"	66											2.7 V	"	EN1C		"	"	
	I _{IH2}	"	67													"	1 CLR		100	"
		"	68													"	1 $\overline{\text{OC}}$		"	"
		"	69													"	1D1		"	"
		"	70													"	1D2		"	"
		"	71													"	1D3		"	"
		"	72													"	1D4		"	"
		"	73													"	2D1		"	"
		"	74													"	2D2		"	"
		"	75													"	2D3		"	"
		"	76													"	2D4		"	"
		"	77													"	2 $\overline{\text{OC}}$		"	"
		"	78	7.0 V												"	2 CLR		"	"
		"	79		7.0 V											"	EN2C		"	"
		"	80													"	EN1C		"	"
	I _{O 3/}	3011	81											2.25 V	5.0 V	"	1Q1	-15 4/	-70 4/	mA
		"	82										2.25 V		"	"	1Q2	"	"	"
		"	83									2.25 V			"	"	1Q3	"	"	"
		"	84								2.25 V				"	"	1Q4	"	"	"
		"	85	5.0 V	5.0 V				2.25 V							"	2Q1	"	"	"
		"	86	"	"			2.25 V								"	2Q2	"	"	"
"		87	"	"		2.25 V									"	2Q3	"	"	"	
"		88	"	"	2.25 V										"	2Q4	"	"	"	
I _{OZH}		89											2.7 V	5.0 V	"	1Q1		20	μA	
		90										2.7 V		"	"	1Q2		"	"	
		91									2.7 V			"	"	1Q3		"	"	
		92								2.7 V				"	"	1Q4		"	"	
		93	5.0 V	5.0 V				2.7 V							"	2Q1		"	"	
		94	"	"			2.7 V								"	2Q2		"	"	
		95	"	"		2.7 V									"	2Q3		"	"	
		96	"	"	2.7 V										"	2Q4		"	"	

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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14		Min	Max	
			Test no.	1 CL $\overline{\text{R}}$	1 OC	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 OC	GND				
1 T $_c$ = 25°C	I $_{\text{OZ}}$		97	5.0 V	5.0 V	0.8 V									GND	1Q1		-20	μA
			98	"	"		0.8 V							"	1Q2		"	"	
			99	"	"			0.8 V						"	1Q3		"	"	
			100	"	"				0.8 V					"	1Q4		"	"	
			101							0.8 V				5.0 V	"	2Q1		"	"
			102								0.8 V			"	"	2Q2		"	"
			103									0.8 V		"	"	2Q3		"	"
			104										0.8 V	"	"	2Q4		"	"
	I $_{\text{CCH}}$	3005	105	5.0 V	GND	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	GND	"	V $_{\text{CC}}$		21	mA	
I $_{\text{CCL}}$	"	106	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	"	"		29	"		
I $_{\text{CCZ}}$	"	107	GND	5.0 V	GND	GND	GND	GND	GND	GND	GND	GND	5.0 V	"	"		31	"	
2	Same tests, terminal conditions, and limits as for subgroup 1, except T $_c$ = +125°C and V $_{\text{IC}}$ tests are omitted.																		
3	Same tests, terminal conditions, and limits as for subgroup 1, except T $_c$ = -55°C and V $_{\text{IC}}$ tests are omitted.																		
7 5/ T $_c$ = 25°C	Truth table tests	3014	108	A	B	A	A	A	A	A	A	A	A	B	GND	All outputs	6/	6/	
			109	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	
			110	"	"	A	A	A	A	A	A	A	A	"	"	"	"	"	
			111	"	"	A	A	A	A	A	A	A	A	"	"	"	"	"	
			112	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	
			113	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			114	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			115	"	"	A	A	A	A	A	A	A	A	"	"	"	"	"	
			116	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			117	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			118	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			119	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			120	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			121	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
			122	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	
			123	"	"	A	A	A	A	A	A	A	A	"	"	"	"	"	
124	B	"	A	A	A	A	A	A	A	A	"	"	"	"	"				
8	Same tests, terminal conditions, and limits as for subgroup 7, except T $_c$ = +125°C and -55°C.																		
9 T $_c$ = 25°C	t $_{\text{PHL1}}$	3003 Fig. 4	125	IN	GND	4.5 V									GND	1 CL $\overline{\text{R}}$ to 1Q1	6	24	ns
			126	"	"		4.5 V							"	1 CL $\overline{\text{R}}$ to 1Q2	"	"	"	
			127	"	"			4.5 V						"	1 CL $\overline{\text{R}}$ to 1Q3	"	"	"	
			128	"	"				4.5 V					"	1 CL $\overline{\text{R}}$ to 1Q4	"	"	"	
			129							4.5 V				GND	"	2 CL $\overline{\text{R}}$ to 2Q1	"	"	"
			130								4.5 V			"	"	2 CL $\overline{\text{R}}$ to 2Q2	"	"	"
			131									4.5 V		"	"	2 CL $\overline{\text{R}}$ to 2Q3	"	"	"
			132										4.5 V	"	"	2 CL $\overline{\text{R}}$ to 2Q4	"	"	"
	t $_{\text{PLH2}}$	"	133	4.5 V	GND	4.5 V									"	EN1C to 1Q1	6	22	"
			134	"	"		4.5 V							"	EN1C to 1Q2	"	"	"	
			135	"	"			4.5 V						"	EN1C to 1Q3	"	"	"	
			136	"	"				4.5 V					"	EN1C to 1Q4	"	"	"	
			137							4.5 V				GND	"	EN2C to 2Q1	"	"	"
			138								4.5 V			"	"	EN2C to 2Q2	"	"	"
			139									4.5 V		"	"	EN2C to 2Q3	"	"	"
			140										4.5 V	"	"	EN2C to 2Q4	"	"	"

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 method	Cases K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit	
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28		Min	Max		
			Test no.	2 CLR	EN2C	2Q4	2Q3	2Q2	2Q1	1Q4	1Q3	1Q2	1Q1	EN1C	V _{CC}					
1 T _C = 25°C	I _{OL}		97										0.4 V	5.0 V	5.5 V	1Q1		-20	μA	
			98									0.4 V			"	"	1Q2		"	"
			99									0.4 V			"	"	1Q3		"	"
			100								0.4 V				"	"	1Q4		"	"
			101	5.0 V	5.0 V				0.4 V						"	"	2Q1		"	"
			102	"	"				0.4 V						"	"	2Q2		"	"
			103	"	"			0.4 V							"	"	2Q3		"	"
			104	"	"	0.4 V									"	"	2Q4		"	"
	I _{CCH}	3005	105	"	"	0.4 V							5.0 V	"	V _{CC}		21	mA		
I _{CCL}	"	106	GND	"									"	"	V _{CC}		29	"		
I _{CCZ}	"	107	GND										"	"	V _{CC}		31	"		
2	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																			
3	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																			
7 T _C = 25°C	Truth table tests	3014	108	A	H	H	H	H	H	H	H	H	H	A	5.0 V	All outputs	6/	6/		
			109	"	L	L	L	L	L	L	L	L	L	"	"	"	"	"		
			110	"	H	H	H	H	H	H	H	H	H	"	"	"	"	"		
			111	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"		"
			112	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"		"
			113	"	L	L	L	L	L	L	L	L	L	A	"	"	"	"		"
			114	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"		"
			115	"	"	"	"	"	"	"	"	"	"	"	B	"	"	"		"
			116	"	H	H	H	H	H	H	H	H	H	A	"	"	"	"		"
			117	B	L	L	L	L	L	L	L	L	L	A	"	"	"	"		"
			118	A	H	H	H	H	H	H	H	H	H	A	"	"	"	"		"
			119	A	H	H	H	H	H	H	H	H	H	B	"	"	"	"		"
			120	B	L	L	L	L	L	L	L	L	L	B	"	"	"	"		"
			121	A	H	H	H	H	H	H	H	H	H	A	"	"	"	"		"
			122	A	L	L	L	L	L	L	L	L	L	"	"	"	"	"		"
			123	A	H	H	H	H	H	H	H	H	H	"	"	"	"	"		"
			124	B	L	L	L	L	L	L	L	L	L	"	"	"	"	"		"
8	Same tests, terminal conditions, and limits as for subgroup 7, except T _C = +125°C and -55°C.																			
9 T _C = 25°C	t _{PHL1}	3003 Fig. 4	125										OUT	4.5 V	5.0 V	1 CLR to 1Q1	6	24	ns	
			126									OUT		"	"	1 CLR to 1Q2	"	"	"	
			127								OUT			"	"	1 CLR to 1Q3	"	"	"	
			128							OUT				"	"	1 CLR to 1Q4	"	"	"	
			129	IN	4.5 V				OUT					"	"	2 CLR to 2Q1	"	"	"	
			130	"	"			OUT						"	"	2 CLR to 2Q2	"	"	"	
			131	"	"		OUT							"	"	2 CLR to 2Q3	"	"	"	
			132	"	"	OUT								"	"	2 CLR to 2Q4	"	"	"	
	t _{PLH2}		133											OUT	IN	"	EN1C to 1Q1	6	22	"
			134									OUT		"	"	EN1C to 1Q2	"	"	"	
			135									OUT		"	"	EN1C to 1Q3	"	"	"	
			136								OUT			"	"	EN1C to 1Q4	"	"	"	
			137	4.5 V	IN				OUT					"	"	EN2C to 2Q1	"	"	"	
			138	"	"			OUT						"	"	EN2C to 2Q2	"	"	"	
			139	"	"		OUT							"	"	EN2C to 2Q3	"	"	"	
			140	"	"	OUT								"	"	EN2C to 2Q4	"	"	"	

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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 CLR	1 $\overline{OC}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{OC}$	GND		Min	Max	
9 Tc = 25°C	t _{PHL2}	3003 Fig. 4	141	4.5 V	GND	GND									GND	EN1C to 1Q1	6	21	ns
			142	"	"		GND									"	EN1C to 1Q2	"	"
			143	"	"			GND								"	EN1C to 1Q3	"	"
			144	"	"				GND							"	EN1C to 1Q4	"	"
			145							GND				GND		"	EN2C to 2Q1	"	"
			146								GND				"	"	EN2C to 2Q2	"	"
			147									GND			"	"	EN2C to 2Q3	"	"
			148										GND		"	"	EN2C to 2Q4	"	"
	t _{PLH3}	"	149	4.5 V	GND	IN									"	1D1 to 1Q1	2	12	"
			150	"	"		IN								"	1D2 to 1Q2	"	"	"
			151	"	"			IN							"	1D3 to 1Q3	"	"	"
			152	"	"				IN						"	1D4 to 1Q4	"	"	"
			153							IN				GND	"	2D1 to 2Q1	"	"	"
			154								IN			"	"	2D2 to 2Q2	"	"	"
			155									IN		"	"	2D3 to 2Q3	"	"	"
			156										IN	"	"	2D4 to 2Q4	"	"	"
	t _{PHL3}	"	157	4.5 V	GND	IN									"	1D1 to 1Q1	"	"	"
			158	"	"		IN								"	1D2 to 1Q2	"	"	"
			159	"	"			IN							"	1D3 to 1Q3	"	"	"
			160	"	"				IN						"	1D4 to 1Q4	"	"	"
			161							IN				GND	"	2D1 to 2Q1	"	"	"
			162								IN			"	"	2D2 to 2Q2	"	"	"
			163									IN		"	"	2D3 to 2Q3	"	"	"
			164										IN	"	"	2D4 to 2Q4	"	"	"
	t _{PZH}	"	165	4.5 V	IN	4.5 V									"	1 $\overline{OC}$ to 1Q1	4	18	"
			166	"	"		4.5 V								"	1 $\overline{OC}$ to 1Q2	"	"	"
			167	"	"			4.5 V							"	1 $\overline{OC}$ to 1Q3	"	"	"
			168	"	"				4.5 V						"	1 $\overline{OC}$ to 1Q4	"	"	"
			169							4.5 V				IN	"	2 $\overline{OC}$ to 2Q1	"	"	"
			170								4.5 V			"	"	2 $\overline{OC}$ to 2Q2	"	"	"
			171									4.5 V		"	"	2 $\overline{OC}$ to 2Q3	"	"	"
			172										4.5 V	"	"	2 $\overline{OC}$ to 2Q4	"	"	"
	t _{PZL}	"	173	4.5 V	IN	4.5 V									"	1 $\overline{OC}$ to 1Q1	3	13	"
			174	"	"		4.5 V								"	1 $\overline{OC}$ to 1Q2	"	"	"
			175	"	"			4.5 V							"	1 $\overline{OC}$ to 1Q3	"	"	"
			176	"	"				4.5 V						"	1 $\overline{OC}$ to 1Q4	"	"	"
			177							4.5 V				IN	"	2 $\overline{OC}$ to 2Q1	"	"	"
			178								4.5 V			"	"	2 $\overline{OC}$ to 2Q2	"	"	"
			179									4.5 V		"	"	2 $\overline{OC}$ to 2Q3	"	"	"
			180										4.5 V	"	"	2 $\overline{OC}$ to 2Q4	"	"	"

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 method	Cases K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 CLR	EN2C	2Q4	2Q3	2Q2	2Q1	1Q4	1Q3	1Q2	1Q1	EN1C	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PHL2}	3003 Fig. 4	141										OUT	IN	5.0 V	EN1C to 1Q1	6	21	ns
			142									OUT				EN1C to 1Q2	"	"	"
			143								OUT			"	"	EN1C to 1Q3	"	"	"
			144							OUT				"	"	EN1C to 1Q4	"	"	"
			145	4.5 V	IN				OUT							EN2C to 2Q1	"	"	"
			146	"	"			OUT							"	EN2C to 2Q2	"	"	"
			147	"	"		OUT								"	EN2C to 2Q3	"	"	"
			148	"	"	OUT									"	EN2C to 2Q4	"	"	"
	t _{PLH3}	"	149										OUT	IN	"	1D1 to 1Q1	2	12	"
			150									OUT		"	"	1D2 to 1Q2	"	"	"
			151								OUT			"	"	1D3 to 1Q3	"	"	"
			152							OUT				"	"	1D4 to 1Q4	"	"	"
			153	4.5 V	IN				OUT						"	2D1 to 2Q1	"	"	"
			154	"	"			OUT							"	2D2 to 2Q2	"	"	"
			155	"	"		OUT								"	2D3 to 2Q3	"	"	"
			156	"	"	OUT									"	2D4 to 2Q4	"	"	"
	t _{PHL3}	"	157										OUT	IN	"	1D1 to 1Q1	"	"	"
			158									OUT		"	"	1D2 to 1Q2	"	"	"
			159								OUT			"	"	1D3 to 1Q3	"	"	"
			160							OUT				"	"	1D4 to 1Q4	"	"	"
			161	4.5 V	IN				OUT						"	2D1 to 2Q1	"	"	"
			162	"	"			OUT							"	2D2 to 2Q2	"	"	"
			163	"	"		OUT								"	2D3 to 2Q3	"	"	"
			164	"	"	OUT									"	2D4 to 2Q4	"	"	"
	t _{PZH}	"	165										OUT	4.5 V	"	1 OC to 1Q1	4	18	"
			166									OUT		"	"	1 OC to 1Q2	"	"	"
			167								OUT			"	"	1 OC to 1Q3	"	"	"
			168							OUT				"	"	1 OC to 1Q4	"	"	"
			169	4.5 V	4.5 V				OUT						"	2 OC to 2Q1	"	"	"
			170	"	"			OUT							"	2 OC to 2Q2	"	"	"
			171	"	"		OUT								"	2 OC to 2Q3	"	"	"
			172	"	"	OUT									"	2 OC to 2Q4	"	"	"
	t _{PZL}	"	173										OUT	2/	"	1 OC to 1Q1	2	13	"
			174									OUT		"	"	1 OC to 1Q2	"	"	"
			175								OUT			"	"	1 OC to 1Q3	"	"	"
			176							OUT				"	"	1 OC to 1Q4	"	"	"
			177	4.5 V	4.5 V				OUT						"	2 OC to 2Q1	"	"	"
			178	"	"			OUT							"	2 OC to 2Q2	"	"	"
			179	"	"		OUT								"	2 OC to 2Q3	"	"	"
			180	"	"	OUT									"	2 OC to 2Q4	"	"	"

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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 <u>1</u> /	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 CLR	1 $\overline{\text{OC}}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{\text{OC}}$	GND		Min	Max	
9 T _C = 25°C	t _{PHZ}	3003 Fig. 4	181	4.5 V	IN	4.5 V									GND	1 $\overline{\text{OC}}$ to 1Q1	2	8	ns
			182	"	"		4.5 V								"	1 $\overline{\text{OC}}$ to 1Q2	"	"	"
			183	"	"			4.5 V							"	1 $\overline{\text{OC}}$ to 1Q3	"	"	"
			184	"	"				4.5 V						"	1 $\overline{\text{OC}}$ to 1Q4	"	"	"
			185							4.5 V				IN	"	2 $\overline{\text{OC}}$ to 2Q1	"	"	"
			186								4.5 V			"	"	2 $\overline{\text{OC}}$ to 2Q2	"	"	"
			187									4.5 V		"	"	2 $\overline{\text{OC}}$ to 2Q3	"	"	"
			188										4.5 V	"	"	2 $\overline{\text{OC}}$ to 2Q4	"	"	"
	t _{PLZ}	"	189	4.5 V	IN	GND									"	1 $\overline{\text{OC}}$ to 1Q1	2	13	"
			190	"	"		GND								"	1 $\overline{\text{OC}}$ to 1Q2	"	"	"
			191	"	"			GND							"	1 $\overline{\text{OC}}$ to 1Q3	"	"	"
			192	"	"				GND						"	1 $\overline{\text{OC}}$ to 1Q4	"	"	"
			193							GND				IN	"	2 $\overline{\text{OC}}$ to 2Q1	"	"	"
			194								GND			"	"	2 $\overline{\text{OC}}$ to 2Q2	"	"	"
			195									GND		"	"	2 $\overline{\text{OC}}$ to 2Q3	"	"	"
			196										GND	"	"	2 $\overline{\text{OC}}$ to 2Q4	"	"	"
10	t _{PHL1}	Same tests and terminal conditions as for subgroup 9, except T _C = +125°C.															6	24	"
	t _{PLH2}																8	29	"
	t _{PHL2}																8	22	"
	t _{PLH3}																2	15	"
	t _{PHL3}																2	15	"
	t _{PZH}																4	21	"
	t _{PZL}																4	21	"
	t _{PHZ}																2	10	"
11	t _{PLZ}	Same tests and terminal conditions as for subgroup 10, except T _C = -55°C.															2	15	"

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 method	Cases K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 CLR	EN2C	2Q4	2Q3	2Q2	2Q1	1Q4	1Q3	1Q2	1Q1	EN1C	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PHZ}	3003 Fig. 4	181										OUT	2/	5.0 V	1 $\overline{OC}$ to 1Q1	2	8	ns
			182									OUT		"	"	1 $\overline{OC}$ to 1Q2	"	"	"
			183								OUT			"	"	1 $\overline{OC}$ to 1Q3	"	"	"
			184							OUT				"	"	1 $\overline{OC}$ to 1Q4	"	"	"
			185	4.5 V	4.5 V				OUT						"	2 $\overline{OC}$ to 2Q1	"	"	"
			186	"	"			OUT							"	2 $\overline{OC}$ to 2Q2	"	"	"
			187	"	"		OUT								"	2 $\overline{OC}$ to 2Q3	"	"	"
			188	"	"	OUT									"	2 $\overline{OC}$ to 2Q4	"	"	"
	t _{PLZ}	"	189										OUT	4.5 V	"	1 $\overline{OC}$ to 1Q1	2	13	"
			190									OUT		"	"	1 $\overline{OC}$ to 1Q2	"	"	"
			191								OUT			"	"	1 $\overline{OC}$ to 1Q3	"	"	"
			192							OUT				"	"	1 $\overline{OC}$ to 1Q4	"	"	"
			193	4.5 V	4.5 V				OUT						"	2 $\overline{OC}$ to 2Q1	"	"	"
			194	"	"			OUT							"	2 $\overline{OC}$ to 2Q2	"	"	"
			195	"	"		OUT								"	2 $\overline{OC}$ to 2Q3	"	"	"
			196	"	"	OUT									"	2 $\overline{OC}$ to 2Q4	"	"	"
10	t _{PHL1}	Same tests and terminal conditions as for subgroup 9, except T _c = +125°C.															6	24	"
	t _{PLH2}																8	29	"
	t _{PHL2}																8	22	"
	t _{PLH3}																2	15	"
	t _{PHL3}																2	15	"
	t _{PZH}																4	21	"
	t _{PZL}																4	21	"
	t _{PHZ}																2	10	"
11	t _{PLZ}	Same tests and terminal conditions as for subgroup 10, except T _c = -55°C.															2	15	"

1/ Pins not referenced are N/C.

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

Test	Min/Max limits in μ A for circuit		
	A	B	C
I _{IL}	0/-100	0/-100	0/-200

3/ Method 3011 shall be used, except the output voltage shall be as specified herein, and the output current shall be operating rather than short circuit current. The output conditions have been chosen to produce a current that closely approximates one-half of the true short circuit output current I_{OS}.

4/ I_O limits for circuit C shall be -70 to -110 mA.

5/ Tests shall be performed in sequence, attributes data only.

6/ Outputs shall be high ≥ 1.5 V; low ≤ 1.5 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 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 J/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 PRE	1 $\overline{OC}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{OC}$	GND		Min	Max	
1 Tc = 25°C	V _{OH}	3006	1	2.0 V	0.8 V	0.8 V									GND	1 $\overline{Q}$ 1	2.4		V
		"	2	"	"		0.8 V								"	1 $\overline{Q}$ 2	"		"
		"	3	"	"			0.8 V							"	1 $\overline{Q}$ 3	"		"
		"	4	"	"				0.8 V						"	1 $\overline{Q}$ 4	"		"
		"	5							0.8 V				0.8 V	"	2 $\overline{Q}$ 1	"		"
		"	6								0.8 V			"	"	2 $\overline{Q}$ 2	"		"
		"	7									0.8 V		"	"	2 $\overline{Q}$ 3	"		"
		"	8										0.8 V	"	"	2 $\overline{Q}$ 4	"		"
	V _{OL}	3007	9	2.0 V	0.8 V	2.0 V									"	1 $\overline{Q}$ 1		0.4	"
		"	10	"	"		2.0 V								"	1 $\overline{Q}$ 2		"	"
		"	11	"	"			2.0 V							"	1 $\overline{Q}$ 3		"	"
		"	12	"	"				2.0 V						"	1 $\overline{Q}$ 4		"	"
		"	13							2.0 V				0.8 V	"	2 $\overline{Q}$ 1		"	"
		"	14								2.0 V			"	"	2 $\overline{Q}$ 2		"	"
		"	15									2.0 V		"	"	2 $\overline{Q}$ 3		"	"
		"	16										2.0 V	"	"	2 $\overline{Q}$ 4		"	"
		"	17	0.8 V	0.8 V										"	1 $\overline{Q}$ 1		"	"
		"	18	"	"										"	1 $\overline{Q}$ 2		"	"
		"	19	"	"										"	1 $\overline{Q}$ 3		"	"
		"	20	"	"										"	1 $\overline{Q}$ 4		"	"
		"	21											0.8 V	"	2 $\overline{Q}$ 1		"	"
		"	22											"	"	2 $\overline{Q}$ 2		"	"
		"	23											"	"	2 $\overline{Q}$ 3		"	"
		"	24											"	"	2 $\overline{Q}$ 4		"	"
	V _{IC}		25	-18 mA											"	1 PRE		-1.5	"
			26		-18 mA										"	1 $\overline{OC}$		"	"
			27			-18 mA									"	1D1		"	"
			28				-18 mA								"	1D2		"	"
			29					-18 mA							"	1D3		"	"
			30						-18 mA						"	1D4		"	"
			31							-18 mA					"	2D1		"	"
			32								-18 mA				"	2D2		"	"
			33									-18 mA			"	2D3		"	"
			34										-18 mA		"	2D4		"	"
			35											-18 mA	"	2 $\overline{OC}$		"	"
			36												"	2 PRE		"	"
			37												"	EN2C		"	"
			38												"	EN1C		"	"

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 PRE	EN2C	2 $\bar{Q}$ 4	2 $\bar{Q}$ 3	2 $\bar{Q}$ 2	2 $\bar{Q}$ 1	1 $\bar{Q}$ 4	1 $\bar{Q}$ 3	1 $\bar{Q}$ 2	1 $\bar{Q}$ 1	EN1C	V _{CC}		Min	Max	
1 T _c = 25°C	V _{OH}	3006	1										-1.0 mA	2.0 V	4.5 V	1 $\bar{Q}$ 1	2.4		V
		"	2									-1.0 mA		"	"	1 $\bar{Q}$ 2	"		"
		"	3								-1.0 mA			"	"	1 $\bar{Q}$ 3	"		"
		"	4							-1.0 mA				"	"	1 $\bar{Q}$ 4	"		"
		"	5	2.0 V	2.0 V				-1.0 mA						"	2 $\bar{Q}$ 1	"		"
		"	6	"	"			-1.0 mA							"	2 $\bar{Q}$ 2	"		"
		"	7	"	"		-1.0 mA								"	2 $\bar{Q}$ 3	"		"
		"	8	"	"	-1.0 mA									"	2 $\bar{Q}$ 4	"		"
	V _{OL}	3007	9										12 mA	2.0 V	"	1 $\bar{Q}$ 1		0.4	"
		"	10									12 mA		"	"	1 $\bar{Q}$ 2		"	"
		"	11								12 mA			"	"	1 $\bar{Q}$ 3		"	"
		"	12							12 mA				"	"	1 $\bar{Q}$ 4		"	"
		"	13	2.0 V	2.0 V				12 mA						"	2 $\bar{Q}$ 1		"	"
		"	14	"	"			12 mA							"	2 $\bar{Q}$ 2		"	"
		"	15	"	"		12 mA								"	2 $\bar{Q}$ 3		"	"
		"	16	"	"	12 mA									"	2 $\bar{Q}$ 4		"	"
		"	17										12 mA	2.0 V	"	1 $\bar{Q}$ 1		"	"
		"	18									12 mA		"	"	1 $\bar{Q}$ 2		"	"
		"	19								12 mA			"	"	1 $\bar{Q}$ 3		"	"
		"	20							12 mA				"	"	1 $\bar{Q}$ 4		"	"
		"	21	0.8 V	2.0 V				12 mA						"	2 $\bar{Q}$ 1		"	"
		"	22	"	"			12 mA							"	2 $\bar{Q}$ 2		"	"
		"	23	"	"		12 mA								"	2 $\bar{Q}$ 3		"	"
		"	24	"	"	12 mA									"	2 $\bar{Q}$ 4		"	"
	V _{IC}		25												"	1 PRE		-1.5	"
			26												"	1 OC		"	"
			27												"	1D1		"	"
			28												"	1D2		"	"
			29												"	1D3		"	"
			30												"	1D4		"	"
			31												"	2D1		"	"
			32												"	2D2		"	"
			33												"	2D3		"	"
			34												"	2D4		"	"
			35												"	2 OC		"	"
			36	-18 mA											"	2 PRE		"	"
			37		-18 mA										"	EN2C		"	"
			38											-18 mA	"	EN1C		"	"

See footnotes at end of device type 04.

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

Subgroup	Symbol	MIL-STD-883 method	Cases K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 $\frac{1}{2}$	2	3	4	5	6	7	9	10	11	12	13	14		Min	Max	
			Test no.	1 PRE	1 OC	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 OC	GND				
1 Tc = 25°C	I _{IL}	3009	39	0.4 V											GND	1 PRE	2/	2/	μA
		"	40		0.4 V										"	1 OC	"	"	"
		"	41			0.4 V									"	1D1	"	"	"
		"	42				0.4 V								"	1D2	"	"	"
		"	43					0.4 V							"	1D3	"	"	"
		"	44						0.4 V						"	1D4	"	"	"
		"	45							0.4 V					"	2D1	"	"	"
		"	46								0.4 V				"	2D2	"	"	"
		"	47									0.4 V			"	2D3	"	"	"
		"	48										0.4 V		"	2D4	"	"	"
		"	49											0.4 V	"	2 OC	"	"	"
		"	50												"	2 PRE	"	"	"
		"	51												"	EN2C	"	"	"
		"	52												"	EN1C	"	"	"
	I _{IH1}	3010	53	2.7 V											"	1 PRE	20	"	"
		"	54		2.7 V										"	1 OC	"	"	"
		"	55			2.7 V									"	1D1	"	"	"
		"	56				2.7 V								"	1D2	"	"	"
		"	57					2.7 V							"	1D3	"	"	"
		"	58						2.7 V						"	1D4	"	"	"
		"	59							2.7 V A					"	2D1	"	"	"
		"	60								2.7 V				"	2D2	"	"	"
		"	61									2.7 V			"	2D3	"	"	"
		"	62										2.7 V		"	2D4	"	"	"
		"	63											2.7 V	"	2 OC	"	"	"
		"	64												"	2 PRE	"	"	"
		"	65												"	EN2C	"	"	"
		"	66												"	EN1C	"	"	"
	I _{IH2}	"	67	7.0 V											"	1 PRE	100	"	"
		"	68		7.0 V										"	1 OC	"	"	"
		"	69			7.0 V									"	1D1	"	"	"
		"	70				7.0 V								"	1D2	"	"	"
		"	71					7.0 V							"	1D3	"	"	"
		"	72						7.0 V						"	1D4	"	"	"
		"	73							7.0 V					"	2D1	"	"	"
		"	74								7.0 V				"	2D2	"	"	"
		"	75									7.0 V			"	2D3	"	"	"
		"	76										7.0 V		"	2D4	"	"	"
		"	77											7.0 V	"	2 OC	"	"	"
		"	78												"	2 PRE	"	"	"
		"	79												"	EN2C	"	"	"
		"	80												"	EN1C	"	"	"

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 $\underline{1}$ /	16	17	18	19	20	21	23	24	25	26	27	28		Min	Max	
			Test no.	2 $\overline{\text{PRE}}$	EN2C	2 $\overline{\text{Q}}$ 4	2 $\overline{\text{Q}}$ 3	2 $\overline{\text{Q}}$ 2	2 $\overline{\text{Q}}$ 1	1 $\overline{\text{Q}}$ 4	1 $\overline{\text{Q}}$ 3	1 $\overline{\text{Q}}$ 2	1 $\overline{\text{Q}}$ 1	EN1C	V _{CC}				
1 T _C = 25°C	I _{IL}	3009	39												5.5 V	1 $\overline{\text{PRE}}$	2/	2/	μA
		"	40													1 OC	"	"	"
		"	41													1D1	"	"	"
		"	42													1D2	"	"	"
		"	43													1D3	"	"	"
		"	44													1D4	"	"	"
		"	45													2D1	"	"	"
		"	46													2D2	"	"	"
		"	47													2D3	"	"	"
		"	48													2D4	"	"	"
		"	49													2 OC	"	"	"
		"	50	0.4 V												2 $\overline{\text{PRE}}$	"	"	"
		"	51		0.4 V											EN2C	"	"	"
		"	52											0.4 V		EN1C	"	"	"
		"	53													1 $\overline{\text{PRE}}$		20	"
1 T _C = 25°C	I _{IH1}	3010	54													1 OC		"	"
		"	55													1D1		"	"
		"	56													1D2		"	"
		"	57													1D3		"	"
		"	58													1D4		"	"
		"	59													2D1		"	"
		"	60													2D2		"	"
		"	61													2D3		"	"
		"	62													2D4		"	"
		"	63													2 OC		"	"
		"	64	2.7 V												2 $\overline{\text{PRE}}$		"	"
		"	65		2.7 V											EN2C		"	"
		"	66											2.7 V		EN1C		"	"
	I _{IH2}	"	67													1 $\overline{\text{PRE}}$		100	"
		"	68													1 OC		"	"
		"	69													1D1		"	"
		"	70													1D2		"	"
		"	71													1D3		"	"
		"	72													1D4		"	"
		"	73													2D1		"	"
		"	74													2D2		"	"
		"	75													2D3		"	"
		"	76													2D4		"	"
		"	77													2 OC		"	"
		"	78	7.0 V												2 $\overline{\text{PRE}}$		"	"
		"	79		7.0 V											EN2C		"	"
		"	80											7.0 V		EN1C		"	"

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 K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 PRE	1 $\overline{OC}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{OC}$	GND		Min	Max	
1 $T_C = 25^\circ\text{C}$	I_{OQ}	3011	81	5.0 V	GND	GND									GND	1 $\overline{Q}$ 1	-15 $\frac{A}{V}$	-70 $\frac{A}{V}$	mA
		"	82	"	"		GND								"	1 $\overline{Q}$ 2	"	"	"
		"	83	"	"			GND							"	1 $\overline{Q}$ 3	"	"	"
		"	84	"	"				GND						"	1 $\overline{Q}$ 4	"	"	"
		"	85							GND				GND	"	2 $\overline{Q}$ 1	"	"	"
		"	86								GND			"	"	2 $\overline{Q}$ 2	"	"	"
		"	87									GND		"	"	2 $\overline{Q}$ 3	"	"	"
		"	88										GND	"	"	2 $\overline{Q}$ 4	"	"	"
	I_{OZH}		89	5.0 V	5.0 V	0.8 V									"	1 $\overline{Q}$ 1		20	μA
			90	"	"		0.8 V								"	1 $\overline{Q}$ 2		"	"
			91	"	"			0.8 V							"	1 $\overline{Q}$ 3		"	"
			92	"	"				0.8 V						"	1 $\overline{Q}$ 4		"	"
			93							0.8 V				5.0 V	"	2 $\overline{Q}$ 1		"	"
			94								0.8 V			"	"	2 $\overline{Q}$ 2		"	"
			95									0.8 V		"	"	2 $\overline{Q}$ 3		"	"
			96										0.8 V	"	"	2 $\overline{Q}$ 4		"	"
	I_{OZL}		97	5.0 V	5.0 V	2.0 V									"	1 $\overline{Q}$ 1		-20	"
			98	"	"		2.0 V								"	1 $\overline{Q}$ 2		"	"
			99	"	"			2.0 V							"	1 $\overline{Q}$ 3		"	"
			100	"	"				2.0 V						"	1 $\overline{Q}$ 4		"	"
			101							2.0 V				5.0 V	"	2 $\overline{Q}$ 1		"	"
			102								2.0 V			"	"	2 $\overline{Q}$ 2		"	"
			103									2.0 V		"	"	2 $\overline{Q}$ 3		"	"
			104										2.0 V	"	"	2 $\overline{Q}$ 4		"	"
	I_{CCH}	3005	105	5.0 V	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	"	V_{CC}		21	mA
	I_{CCL}	"	106	GND	GND	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	GND	"		29	"
	I_{CCZ}	"	107	GND	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	5.0 V	"	"		31	"
2	Same tests, terminal conditions, and limits as for subgroup 1, except $T_C = +125^\circ\text{C}$ and V_{IC} tests are omitted.																		
3	Same tests, terminal conditions, and limits as for subgroup 1, except $T_C = -55^\circ\text{C}$ and V_{IC} tests are omitted.																		

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 PRE	EN2C	2 Q 4	2 Q 3	2 Q 2	2 Q 1	1 Q 4	1 Q 3	1 Q 2	1 Q 1	EN1C	V _{CC}		Min	Max	
1 T _C = 25°C	I _O 3/	3011	81										2.25 V	5.0 V	5.5 V	1 Q 1	-15 4/	-70 4/	mA
		"	82									2.25 V		"	"	1 Q 2	"	"	"
		"	83								2.25 V			"	"	1 Q 3	"	"	"
		"	84							2.25 V				"	"	1 Q 4	"	"	"
		"	85	5.0 V	5.0 V				2.25 V						"	2 Q 1	"	"	"
		"	86	"	"			2.25 V							"	2 Q 2	"	"	"
		"	87	"	"		2.25 V								"	2 Q 3	"	"	"
		"	88	"	"	2.25 V									"	2 Q 4	"	"	"
	I _{OZH}		89										2.7 V	5.0 V	"	1 Q 1		20	μA
			90									2.7 V		"	"	1 Q 2		"	"
			91								2.7 V			"	"	1 Q 3		"	"
			92							2.7 V				"	"	1 Q 4		"	"
			93	5.0 V	5.0 V				2.7 V						"	2 Q 1		"	"
			94	"	"			2.7 V							"	2 Q 2		"	"
			95	"	"		2.7 V								"	2 Q 3		"	"
			96	"	"	2.7 V									"	2 Q 4		"	"
	I _{OZL}		97										0.4 V	5.0 V	"	1 Q 1		-20	"
			98									0.4 V		"	"	1 Q 2		"	"
			99								0.4 V			"	"	1 Q 3		"	"
			100							0.4 V				"	"	1 Q 4		"	"
			101	5.0 V	5.0 V				0.4 V						"	2 Q 1		"	"
			102	"	"			0.4 V							"	2 Q 2		"	"
			103	"	"		0.4 V								"	2 Q 3		"	"
			104	"	"	0.4 V									"	2 Q 4		"	"
	I _{CCH}	3005	105	"	"									5.0 V	"	V _{CC}		21	mA
	I _{CCL}	"	106	GND	"									"	"	V _{CC}		29	"
	I _{CCZ}	"	107	GND	"									"	"	V _{CC}		31	"
2	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = +125°C and V _{IC} tests are omitted.																		
3	Same tests, terminal conditions, and limits as for subgroup 1, except T _C = -55°C and V _{IC} tests are omitted.																		

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 K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit	
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14		Min	Max		
			Test no.	1 $\overline{\text{PRE}}$	1 $\overline{\text{OC}}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{\text{OC}}$	GND					
7 5/ Tc = 25°C	Truth table tests	3014	108	A	B	B	B	B	B	B	B	B	B	B	B	GND	All	6/	6/	
		"	109	"	"	A	A	A	A	A	A	A	A	"	"	"	outputs	"	"	
		"	110	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	"	
		"	111	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	"	
		"	112	"	"	A	A	A	A	A	A	A	A	"	"	"	"	"	"	
		"	113	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	114	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	115	"	"	B	B	B	B	B	B	B	B	"	"	"	"	"	"	
		"	116	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	117	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	118	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	119	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	120	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
		"	121	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
"	122	A	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
"	123	B	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			
8	Same tests, terminal conditions, and limits as for subgroup 7, except T _C = +125°C and -55°C.																			
9 Tc = 25°C	t _{PHL1}	3003	124	IN	GND	GND									GND	1 $\overline{\text{PRE}}$ to 1 $\overline{\text{Q}}$ 1	6	21	ns	
		Fig. 4	125	"	"		GND								"	1 $\overline{\text{PRE}}$ to 1 $\overline{\text{Q}}$ 2	"	"	"	
		"	126	"	"			GND							"	1 $\overline{\text{PRE}}$ to 1 $\overline{\text{Q}}$ 3	"	"	"	
		"	127	"	"				GND						"	1 $\overline{\text{PRE}}$ to 1 $\overline{\text{Q}}$ 4	"	"	"	
		"	128							GND				GND	"	2 $\overline{\text{PRE}}$ to 2 $\overline{\text{Q}}$ 1	"	"	"	
		"	129								GND			"	"	2 $\overline{\text{PRE}}$ to 2 $\overline{\text{Q}}$ 2	"	"	"	
		"	130									GND		"	"	2 $\overline{\text{PRE}}$ to 2 $\overline{\text{Q}}$ 3	"	"	"	
		"	131										GND	"	"	2 $\overline{\text{PRE}}$ to 2 $\overline{\text{Q}}$ 4	"	"	"	
	t _{PLH2}	"	132	4.5 V	GND	GND									"	EN1C to 1 $\overline{\text{Q}}$ 1	8	24	"	
		"	133	"	"		GND							"	"	EN1C to 1 $\overline{\text{Q}}$ 2	"	"	"	
		"	134	"	"			GND						"	"	EN1C to 1 $\overline{\text{Q}}$ 3	"	"	"	
		"	135	"	"				GND					"	"	EN1C to 1 $\overline{\text{Q}}$ 4	"	"	"	
		"	136							GND				GND	"	EN2C to 2 $\overline{\text{Q}}$ 1	"	"	"	
		"	137								GND			"	"	EN2C to 2 $\overline{\text{Q}}$ 2	"	"	"	
"		138									GND		"	"	EN2C to 2 $\overline{\text{Q}}$ 3	"	"	"		
"		139										GND	"	"	EN2C to 2 $\overline{\text{Q}}$ 4	"	"	"		

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit	
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28		Min	Max		
			Test no.	2 PRE	EN2C	2 Q 4	2 Q 3	2 Q 2	2 Q 1	1 Q 4	1 Q 3	1 Q 2	1 Q 1	EN1C	V _{CC}					
7 T _c = 25°C	Truth table tests	3014	108	A	A	H	H	H	H	H	H	H	H	A	5.0 V	All	6/	6/		
			109	"	"	L	L	L	L	L	L	L	L	"	"	outputs	"	"		
			110	"	"	H	H	H	H	H	H	H	H	"	"	"	"	"		
			111	"	B	"	"	"	"	"	"	"	"	B	"	"	"	"		
			112	"	B	"	"	"	"	"	"	"	"	B	"	"	"	"		
			113	"	A	L	L	L	L	L	L	L	L	A	"	"	"	"		
			114	"	B	"	"	"	"	"	"	"	"	B	"	"	"	"		
			115	"	B	"	"	"	"	"	"	"	"	B	"	"	"	"		
			116	"	A	H	H	H	H	H	H	H	H	A	"	"	"	"		
			117	B	"	L	L	L	L	L	L	L	L	"	"	"	"	"		
			118	A	"	H	H	H	H	H	H	H	H	"	"	"	"	"		
			119	A	B	H	H	H	H	H	H	H	H	B	"	"	"	"		
			120	B	B	L	L	L	L	L	L	L	L	B	"	"	"	"		
			121	A	A	H	H	H	H	H	H	H	H	A	"	"	"	"		
			122	A	"	H	H	H	H	H	H	H	H	"	"	"	"	"		
			123	B	"	L	L	L	L	L	L	L	L	"	"	"	"	"		
8	Same tests, terminal conditions, and limits as for subgroup 7, except T _C = +125°C and -55°C.																			
9 T _c = 25°C	t _{PHL1}	3003 Fig. 4	124										OUT	4.5 V	5.0 V	1 PRE to 1 Q 1	6	21	ns	
			125									OUT		"	"	1 PRE to 1 Q 2	"	"	"	
			126									OUT		"	"	1 PRE to 1 Q 3	"	"	"	
			127								OUT			"	"	1 PRE to 1 Q 4	"	"	"	
			128	IN	4.5 V					OUT				"	"	2 PRE to 2 Q 1	"	"	"	
			129	"	"				OUT					"	"	2 PRE to 2 Q 2	"	"	"	
			130	"	"			OUT						"	"	2 PRE to 2 Q 3	"	"	"	
			131	"	"		OUT							"	"	2 PRE to 2 Q 4	"	"	"	
	t _{PLH2}		132											OUT	IN	"	EN1C to 1 Q 1	8	24	"
			133										OUT	"	"	EN1C to 1 Q 2	"	"	"	
			134									OUT		"	"	EN1C to 1 Q 3	"	"	"	
			135								OUT			"	"	EN1C to 1 Q 4	"	"	"	
			136	4.5 V	IN					OUT				"	"	EN2C to 2 Q 1	"	"	"	
			137	"	"				OUT					"	"	EN2C to 2 Q 2	"	"	"	
			138	"	"			OUT						"	"	EN2C to 2 Q 3	"	"	"	
			139	"	"		OUT							"	"	EN2C to 2 Q 4	"	"	"	

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 K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 <u>1</u> /	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 PRE	1 $\overline{OC}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{OC}$	GND		Min	Max	
9 Tc = 25°C	t _{PHL2}	3003	140	4.5 V	GND	4.5 V									GND	EN1C to 1 $\overline{Q}$ 1	8	21	ns
		Fig. 4	141	"	"		4.5 V								"	EN1C to 1 $\overline{Q}$ 2	"	"	"
		"	142	"	"			4.5 V							"	EN1C to 1 $\overline{Q}$ 3	"	"	"
		"	143	"	"				4.5 V						"	EN1C to 1 $\overline{Q}$ 4	"	"	"
		"	144							4.5 V					GND	EN2C to 2 $\overline{Q}$ 1	"	"	"
		"	145								4.5 V			"	"	EN2C to 2 $\overline{Q}$ 2	"	"	"
		"	146									4.5 V		"	"	EN2C to 2 $\overline{Q}$ 3	"	"	"
		"	147										4.5 V	"	"	EN2C to 2 $\overline{Q}$ 4	"	"	"
	t _{PLH3}	"	148	4.5 V	GND	IN									"	1D1 to 1 $\overline{Q}$ 1	3	20	"
		"	149	"	"		IN								"	1D2 to 1 $\overline{Q}$ 2	"	"	"
		"	150	"	"			IN							"	1D3 to 1 $\overline{Q}$ 3	"	"	"
		"	151	"	"				IN						"	1D4 to 1 $\overline{Q}$ 4	"	"	"
		"	152							IN				GND	"	2D1 to 2 $\overline{Q}$ 1	"	"	"
		"	153								IN			"	"	2D2 to 2 $\overline{Q}$ 2	"	"	"
		"	154									IN		"	"	2D3 to 2 $\overline{Q}$ 3	"	"	"
		"	155										IN	"	"	2D4 to 2 $\overline{Q}$ 4	"	"	"
	t _{PHL3}	"	156	4.5 V	GND	IN									"	1D1 to 1 $\overline{Q}$ 1	"	12	"
		"	157	"	"		IN								"	1D2 to 1 $\overline{Q}$ 2	"	"	"
		"	158	"	"			IN							"	1D3 to 1 $\overline{Q}$ 3	"	"	"
		"	159	"	"				IN						"	1D4 to 1 $\overline{Q}$ 4	"	"	"
		"	160							IN				GND	"	2D1 to 2 $\overline{Q}$ 1	"	"	"
		"	161								IN			"	"	2D2 to 2 $\overline{Q}$ 2	"	"	"
		"	162									IN		"	"	2D3 to 2 $\overline{Q}$ 3	"	"	"
		"	163										IN	"	"	2D4 to 2 $\overline{Q}$ 4	"	"	"

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 PRE	EN2C	2 Q 4	2 Q 3	2 Q 2	2 Q 1	1 Q 4	1 Q 3	1 Q 2	1 Q 1	EN1C	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PHL2}	3003	140										OUT	IN	5.0 V	EN1C to 1 Q 1	8	21	ns
		Fig. 4	141									OUT		"	"	EN1C to 1 Q 2	"	"	"
		"	142								OUT			"	"	EN1C to 1 Q 3	"	"	"
		"	143							OUT				"	"	EN1C to 1 Q 4	"	"	"
		"	144	4.5 V	IN				OUT						"	EN2C to 2 Q 1	"	"	"
		"	145	"	"			OUT							"	EN2C to 2 Q 2	"	"	"
		"	146	"	"		OUT								"	EN2C to 2 Q 3	"	"	"
		"	147	"	"	OUT									"	EN2C to 2 Q 4	"	"	"
	t _{PLH3}	"	148										OUT	IN	"	1D1 to 1 Q 1	3	20	"
		"	149									OUT		"	"	1D2 to 1 Q 2	"	"	"
		"	150								OUT			"	"	1D3 to 1 Q 3	"	"	"
		"	151							OUT				"	"	1D4 to 1 Q 4	"	"	"
		"	152	4.5 V	IN				OUT						"	2D1 to 2 Q 1	"	"	"
		"	153	"	"			OUT							"	2D2 to 2 Q 2	"	"	"
		"	154	"	"		OUT								"	2D3 to 2 Q 3	"	"	"
		"	155	"	"	OUT									"	2D4 to 2 Q 4	"	"	"
	t _{PHL3}	"	156										OUT	IN	"	1D1 to 1 Q 1	"	12	"
		"	157									OUT		"	"	1D2 to 1 Q 2	"	"	"
		"	158								OUT			"	"	1D3 to 1 Q 3	"	"	"
		"	159							OUT				"	"	1D4 to 1 Q 4	"	"	"
		"	160	4.5 V	IN				OUT						"	2D1 to 2 Q 1	"	"	"
		"	161	"	"			OUT							"	2D2 to 2 Q 2	"	"	"
		"	162	"	"		OUT								"	2D3 to 2 Q 3	"	"	"
		"	163	"	"	OUT									"	2D4 to 2 Q 4	"	"	"

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 K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 1/	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 PRE	1 $\overline{\text{OC}}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{\text{OC}}$	GND		Min	Max	
9 Tc = 25°C	t _{PZH}	3003	164	4.5 V	IN	GND									GND	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 1	5	18	ns
		Fig. 4	165	"	"		GND								"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 2	"	"	"
		"	166	"	"			GND							"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 3	"	"	"
		"	167	"	"				GND						"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 4	"	"	"
		"	168							GND				IN	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 1	"	"	"
		"	169								GND			"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 2	"	"	"
		"	170									GND		"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 3	"	"	"
		"	171										GND	"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 4	"	"	"
	t _{PZL}	"	172	4.5 V	IN	4.5 V									"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 1	"	"	"
		"	173	"	"		4.5 V								"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 2	"	"	"
		"	174	"	"			4.5 V							"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 3	"	"	"
		"	175	"	"				4.5 V						"	1 $\overline{\text{OC}}$ to 1 $\overline{\text{Q}}$ 4	"	"	"
		"	176							4.5 V				IN	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 1	"	"	"
		"	177								4.5 V			"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 2	"	"	"
		"	178									4.5 V		"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 3	"	"	"
		"	179										4.5 V	"	"	2 $\overline{\text{OC}}$ to 2 $\overline{\text{Q}}$ 4	"	"	"

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 PRE	EN2C	2 $\bar{Q}$ 4	2 $\bar{Q}$ 3	2 $\bar{Q}$ 2	2 $\bar{Q}$ 1	1 $\bar{Q}$ 4	1 $\bar{Q}$ 3	1 $\bar{Q}$ 2	1 $\bar{Q}$ 1	EN1C	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PZH}	3003	164										OUT	4.5 V	5.0 V	1 $\bar{OC}$ to 1 $\bar{Q}$ 1	5	18	ns
		Fig. 4	165									OUT		"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 2	"	"	"
		"	166								OUT			"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 3	"	"	"
		"	167							OUT				"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 4	"	"	"
		"	168	4.5 V	4.5 V				OUT						"	2 $\bar{OC}$ to 2 $\bar{Q}$ 1	"	"	"
		"	169	"	"			OUT							"	2 $\bar{OC}$ to 2 $\bar{Q}$ 2	"	"	"
		"	170	"	"		OUT								"	2 $\bar{OC}$ to 2 $\bar{Q}$ 3	"	"	"
		"	171	"	"	OUT									"	2 $\bar{OC}$ to 2 $\bar{Q}$ 4	"	"	"
	t _{PZL}	"	172										OUT	4.5 V	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 1	"	"	"
		"	173									OUT		"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 2	"	"	"
		"	174								OUT			"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 3	"	"	"
		"	175							OUT				"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 4	"	"	"
		"	176	4.5 V	4.5 V				OUT						"	2 $\bar{OC}$ to 2 $\bar{Q}$ 1	"	"	"
		"	177	"	"			OUT							"	2 $\bar{OC}$ to 2 $\bar{Q}$ 2	"	"	"
		"	178	"	"		OUT								"	2 $\bar{OC}$ to 2 $\bar{Q}$ 3	"	"	"
		"	179	"	"	OUT									"	2 $\bar{OC}$ to 2 $\bar{Q}$ 4	"	"	"

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 K, L	1	2	3	4	5	6	7	8	9	10	11	12	Measured terminal	Limits		Unit
			Case 3 <u>1</u> /	2	3	4	5	6	7	9	10	11	12	13	14				
			Test no.	1 PRE	1 $\overline{OC}$	1D1	1D2	1D3	1D4	2D1	2D2	2D3	2D4	2 $\overline{OC}$	GND		Min	Max	
9 $T_C = 25^\circ\text{C}$	t_{PHZ}	3003	180	4.5 V	IN	GND									GND	1 $\overline{OC}$ to 1 $\overline{Q}$ 1	2	8	ns
		Fig. 4	181	"	"		GND								"	1 $\overline{OC}$ to 1 $\overline{Q}$ 2	"	"	"
		"	182	"	"			GND							"	1 $\overline{OC}$ to 1 $\overline{Q}$ 3	"	"	"
		"	183	"	"				GND						"	1 $\overline{OC}$ to 1 $\overline{Q}$ 4	"	"	"
		"	184							GND				IN	"	2 $\overline{OC}$ to 2 $\overline{Q}$ 1	"	"	"
		"	185								GND			"	"	2 $\overline{OC}$ to 2 $\overline{Q}$ 2	"	"	"
		"	186									GND		"	"	2 $\overline{OC}$ to 2 $\overline{Q}$ 3	"	"	"
		"	187										GND	"	"	2 $\overline{OC}$ to 2 $\overline{Q}$ 4	"	"	"
	t_{PLZ}	"	188	4.5 V	IN	4.5 V									"	1 $\overline{OC}$ to 1 $\overline{Q}$ 1	3	13	"
		"	189	"	"		4.5 V								"	1 $\overline{OC}$ to 1 $\overline{Q}$ 2	"	"	"
		"	190	"	"			4.5 V							"	1 $\overline{OC}$ to 1 $\overline{Q}$ 3	"	"	"
		"	191	"	"				4.5 V						"	1 $\overline{OC}$ to 1 $\overline{Q}$ 4	"	"	"
		"	192							4.5 V					"	2 $\overline{OC}$ to 2 $\overline{Q}$ 1	"	"	"
		"	193								4.5 V				"	2 $\overline{OC}$ to 2 $\overline{Q}$ 2	"	"	"
		"	194									4.5 V			"	2 $\overline{OC}$ to 2 $\overline{Q}$ 3	"	"	"
		"	195										4.5 V		"	2 $\overline{OC}$ to 2 $\overline{Q}$ 4	"	"	"
10	t_{PHL1}	Same tests and terminal conditions as for subgroup 9, except $T_C = +125^\circ\text{C}$.															6	24	"
	t_{PLH2}																8	31	"
	t_{PHL2}																8	22	"
	t_{PLH3}																3	23	"
	t_{PHL3}																3	15	"
	t_{PZH}																4	21	"
	t_{PZL}																4	21	"
	t_{PHZ}																2	10	"
11	t_{PLZ}	Same tests and terminal conditions as for subgroup 10, except $T_C = -55^\circ\text{C}$.															3	15	"

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 K, L	13	14	15	16	17	18	19	20	21	22	23	24	Measured terminal	Limits		Unit
			Case 3 1/	16	17	18	19	20	21	23	24	25	26	27	28				
			Test no.	2 PRE	EN2C	2 $\bar{Q}$ 4	2 $\bar{Q}$ 3	2 $\bar{Q}$ 2	2 $\bar{Q}$ 1	1 $\bar{Q}$ 4	1 $\bar{Q}$ 3	1 $\bar{Q}$ 2	1 $\bar{Q}$ 1	EN1C	V _{CC}		Min	Max	
9 T _c = 25°C	t _{PHZ}	3003	180										OUT	4.5 V	5.0 V	1 $\bar{OC}$ to 1 $\bar{Q}$ 1	2	8	ns
		Fig. 4	181									OUT		"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 2	"	"	"
		"	182								OUT			"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 3	"	"	"
		"	183							OUT				"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 4	"	"	"
		"	184	4.5 V	4.5 V				OUT						"	2 $\bar{OC}$ to 2 $\bar{Q}$ 1	"	"	"
		"	185	"	"			OUT							"	2 $\bar{OC}$ to 2 $\bar{Q}$ 2	"	"	"
		"	186	"	"		OUT								"	2 $\bar{OC}$ to 2 $\bar{Q}$ 3	"	"	"
		"	187	"	"	OUT									"	2 $\bar{OC}$ to 2 $\bar{Q}$ 4	"	"	"
	t _{PLZ}	"	188										OUT	4.5 V	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 1	3	13	"
		"	189									OUT		"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 2	"	"	"
		"	190								OUT			"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 3	"	"	"
		"	191							OUT				"	"	1 $\bar{OC}$ to 1 $\bar{Q}$ 4	"	"	"
		"	192	4.5 V	4.5 V				OUT						"	2 $\bar{OC}$ to 2 $\bar{Q}$ 1	"	"	"
		"	193	"	"			OUT							"	2 $\bar{OC}$ to 2 $\bar{Q}$ 2	"	"	"
		"	194	"	"		OUT								"	2 $\bar{OC}$ to 2 $\bar{Q}$ 3	"	"	"
		"	195	"	"	OUT									"	2 $\bar{OC}$ to 2 $\bar{Q}$ 4	"	"	"
10	t _{PHL1}	Same tests and terminal conditions as for subgroup 9, except T _c = +125°C.															6	24	"
	t _{PLH2}																8	31	"
	t _{PHL2}																8	22	"
	t _{PLH3}																3	23	"
	t _{PHL3}																3	15	"
	t _{PZH}																4	21	"
	t _{PZL}																4	21	"
	t _{PHZ}																2	10	"
11	t _{PLZ}	Same tests and terminal conditions as for subgroup 10, except T _c = -55°C.															3	15	"

1/ Pins not referenced are N/C.

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

Test	Min/Max limits in μ A for circuit		
	A	B	C
I _{IL}	0/-100	0/-100	0/-200

3/ Method 3011 shall be used, except the output voltage shall be as specified herein, and the output current shall be operating rather than short circuit current. The output conditions have been chosen to produce a current that closely approximates one-half of the true short circuit output current I_{OS}.

4/ I_O limits for circuit C shall be -70 to -110 mA.

5/ Tests shall be performed in sequence, attributes data only.

6/ Outputs shall be high ≥ 1.5 V; low ≤ 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
 V_{IN} Voltage level at an input terminal
 I_{IN} Current flowing into an input terminal

6.6 Logistic support. 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 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	54ALS573
02	54ALS580
03	54ALS873
04	54ALS880

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	Circuit		
	A	B	C
	Texas Instruments	Motorola Inc.	National Semiconductor/ Fairchild Semiconductor
01	X		
02	X		
03	X		
04	X		

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

Custodians:

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

Preparing activity:

DLA - CC

(Project 5962-2069)

Review activities:

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

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