

REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
G	Add case outline 2. Electrical changes in table I, 1.3, and 1.4. Editorial changes throughout. Change vendor CAGE 34371 vendor PINs and add vendor CAGE 24355. Delete vendor CAGE 32293 and add vendor CAGE 1ES66.	94-03-24	M. A. Frye
H	Changes in accordance with NOR 5962-R135-95.	95-05-09	M. A. Frye
J	Drawing updated to reflect current requirements. Editorial changes throughout. - drw	00-08-23	R. Monnin
K	Drawing updated to current requirements. Editorial changes throughout. - drw	03-02-04	R. Monnin
L	Make correction to Marking paragraph 3.5. - ro	05-04-05	R. Monnin
M	Redrawn. Update paragraphs to MIL-PRF-38535 requirements. - drw	17-05-18	Charles F. Saffle

CURRENT CAGE CODE 67268

THE ORIGINAL FIRST SHEET OF THIS DRAWING HAS BEEN REPLACED.

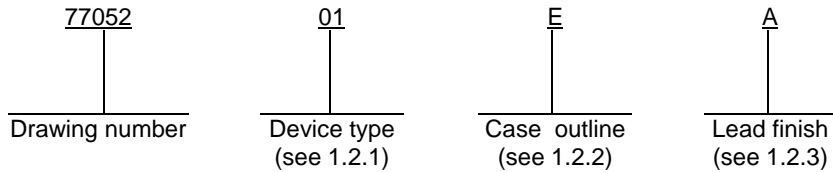


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REV	M	M																		
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REV STATUS	REV		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
OF SHEETS	SHEET		1	2	3	4	5	6	7	8	9	10	11	12	13	14				
PMIC N/A	PREPARED BY A. J. Foley				<p align="center">DLA LAND AND MARITIME COLUMBUS, OHIO 43218-3990 http://www.landandmaritime.dla.mil</p>															
<p align="center">STANDARD MICROCIRCUIT DRAWING</p> <p>THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE</p> <p align="center">AMSC N/A</p>	CHECKED BY C. R. Jackson																			
	APPROVED BY N. A. Hauck				<p align="center">MICROCIRCUIT, CMOS, POSITIVE LOGIC, 8-CHANNEL MULTIPLEXERS/DEMULPLEXERS, MONOLITHIC SILICON</p>															
	DRAWING APPROVAL DATE 77-10-26																			
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1. SCOPE

1.1 Scope. This drawing describes device requirements for MIL-STD-883 compliant, non-JAN class level B microcircuits in accordance with MIL-PRF-38535, appendix A.

1.2 Part or Identifying Number (PIN). The complete PIN is as shown in the following example:



1.2.1 Device types. The device types identify the circuit function as follows:

<u>Device type</u>	<u>Generic number</u>	<u>Circuit function</u>
01	DG508A, HI-508, ADG508A	CMOS, positive logic, 8-channel analog MUX/DEMUX
02	HI-508A, HI-548	CMOS, positive logic, 8-channel analog MUX/DEMUX with overvoltage protection
03	MAX358	CMOS, positive logic, 8-channel analog MUX/DEMUX with overvoltage protection

1.2.2 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>
2	CQCC1-N20	20	Square leadless chip carrier
E	GDIP1-T16 or CDIP2-T16	16	Dual-in-line
F	GDFP2-F16 or CDFP3-F16	16	Flat pack
X	CDFP4-F16	16	Flat pack

1.2.3 Lead finish. The lead finish is as specified in MIL-PRF-38535, appendix A.

1.3 Absolute maximum ratings.

Supply voltage between V+ and V-:

- Device type 01 +44 V dc
- Device types 02 and 03 +40 V dc

V+ to ground:

- Device type 01 +22 V dc
- Device types 02 and 03 +20 V dc

V- to ground:

- Device type 01 -22 V dc
- Device types 02 and 03 -20 V dc

Digital input overvoltage range:

- Device types 02 and 03 (V-) - 4.0 V dc to (V+) + 4.0 V dc

Analog input overvoltage range:

- Device type 01 (V-) - 3.0 V dc to (V+)

Analog input voltage (VS):

- Device type 01 (V-) - 2 V dc to (V+) + 2 V dc
- Device types 02 and 03 (V-) - 20 V dc to (V+) + 20 V dc

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1.3 Absolute maximum ratings – continued.

Storage temperature range	-65°C to +150°C
Power dissipation (PD):	
Case 2	1.23 W at TA = +75°C
Case E	470 mW at TA = +75°C
Case F and X	725 mW at TA = +75°C
Derating factor:	
Case 2	12.3 mW/°C above TA = +75°C
Case E	12.0 mW/°C above TA = +75°C
Case F and X	8.0 mW/°C above TA = +25°C
Thermal resistance, junction-to-case (θJC)	See MIL-STD-1835
Lead temperature (soldering, 10 seconds)	+300°C
Junction temperature (TJ)	+175°C

1.4 Recommended operating conditions.

Positive supply voltage (V+)	+15 V dc
Negative supply voltage (V-)	-15 V dc
Logic low level address input voltage (VIL)	0 V dc to 0.8 V dc
Logic high level address input voltage (VIH):	
Device types 01 and 03	2.4 V dc to (V+) - 0.7 V dc
Device type 02	4.0 V dc to V+
Enable voltage (VEN):	
Device type 01	4.5 V dc to (V+) - 0.7 V dc
Device type 02	4.0 V dc to (V+) - 0.7 V dc
Device type 03	2.4 V dc to (V+) - 0.7 V dc
Ambient operating temperature range (TA)	-55°C to +125°C

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and handbooks. The following specification, standards, and handbooks form a part of this drawing to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATION

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

DEPARTMENT OF DEFENSE STANDARDS

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

DEPARTMENT OF DEFENSE HANDBOOKS

MIL-HDBK-103 - List of Standard Microcircuit Drawings.
MIL-HDBK-780 - Standard Microcircuit Drawings.

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

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

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3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with MIL-PRF-38535, appendix A for non-JAN class level B devices and as specified herein. Product built to this drawing that is produced by a Qualified Manufacturer Listing (QML) certified and qualified manufacturer or a manufacturer who has been granted transitional certification to MIL-PRF-38535 may be processed as QML product in accordance with the manufacturers approved program plan and qualifying activity approval in accordance with MIL-PRF-38535. This QML flow as documented in the Quality Management (QM) plan may make modifications to the requirements herein. These modifications shall not affect form, fit, or function of the device. These modifications shall not affect the PIN as described herein. A "Q" or "QML" certification mark in accordance with MIL-PRF-38535 is required to identify when the QML flow option is used.

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

3.2.1 Case outlines. The case outlines shall be in accordance with 1.2.2 herein.

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

3.2.3 Truth table. The truth table shall be as specified on figure 2.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full ambient operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

3.5 Marking. Marking shall be in accordance with MIL-PRF-38535, appendix A. The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked.

3.5.1 Certification/compliance mark. A compliance indicator "C" shall be marked on all non-JAN devices built in compliance to MIL-PRF-38535, appendix A. The compliance indicator "C" shall be replaced with a "Q" or "QML" certification mark in accordance with MIL-PRF-38535 to identify when the QML flow option is used.

3.6 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-HDBK-103 (see 6.6 herein). The certificate of compliance submitted to DLA Land and Maritime -VA prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-PRF-38535, appendix A and the requirements herein.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38535, appendix A shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change. Notification of change to DLA Land and Maritime -VA shall be required for any change that affects this drawing.

3.9 Verification and review. DLA Land and Maritime, DLA Land and Maritime's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

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TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions ^{1/} V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 4.5 V -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Input leakage current ^{2/}	I _{IH}	Measure address inputs sequentially, connect all	1, 2	01		+0.8	μA
	I _{IL}	unused address inputs to 5.0 V				-0.8	
Leakage current into the source terminal of an "OFF" switch	+I _{S(OFF)}	V _S = +10 V, V _{EN} = 0.8 V, all unused inputs = -10 V	1, 2, 3	01	-50	+50	nA
	-I _{S(OFF)}	V _S = -10 V, V _{EN} = 0.8 V, all unused inputs = +10 V					
Leakage current into the drain terminal of an "OFF" switch	+I _{D(OFF)}	V _D = +10 V, V _{EN} = 0.8 V, all unused inputs = -10 V	1, 2, 3	01	-250	+250	nA
	-I _{D(OFF)}	V _D = -10 V, V _{EN} = 0.8 V, all unused inputs = +10 V					
Leakage current from an "ON" driver into the switch (drain)	+I _{D(ON)}	V _D = +10 V, V _S = -10 V, all unused inputs = -10 V	1,2,3	01	-250	+250	nA
	-I _{D(ON)}	V _D = -10 V, V _S = +10 V, all unused inputs = +10 V					
Positive supply current	I(+)	V _A = 0 V, V _{EN} = 5 V	1, 2, 3	01		+12	mA
Negative supply current	I(-)	V _A = 0 V, V _{EN} = 5 V	1, 2, 3	01	-12		mA
Standby positive supply current	+I _{SBY}	V _A = 0 V, V _{EN} = 0 V	1, 2, 3	01		+3.5	mA
Standby negative supply current	-I _{SBY}	V _A = 0 V, V _{EN} = 0 V	1, 2, 3	01	-3.5		mA
Switch "ON" resistance	RDS1	V _S = +10 V, I _D = +1 mA	1, 3	01		400	Ω
			2			500	
		V _S = -10 V, I _D = -1 mA	1, 3			400	
			2			500	
Switch "ON" resistance	RDS2	V ₊ = +10 V, V ₋ = -10 V, V _S = +7.5 V, I _D = -1 mA	1, 2, 3	01		1000	Ω
		V ₊ = +10 V, V ₋ = +10 V, V _S = -7.5 V, I _D = -1 mA				1000	

See footnotes at end of table.

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TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions <u>1/</u> V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 4.5 V -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Capacitance: Address	CA	V ₊ = V ₋ = 0 V, <u>3/</u> f = 1 MHz, T _A = +25°C	4	01		10	pF
Capacitance: output switch	COS	V ₊ = V ₋ = 0 V, <u>3/</u> f = 1 MHz, T _A = +25°C	4	01		45	pF
Capacitance: input switch	CIS	V ₊ = V ₋ = 0 V, <u>3/</u> f = 1 MHz, T _A = +25°C	4	01		10	pF
Charge transfer error	VCTE	V _S = GND, <u>3/</u> V _{GEN} = 0 V to 5 V, f = 500 kHz, C _L = 100 pF, T _A = +25°C	4	01		10	mV
Single channel isolation	VISO	V _{GEN} = 1 VP-P, <u>3/</u> f = 200 kHz, T _A = +25°C	4	01	50		dB
Crosstalk between channels	VCT	V _{GEN} = 1 VP-P, <u>3/</u> f = 200 kHz, T _A = +25°C	4	01	50		dB
Break-before-make time delay	t _D	T _A = +25°C, see figure 3	9	01	5		ns
Propagation delay times: Address inputs to I/O channels	t _{ON(A)}	R _L = 1 kΩ, C _L = 100 pF, see figure 4	9, 11	01		1000	ns
	t _{OFF(A)}		10			1500	
Enable to I/O	t _{ON(EN)}	R _L = 1 kΩ, C _L = 100 pF, see figure 5	9, 11	01		1000	ns
	t _{OFF(EN)}		10			1500	

See footnotes at end of table.

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TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions <u>1/</u> V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 4.0 V -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Positive input clamping voltage	V _{IC(POS)}	I _{IN} = 1 mA, <u>3/</u> V ₊ = V ₋ = 0 V, T _A = +25°C	1	02		+1.5	V
Negative input clamping voltage	V _{IC(NEG)}	I _{IN} = -1 mA, <u>3/</u> V ₊ = V ₋ = 0 V, T _A = +25°C	1	02	-1.5		V
Input leakage current <u>2/</u>	I _{IH}	Measure inputs sequentially, connect all unused inputs to GND	1,2	02	-1.0	+1.0	μA
	I _{IL}				+1.0	-1.0	
Leakage current into the source terminal of an "OFF" switch	+I _{S(OFF)}	V _S = +10 V, V _{EN} = 0.8 V, V _D = -10 V, all unused inputs = -10 V	1, 2	02	-50	+50	nA
	-I _{S(OFF)}	V _S = -10 V, V _{EN} = 0.8 V, V _D = +10 V, all unused inputs = +10 V					
Leakage current into the drain terminal of an "OFF" switch	+I _{D(OFF)}	V _D = +10 V, V _{EN} = 0.8 V, all unused inputs = -10 V	1, 2	02	-250	+250	nA
	-I _{D(OFF)}	V _D = -10 V, V _{EN} = 0.8 V, all unused inputs = +10 V					
Leakage current from an "ON" driver into the switch (drain)	+I _{D(ON)}	V _D = +10 V, V _S = +10 V, all unused inputs = -10 V	1, 2, 3	02	-250	+250	nA
	-I _{D(ON)}	V _D = -10 V, V _S = -10 V, all unused inputs = +10 V					
Overvoltage protected, leakage current into the drain terminal of an "OFF" switch	+I _{D(OFF)} over-voltage	V _S = +33 V, V _D = 0 V, V _{EN} = 0.8 V	1, 2, 3	02	-2.0	+2.0	μA
	-I _{D(OFF)} over-voltage	V _S = -33 V, V _D = 0 V, V _{EN} = 0.8 V					
Positive supply current	I(+)	V _A = 0 V, V _{EN} = 4 V	1, 2, 3	02		+2.0	mA
Negative supply current	I(-)	V _A = 0 V, V _{EN} = 4 V	1, 2, 3	02	-1.0		mA
Standby positive supply current	+I _{SBY}	V _A = 0 V, V _{EN} = 0 V	1, 2, 3	02		+2.0	mA
Standby negative supply current	-I _{SBY}	V _A = 0 V, V _{EN} = 0 V	1, 2, 3	02	-1.0		mA

See footnotes at end of table.

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TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions ^{1/} V- = -15 V, V+ = +15 V, VEN = 4.0 V -55°C ≤ TA ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Switch “ON” resistance	+RDS1	VS = +10 V, ID = -100 μA	1	02		1500	Ω
			2, 3			1800	
	-RDS1	VS = -10 V, ID = -100 μA	1			1500	Ω
			2, 3			1800	
Difference in switch “ON” resistance between channels	+ΔRDS1	(+RDS1 max) – (+RDS1 min) x 100 / +RDS1 AVE, TA = +25°C	1	02		7	%
	-ΔRDS1	(-RDS1 max) – (-RDS1 min) x 100 / -RDS1 AVE, TA = +25°C	1			7	
Capacitance: Address	CA	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	02		10	pF
Capacitance: output switch	COS	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	02		45	pF
Capacitance: input switch	CIS	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	02		15	pF
Charge transfer error	VCTE	VS = GND, ^{3/} VGEN = 0 V to 5 V, TA = +25°C	4	02		10	mV
Off isolation	VISO	VGEN = 0.8 VP-P, ^{3/} f = 100 kHz, VS = 7 V rms, RL = 1 kΩ, CL = 15 pF, TA = +25°C	4	02	50		dB
Break-before-make time delay	tD	RL = 1 kΩ, CL = 12.5 pF, ^{3/} TA = +25°C, see figure 3	9	02	5		ns
Propagation delay times: Address inputs to I/O channels	tON(A)	RL = 1 MΩ, CL = 14 pF, see figure 4	9	02		500	ns
	tOFF(A)		10, 11			1000	
Enable to I/O	tON(EN)	RL = 1 kΩ, CL = 12.5 pF, see figure 5	9	02		500	ns
	tOFF(EN)		10, 11			1000	

See footnotes at end of table.

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TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions <u>1/</u> V ₋ = -15 V, V ₊ = +15 V, V _{EN} = 2.4 V -55°C ≤ T _A ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Input leakage current <u>2/</u>	I _{IH}	Measure inputs sequentially, connect all unused inputs to ground	1	03	-1.0	1.0	μA
			2			10	
	I _{IL}		1		-1.0	1.0	
			2			10	
Leakage current into the source terminal of an “OFF” switch	I _{S(OFF)}	V _S = +10 V, V _{EN} = 0.8 V, V _D = -10 V, all unused inputs = -10 V	1, 2, 3	03	-50	+50	nA
		V _S = -10 V, V _{EN} = 0.8 V, V _D = +10 V, all unused inputs = +10 V					
Leakage current into the drain terminal of an “OFF” switch	+I _{D(OFF)}	V _D = +10 V, V _{EN} = 0.8 V, all unused inputs = -10 V	1, 2, 3	03	-250	+250	nA
	-I _{D(OFF)}	V _D = -10 V, V _{EN} = 0.8 V, all unused inputs = +10 V					
Leakage current from an “ON” driver into the switch (drain)	I _{D(ON)}	V _D = +10 V, V _S = +10 V, all unused inputs = -10 V	1, 2, 3	03	-250	+250	nA
		V _D = -10 V, V _S = -10 V, all unused inputs = +10 V					
Overvoltage protected, leakage current into the drain terminal of an “OFF” switch	I _{D(OFF)} over- voltage	V _S = +25 V, V _D = 0 V, V _{EN} = 0.8 V	1, 3	03	-2.0	2.0	μA
			2				
		V _S = -25 V, V _D = 0 V, V _{EN} = 0.8 V	1, 3		-2.0	2.0	
			2		-5.0	5.0	
Positive supply current	I(+)	V _A = 5.0 V	1, 2, 3	03		+2.0	mA
Negative supply current	I(-)	V _A = 5.0 V	1, 2, 3	03		-1.4	mA
Standby positive supply current	+I _{SBY}	V _A = 0 V, V _{EN} = 0.8 V	1, 2, 3	03		+2.0	mA
Standby negative supply current	-I _{SBY}	V _A = 0 V, V _{EN} = 0.8 V	1, 2, 3	03		-1.0	mA

See footnotes at end of table.

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TABLE I. Electrical performance characteristics – continued.

Test	Symbol	Conditions ^{1/} V- = -15 V, V+ = +15 V, VEN = 2.4 V -55°C ≤ TA ≤ +125°C unless otherwise specified	Group A subgroups	Device type	Limits		Unit
					Min	Max	
Switch “ON” resistance	RDS1	VS = +10 V, ID = +100 μA	1, 3	03		1500	Ω
			2			1800	
	VS = -10 V, ID = -100 μA	1, 3			1500	Ω	
		2			1800		
Switch “ON” resistance	RDS2	V+ = +10 V, V- = -10 V, VS = +5 V, ID = +100 μA	1, 2, 3	03		2200	Ω
		V+ = +10 V, V- = +10 V, VS = -5 V, ID = -100 μA				2200	
Capacitance: Address	CA	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	03		10	pF
Capacitance: output switch	COS	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	03		45	pF
Capacitance: input switch	CIS	V+ = V- = 0 V, ^{3/} f = 1 MHz, TA = +25°C	4	03		10	pF
Charge transfer error	VCTE	VS = GND, ^{3/} VGEN = 0 V to 5 V, TA = +25°C	4	03		10	mV
Single channel isolation	VISO	VGEN = 1 VP-P, ^{3/} f = 200 kHz, TA = +25°C	4	03	50		dB
Crosstalk between channels	VCT	VGEN = 1 VP-P, ^{3/} f = 200 kHz, TA = +25°C	4	03	50		dB
Break-before-make time delay	tD	TA = +25°C, see figure 3 ^{3/}	9	03	5		ns
Propagation delay times: Address inputs to I/O channels	tON(A)	RL = 10 kΩ, CL = 100 pF, ^{3/} see figure 4	9	03		1000	ns
	tOFF(A)		10, 11			1500	
Enable to I/O	tON(EN)	RL = 1 kΩ, CL = 100 pF, ^{3/} see figure 5	9	03		1000	ns
	tOFF(EN)		10, 11			1500	

^{1/} Unless otherwise specified, V+ = +15 V and V- = -15 V.

^{2/} Input current of one input node.

^{3/} Guaranteed, if not tested, to the limits specified.

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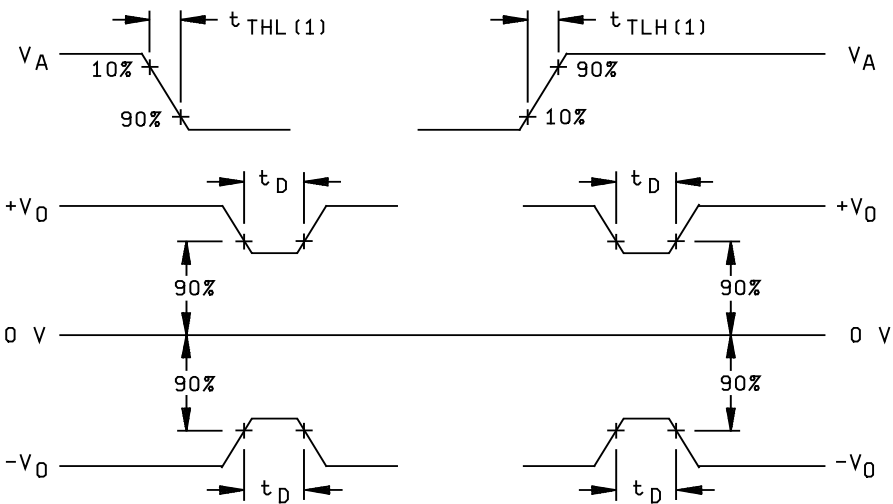
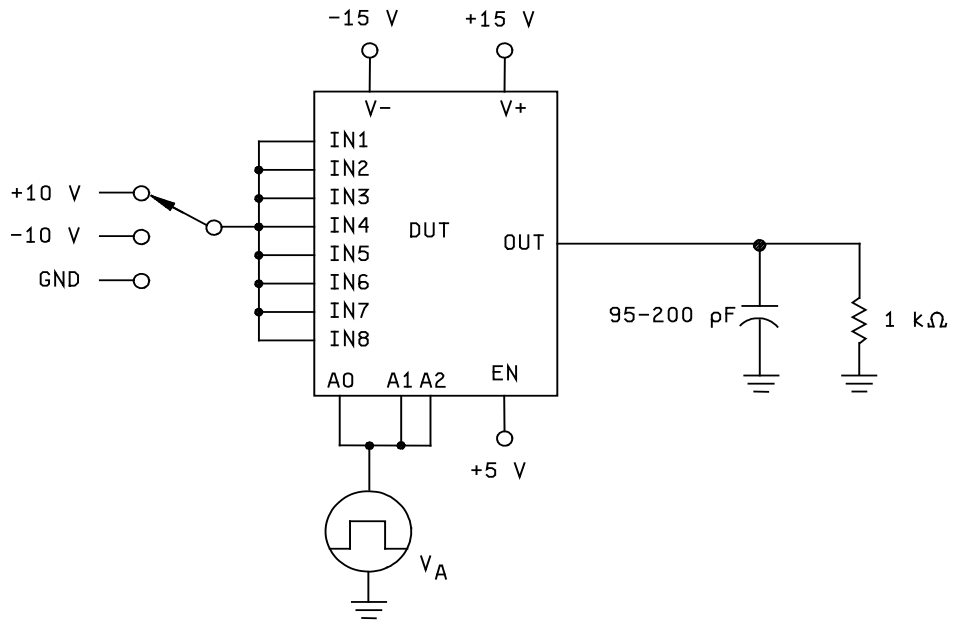
Case outlines	E	F and X	2
Device types	01,02,03	01	01,02,03
Terminal number	Terminal symbol		
1	A0	A0	NC
2	ENABLE	ENABLE	A0
3	V-	V-	ENABLE
4	IN 1	IN 1	V-
5	IN 2	IN 2	IN 1
6	IN 3	IN 3	NC
7	IN 4	IN 4	IN 2
8	OUT	OUT	IN 3
9	IN 8	IN 8	IN 4
10	IN 7	IN 7	OUT
11	IN 6	IN 6	NC
12	IN 5	IN 5	IN 8
13	V+	V+	IN 7
14	GND	GND	IN 6
15	A2	A2	IN 5
16	A1	A1	NC
17	---	---	V+
18	---	---	GND
19	---	---	A2
20	---	---	A1

FIGURE 1. Terminal connections.

A2	A1	A0	EN	Channel selected
X	X	X	L	None
L	L	L	H	1
L	L	H	H	2
L	H	L	H	3
L	H	H	H	4
H	L	L	H	5
H	L	H	H	6
H	H	L	H	7
H	H	H	H	8

FIGURE 2. Truth table.

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NOTE:

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

FIGURE 3. Break before make test circuit and waveforms.

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MICROCIRCUIT DRAWING**

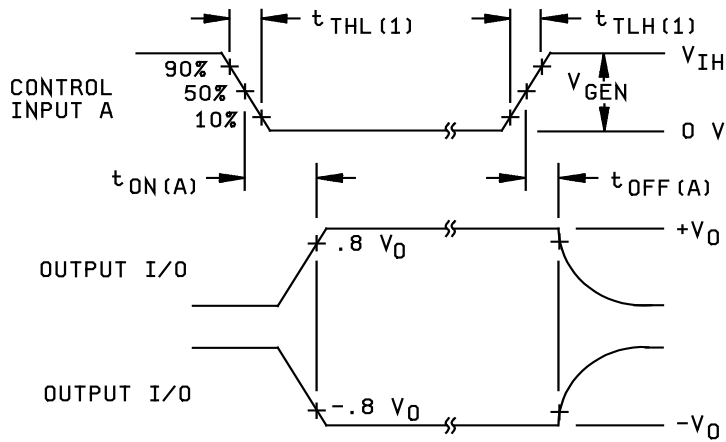
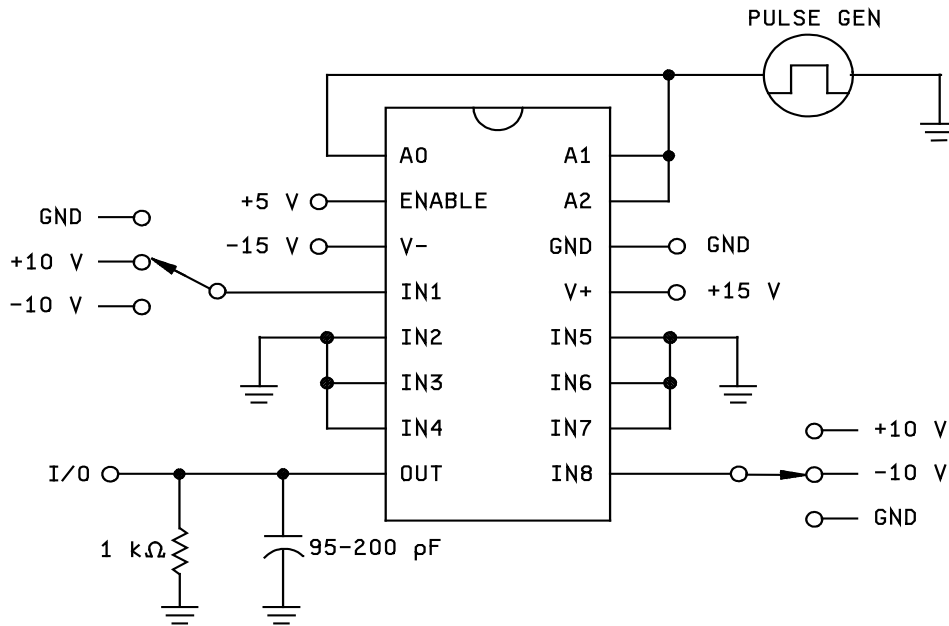
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NOTE:

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

FIGURE 4. Timing test circuit and waveforms. (Address inputs to I/O)

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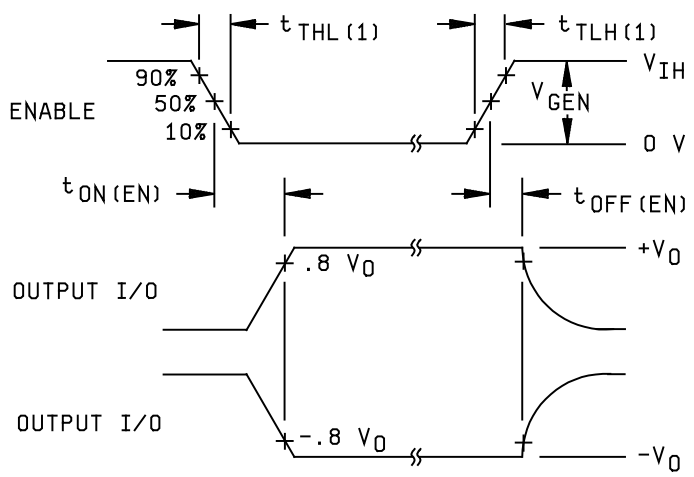
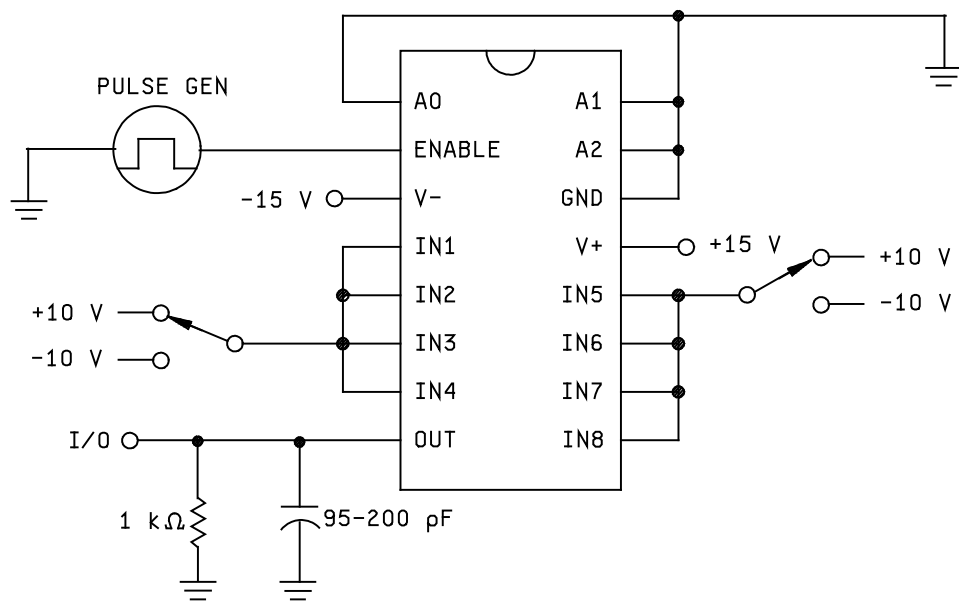
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NOTE:
 Input pulse requirements: $V_{GEN} = 4\text{ V}$, $t_{THL(1)} = t_{TLH(1)} \leq 20\text{ ns}$.

FIGURE 5. Timing test circuit and waveforms. (Enable to I/O)

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4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38535, appendix A.

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

- a. Burn-in test, method 1015 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1015 of MIL-STD-883.
 - (2) $T_A = +125^{\circ}\text{C}$, minimum.
- b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (in accordance with MIL-STD-883, method 5005, table I)
Interim electrical parameters (method 5004)	1
Final electrical test parameters (method 5004)	1*, 2, 3, 4, 9
Group A test requirements (method 5005)	1, 2, 3, 4, 9, 10**, 11**
Groups C and D end-point electrical parameters (method 5005)	1

* PDA applies to subgroup 1.

** Subgroups 10 and 11, if not tested, shall be guaranteed to the specified limits in table I.

4.3 Quality conformance inspection. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

4.3.1 Group A inspection.

- a. Tests shall be as specified in table II herein.
- b. Subgroups 5, 6, 7, and 8 in table I, method 5005 of MIL-STD-883 shall be omitted.
- c. Subgroup 4 (capacitance measurement) shall be measured only for the initial test and after process or design changes which may affect input capacitance.

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4.3.2 Groups C and D inspections.

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Steady-state life test conditions, method 1005 of MIL-STD-883.
 - (1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1005 of MIL-STD-883.
 - (2) $T_A = +125^{\circ}\text{C}$, minimum.
 - (3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38535, appendix A.

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished using DD Form 1692, Engineering Change Proposal.

6.4 Record of users. Military and industrial users shall inform DLA Land and Maritime when a system application requires configuration control and the applicable SMD to that system. DLA Land and Maritime will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DLA Land and Maritime-VA, telephone (614) 692-8108.

6.5 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-0540.

6.6 Approved sources of supply. Approved sources of supply are listed in MIL-HDBK-103 and QML-38535 (if QML). The vendors listed in MIL-HDBK-103 and QML-38535 (if QML) have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DLA Land and Maritime-VA.

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STANDARD MICROCIRCUIT DRAWING BULLETIN

DATE: 17-05-18

Approved sources of supply for SMD 77052 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38535 during the next revision. MIL-HDBK-103 and QML-38535 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DLA Land and Maritime-VA. This information bulletin is superseded by the next dated revision of MIL-HDBK-103 and QML-38535. DLA Land and Maritime maintains an online database of all current sources of supply at <https://landandmaritimeapps.dla.mil/programs/smcr/>.

Standard microcircuit drawing PIN <u>1/</u>	Vendor CAGE number	Vendor similar PIN <u>2/</u>	Reference military specification part number
77052012A	<u>3/</u>	ADG508ATE/883B	
	34371	HI4-508/883	
	<u>3/</u>	DG508AAZ/883	
77052012C	<u>3/</u>	DG508AAZ/883B	
7705201EA	1ES66	DG508AAK/883B	M38510/19007BEA
	<u>3/</u>	ADG508ATQ/883B	
	<u>3/</u>	DG508AAP/883	
7705201EC	34371	HI1-508/883	
7705201FA	<u>3/</u>	DG508AAL/883	
7705201XA	<u>3/</u>	DG508AAL/883	
7705201XC	<u>3/</u>	DG508AAL/883B	
77052022A	34371	HI4-548/883	
7705202EA	34371	HI1-548/883	M38510/19005BEA
77052032C	<u>3/</u>	MAX358MLP/883B	
7705203EA	<u>3/</u>	MAX358MJE/883B	M38510/19005BEA

1/ The lead finish shown for each PIN representing a hermetic package is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the vendor to determine its availability.

2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

3/ Not available from an approved source of supply.

Vendor CAGE number

Vendor name and address

34371

Intersil Corporation
1650 Robert J. Conlan Blvd. NE
Palm Bay, FL 32905-3406

1ES66

Maxim Integrated
160 Rio Robles
San Jose, CA 95134

The information contained herein is disseminated for convenience only and the Government assumes no liability whatsoever for any inaccuracies in the information bulletin.