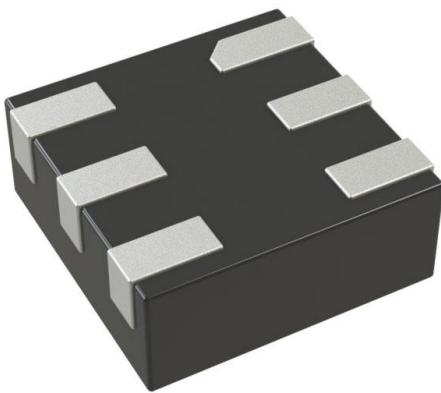


MC74VHC1GT08MU3TCG Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	MC74VHC1GT08MU3TCG-DG
Manufacturer	onsemi
Manufacturer Product Number	MC74VHC1GT08MU3TCG
Description	IC GATE AND 1CH 2-INP 6UDFN
Detailed Description	AND Gate IC 1 Channel 6-UDFN (1x1)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

MC74VHC1GT08MU3TCG

Series:

74VHC

Logic Type:

AND Gate

Number of Inputs:

2

Voltage - Supply:

2V ~ 5.5V

Current - Output High, Low:

8mA, 8mA

Input Logic Level - High:

1.5V ~ 3.85V

Operating Temperature:

-55°C ~ 125°C

Supplier Device Package:

6-UDFN (1x1)

Base Product Number:

74VHC1GT08

Manufacturer:

onsemi

Product Status:

Active

Number of Circuits:

1

Features:

-

Current - Quiescent (Max):

1 μ A

Input Logic Level - Low:

0.5V ~ 1.65V

Max Propagation Delay @ V, Max CL:

7.9ns @ 5V, 50pF

Mounting Type:

Surface Mount

Package / Case:

6-UDFN

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Single 2-Input AND Gate

MC74VHC1G08, MC74VHC1GT08

The MC74VHC1G08 / MC74VHC1GT08 is a single 2 input AND gate in tiny footprint packages. The MC74VHC1G08 has CMOS-level input thresholds while the MC74VHC1GT08 has TTL-level input thresholds.

The input structures provide protection when voltages up to 5.5 V are applied, regardless of the supply voltage. This allows the device to be used to interface 5 V circuits to 3 V circuits. Some output structures also provide protection when $V_{CC} = 0$ V and when the output voltage exceeds V_{CC} . These input and output structures help prevent device destruction caused by supply voltage – input/output voltage mismatch, battery backup, hot insertion, etc.

Features

- Designed for 2.0 V to 5.5 V V_{CC} Operation
- 3.5 ns t_{PD} at 5 V (typ)
- Inputs/Outputs Over-Voltage Tolerant up to 5.5 V
- I_{OFF} Supports Partial Power Down Protection
- Source/Sink 8 mA at 3.0 V
- Available in SC-88A, SC-74A, SOT-953 and UDFN6 Packages
- Chip Complexity < 100 FETs
- -Q Suffix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

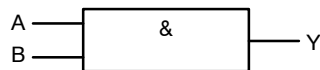
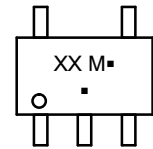


Figure 1. Logic Symbol

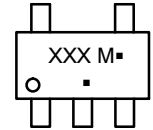
MARKING DIAGRAMS



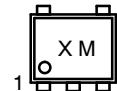
SC-88A
DF SUFFIX
CASE 419A



SC-74A
DBV SUFFIX
CASE 318BQ



SOT-953
P5 SUFFIX
CASE 527AE



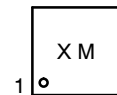
UDFN6
1.2x1.0, 0.4P
CASE 517AA



UDFN6
1.45 x 1.0
CASE 517AQ



UDFN6
1.0 x 1.0
CASE 517BX



XX = Specific Device Code
M = Date Code*
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or position may vary depending upon manufacturing location.

ORDERING INFORMATION

See detailed ordering, marking and shipping information on page 7 of this data sheet.

MC74VHC1G08, MC74VHC1GT08

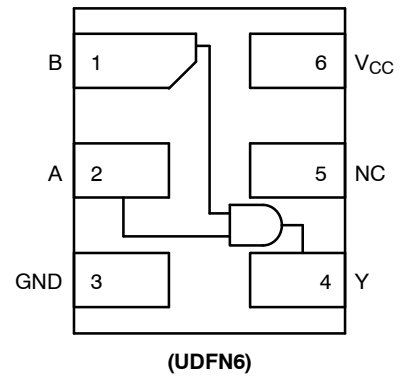
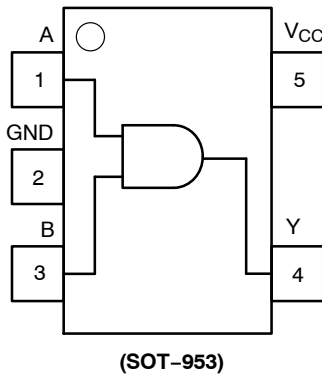
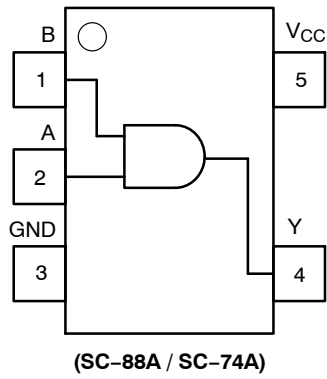


Figure 2. Pinout (Top View)

**PIN ASSIGNMENT
(SC-88A / SC-74A)**

Pin	Function
1	B
2	A
3	GND
4	Y
5	V _{CC}

PIN ASSIGNMENT (SOT-953)

Pin	Function
1	A
2	GND
3	B
4	Y
5	V _{CC}

PIN ASSIGNMENT (UDFN)

Pin	Function
1	B
2	A
3	GND
4	Y
5	NC
6	V _{CC}

FUNCTION TABLE

Input		Output
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

MC74VHC1G08, MC74VHC1GT08**MAXIMUM RATINGS**

Symbol	Characteristics	Value	Unit	
V _{CC}	DC Supply Voltage	-0.5 to +6.5	V	
V _{IN}	DC Input Voltage	-0.5 to +6.5	V	
V _{OUT}	DC Output Voltage Active-Mode (High or Low State) Tri-State Mode (Note 1) Power-Down Mode (V _{CC} = 0 V)	-0.5 to V _{CC} + 0.5 -0.5 to +6.5 -0.5 to +6.5	V	
I _{IK}	DC Input Diode Current V _{IN} < GND	-20	mA	
I _{OK}	DC Output Diode Current V _{OUT} < GND	-20	mA	
I _{OUT}	DC Output Source/Sink Current	±25	mA	
I _{CC} or I _{GND}	DC Supply Current per Supply Pin or Ground Pin	±50	mA	
T _{STG}	Storage Temperature Range	-65 to +150	°C	
T _L	Lead Temperature, 1 mm from Case for 10 secs	260	°C	
T _J	Junction Temperature Under Bias	+150	°C	
θ _{JA}	Thermal Resistance (Note 2)	SC-88A SC-74A SOT-553 SOT-953 UDFN6	377 320 324 254 154	°C/W
P _D	Power Dissipation in Still Air	SC-88A SC-74A SOT-553 SOT-953 UDFN6	332 390 386 491 812	mW
MSL	Moisture Sensitivity	Level 1	-	
F _R	Flammability Rating Oxygen Index: 28 to 34	UL 94 V-0 @ 0.125 in	-	
V _{ESD}	ESD Withstand Voltage (Note 3) Human Body Model Charged Device Model	2000 1000	V	
I _{Latchup}	Latchup Performance (Note 4)	± 100	mA	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Applicable to devices with outputs that may be tri-stated.

2. Measured with minimum pad spacing on an FR4 board, using 10mm-by-1inch, 2 ounce copper trace no air flow per JE5D51-7.

3. HBM tested to ANSI/ESDA/JEDEC JS-001-2017. CDM tested to EIA/JESD22-C101-F. JEDEC recommends that ESD qualification to EIA/JESD22-A115-A (Machine Model) be discontinued per JEDEC/JEP172A.

4. Tested to EIA/JESD78 Class II.

MC74VHC1G08, MC74VHC1GT08**RECOMMENDED OPERATING CONDITIONS**

Symbol	Characteristics	Min	Max	Unit
V_{CC}	Positive DC Supply Voltage	2.0	5.5	V
V_{IN}	DC Input Voltage	0	5.5	V
V_{OUT}	DC Output Voltage	0	V_{CC}	V
	Active-Mode (High or Low State)	0	5.5	
	Tri-State Mode (Note 1)	0	5.5	
	Power-Down Mode ($V_{CC} = 0$ V)	0	5.5	
T_A	Operating Temperature Range	-55	+125	°C
t_r, t_f	Input Rise and Fall Time			ns/V
	$V_{CC} = 2.0$ V	0	20	
	$V_{CC} = 2.3$ V to 2.7 V	0	20	
	$V_{CC} = 3.0$ V to 3.6 V	0	10	
	$V_{CC} = 4.5$ V to 5.5 V	0	5	

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

DC ELECTRICAL CHARACTERISTICS (MC74VHC1G08)

Symbol	Parameter	Test Conditions	V_{CC} (V)	$T_A = 25^\circ\text{C}$			$-40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		$-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$		Unit
				Min	Typ	Max	Min	Max	Min	Max	
V_{IH}	High-Level Input Voltage		2.0	1.5	-	-	1.5	-	1.5	-	V
			3.0	2.1	-	-	2.1	-	2.1	-	
			4.5	3.15	-	-	3.15	-	3.15	-	
			5.5	3.85	-	-	3.85	-	3.85	-	
V_{IL}	Low-Level Input Voltage		2.0	-	-	0.5	-	0.5	-	0.5	V
			3.0	-	-	0.9	-	0.9	-	0.9	
			4.5	-	-	1.35	-	1.35	-	1.35	
			5.5	-	-	1.65	-	1.65	-	1.65	
V_{OH}	High-Level Output Voltage	$V_{IN} = V_{IH}$ or V_{IL} $I_{OH} = -50 \mu\text{A}$ $I_{OH} = -50 \mu\text{A}$ $I_{OH} = -50 \mu\text{A}$ $I_{OH} = -4 \text{ mA}$ $I_{OH} = -8 \text{ mA}$	2.0	1.9	2.0	-	1.9	-	1.9	-	V
			3.0	2.9	3.0	-	2.9	-	2.9	-	
			4.5	4.4	4.5	-	4.4	-	4.4	-	
			3.0	2.58	-	-	2.48	-	2.34	-	
			4.5	3.94	-	-	3.80	-	3.66	-	
V_{OL}	Low-Level Output Voltage	$V_{IN} = V_{IH}$ or V_{IL} $I_{OL} = 50 \mu\text{A}$ $I_{OL} = 50 \mu\text{A}$ $I_{OL} = 50 \mu\text{A}$ $I_{OL} = 4 \text{ mA}$ $I_{OL} = 8 \text{ mA}$	2.0	-	0.0	0.1	-	0.1	-	0.1	V
			3.0	-	0.0	0.1	-	0.1	-	0.1	
			4.5	-	0.0	0.1	-	0.1	-	0.1	
			3.0	-	-	0.36	-	0.44	-	0.52	
			4.5	-	-	0.36	-	0.44	-	0.52	
I_{IN}	Input Leakage Current	$V_{IN} = 5.5$ V or GND	2.0 to 5.5	-	-	± 0.1	-	± 1.0	-	± 1.0	μA
I_{OFF}	Power Off Leakage Current	$V_{IN} = 5.5$ V or $V_{OUT} = 5.5$ V	0.0	-	-	1.0	-	10	-	10	μA
I_{CC}	Quiescent Supply Current	$V_{IN} = V_{CC}$ or GND	5.5	-	-	1.0	-	20	-	40	μA

MC74VHC1G08, MC74VHC1GT08**DC ELECTRICAL CHARACTERISTICS (MC74VHC1GT08)**

Symbol	Parameter	Test Conditions	V _{CC} (V)	T _A = 25°C			-40°C ≤ T _A ≤ 85°C		-55°C ≤ T _A ≤ 125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
V _{IH}	High-Level Input Voltage		2.0	1.0	-	-	1.0	-	1.0	-	V
			3.0	1.4	-	-	1.4	-	1.4	-	
			4.5	2.0	-	-	2.0	-	2.0	-	
			5.5	2.0	-	-	2.0	-	2.0	-	
V _{IL}	Low-Level Input Voltage		2.0	-	-	0.28	-	0.28	-	0.28	V
			3.0	-	-	0.45	-	0.45	-	0.45	
			4.5	-	-	0.8	-	0.8	-	0.8	
			5.5	-	-	0.8	-	0.8	-	0.8	
V _{OH}	High-Level Output Voltage	V _{IN} = V _{IH} or V _{IL}	2.0	1.9	2.0	-	1.9	-	1.9	-	V
		I _{OH} = -50 μA	3.0	2.9	3.0	-	2.9	-	2.9	-	
		I _{OH} = -50 μA	4.5	4.4	4.5	-	4.4	-	4.4	-	
		I _{OH} = -4 mA	3.0	2.58	-	-	2.48	-	2.34	-	
		I _{OH} = -8 mA	4.5	3.94	-	-	3.80	-	3.66	-	
V _{OL}	Low-Level Output Voltage	V _{IN} = V _{IH} or V _{IL}	2.0	-	0.0	0.1	-	0.1	-	0.1	V
		I _{OL} = 50 μA	3.0	-	0.0	0.1	-	0.1	-	0.1	
		I _{OL} = 50 μA	4.5	-	0.0	0.1	-	0.1	-	0.1	
		I _{OL} = 4 mA	3.0	-	-	0.36	-	0.44	-	0.52	
		I _{OL} = 8 mA	4.5	-	-	0.36	-	0.44	-	0.52	
I _{IN}	Input Leakage Current	V _{IN} = 5.5 V or GND	2.0 to 5.5	-	-	±0.1	-	±1.0	-	±1.0	μA
I _{OFF}	Power Off Leakage Current	V _{IN} = 5.5 V or V _{OUT} = 5.5 V	0	-	-	1.0	-	10	-	10	μA
I _{CC}	Quiescent Supply Current	V _{IN} = V _{CC} or GND	5.5	-	-	1.0	-	20	-	40	μA
I _{CCCT}	Increase in Quiescent Supply Current per Input Pin	One Input: V _{IN} = 3.4 V; Other Input at V _{CC} or GND	5.5	-	-	1.35	-	1.5	-	1.65	mA

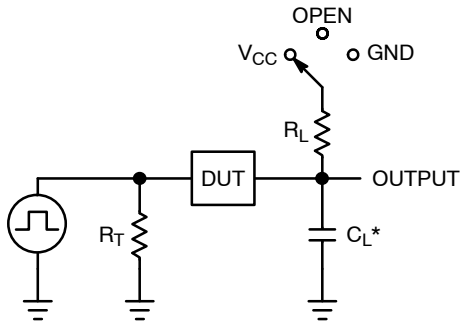
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	V _{CC} (V)	T _A = 25°C			-40°C ≤ T _A ≤ 85°C		-55°C ≤ T _A ≤ 125°C		Unit
				Min	Typ	Max	Min	Max	Min	Max	
t _{PLH} , t _{PHL}	Propagation Delay, A to Y (Figures 3 and 4)	C _L = 15 pF	3.0 to 3.6	-	4.1	8.8	-	10.5	-	12.5	ns
		C _L = 50 pF		-	5.9	12.3	-	14.0	-	16.5	
		C _L = 15 pF	4.5 to 5.5	-	3.5	5.9	-	7.0	-	9.0	
		C _L = 50 pF		-	4.2	7.9	-	9.0	-	11.0	
C _{IN}	Input Capacitance			-	4.0	10	-	10	-	10	pF
C _{OUT}	Output Capacitance	Output in High Impedance State		-	6.0	-	-	-	-	-	pF
Symbol	Parameter							Typical @ 25°C, V_{CC} = 5.0 V		Unit	
C _{PD}	Power Dissipation Capacitance (Note 5)							8.0		pF	

5. C_{PD} is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation: I_{CC(OPR)} = C_{PD} • V_{CC} • f_{in} + I_{CC}. C_{PD} is used to determine the no-load dynamic power consumption; P_D = C_{PD} • V_{CC}² • f_{in} + I_{CC} • V_{CC}.

MC74VHC1G08, MC74VHC1GT08



C_L includes probe and jig capacitance
 R_T is Z_{OUT} of pulse generator (typically 50 Ω)
 $f = 1$ MHz

Figure 3. Test Circuit

Test	Switch Position	C_L , pF	R_L , Ω
t_{PLH} / t_{PHL}	Open	See AC Characteristics Table	X
t_{PLZ} / t_{PZL}	V_{CC}		1 k
t_{PHZ} / t_{PZH}	GND		1 k

X = Don't Care

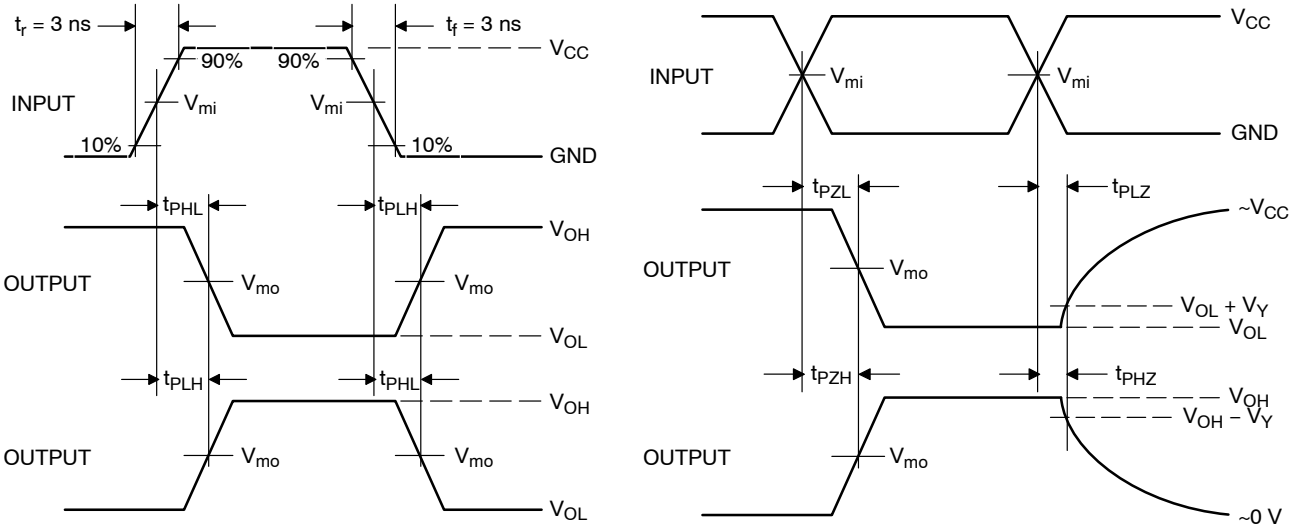


Figure 4. Switching Waveforms

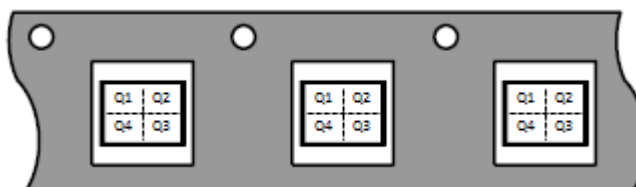
V_{CC} , V	V_{mi} , V	V_{mo} , V		V_Y , V
		t_{PLH} , t_{PHL}	t_{PZL} , t_{PLZ} , t_{PZH} , t_{PHZ}	
3.0 to 3.6	$V_{CC}/2$	$V_{CC}/2$	$V_{CC}/2$	0.3
4.5 to 5.5	$V_{CC}/2$	$V_{CC}/2$	$V_{CC}/2$	0.3

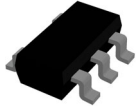
MC74VHC1G08, MC74VHC1GT08**ORDERING INFORMATION**

Device	Packages	Specific Device Code	Pin 1 Orientation (See below)	Shipping [†]
MC74VHC1G08DFT1G	SC-88A	V2	Q2	3000 / Tape & Reel
MC74VHC1G08DFT2G	SC-88A	V2	Q4	3000 / Tape & Reel
MC74VHC1G08DFT1G-Q*	SC-88A	V2	Q2	3000 / Tape & Reel
MC74VHC1G08DFT2G-Q*	SC-88A	V2	Q4	3000 / Tape & Reel
MC74VHC1GT08DFT1G	SC-88A	VT	Q2	3000 / Tape & Reel
MC74VHC1GT08DFT2G	SC-88A	VT	Q4	3000 / Tape & Reel
MC74VHC1GT08DFT1G-Q*	SC-88A	VT	Q2	3000 / Tape & Reel
MC74VHC1GT08DFT2G-Q*	SC-88A	VT	Q4	3000 / Tape & Reel
MC74VHC1G08DBVT1G	SC-74A	V2	Q4	3000 / Tape & Reel
MC74VHC1G08DBVT1G-Q*	SC-74A	V2	Q4	3000 / Tape & Reel
MC74VHC1GT08DBVT1G	SC-74A	VT	Q4	3000 / Tape & Reel
MC74VHC1GT08DBVT1G-Q*	SC-74A	VT	Q4	3000 / Tape & Reel
MC74VHC1G08P5T5G	SOT-953	E	Q2	8000 / Tape & Reel
MC74VHC1GT08P5T5G	SOT-953	P	Q2	8000 / Tape & Reel
MC74VHC1G08MU1TCG	UDFN6, 1.45 x 1.0, 0.5P	K (Rotated 180° CW)	Q4	3000 / Tape & Reel
MC74VHC1GT08MU1TCG	UDFN6, 1.45 x 1.0, 0.5P	4 (Rotated 270° CW)	Q4	3000 / Tape & Reel
MC74VHC1G08MU2TCG	UDFN6, 1.2 x 1.0, 0.4P	2	Q4	3000 / Tape & Reel
MC74VHC1G08MU3TCG	UDFN6, 1.0 x 1.0, 0.35	D (Rotated 270° CW)	Q4	3000 / Tape & Reel
MC74VHC1GT08MU3TCG	UDFN6, 1.0 x 1.0, 0.35	K	Q4	3000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

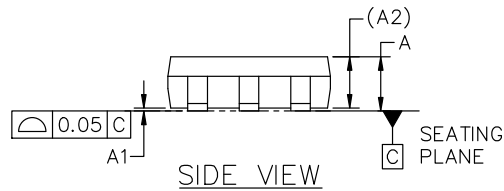
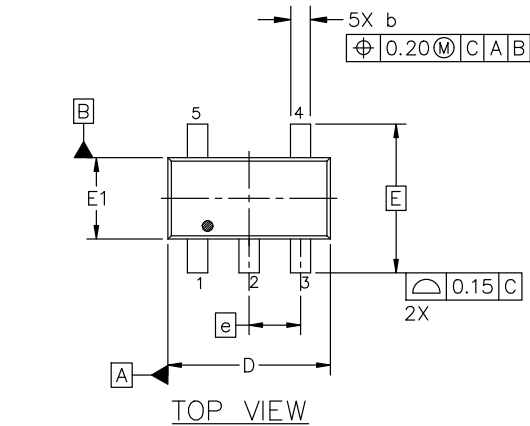
*-Q Suffix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable.

PIN 1 ORIENTATION IN TAPE AND REEL**Direction of Feed**



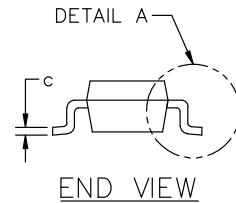
SC-74A-5 3.00x1.50x0.95, 0.95P
CASE 318BQ
ISSUE C

DATE 26 FEB 2024

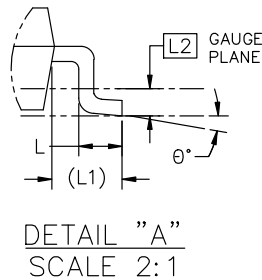


NOTES:

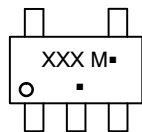
1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
2. ALL DIMENSION ARE IN MILLIMETERS (ANGLES IN DEGREES).
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OF GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.15 PER SIDE.



DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.90	1.00	1.10
A1	0.01	0.18	0.10
A2	0.95 REF.		
b	0.25	0.37	0.50
c	0.10	0.18	0.26
D	2.85	3.00	3.15
E	2.75 BSC		
E1	1.35	1.50	1.65
e	0.95 BSC		
L	0.20	0.40	0.60
L1	0.62 REF.		
L2	0.25 BSC		
θ	0°	5°	10°



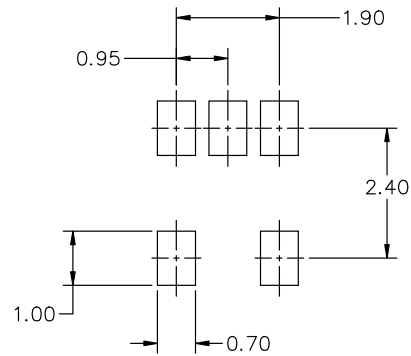
GENERIC MARKING DIAGRAM*



- XXX = Specific Device Code
- M = Date Code
- = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.



RECOMMENDED MOUNTING FOOTPRINT*

* FOR ADDITIONAL INFORMATION ON OUR Pb-FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE ON SEMICONDUCTOR SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

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DESCRIPTION:	SC-74A-5 3.00x1.50x0.95, 0.95P	PAGE 1 OF 1

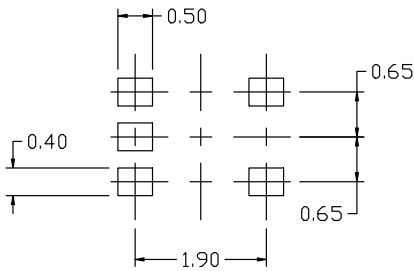
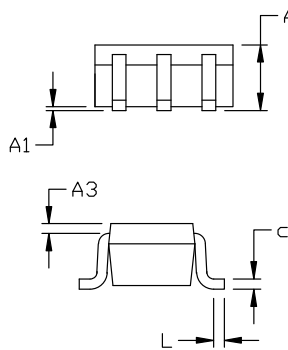
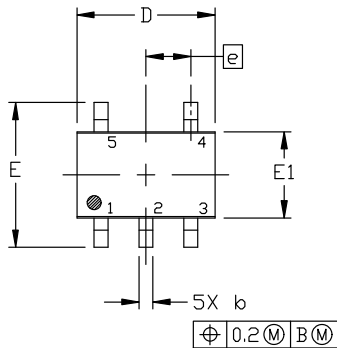
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SCALE 2:1

SC-88A (SC-70-5/SOT-353)
CASE 419A-02
ISSUE M

DATE 11 APR 2023



RECOMMENDED MOUNTING FOOTPRINT

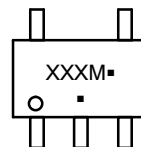
* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERM/D.

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
3. 419A-01 OBSOLETE. NEW STANDARD 419A-02
4. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.1016MM PER SIDE.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.80	0.95	1.10
A1	---	---	0.10
A3	0.20 REF		
b	0.10	0.20	0.30
c	0.10	---	0.25
D	1.80	2.00	2.20
E	2.00	2.10	2.20
E1	1.15	1.25	1.35
e	0.65 BSC		
L	0.10	0.15	0.30

GENERIC MARKING DIAGRAM*



*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

XXX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

STYLE 1:

- PIN 1. BASE
- 2. EMITTER
- 3. BASE
- 4. COLLECTOR
- 5. COLLECTOR

STYLE 2:

- PIN 1. ANODE
- 2. EMITTER
- 3. BASE
- 4. COLLECTOR
- 5. CATHODE

STYLE 3:

- PIN 1. ANODE 1
- 2. N/C
- 3. ANODE 2
- 4. CATHODE 2
- 5. CATHODE 1

STYLE 4:

- PIN 1. SOURCE 1
- 2. DRAIN 1/2
- 3. SOURCE 1
- 4. GATE 1
- 5. GATE 2

STYLE 5:

- PIN 1. CATHODE
- 2. COMMON ANODE
- 3. CATHODE 2
- 4. CATHODE 3
- 5. CATHODE 4

STYLE 6:

- PIN 1. EMITTER 2
- 2. BASE 2
- 3. EMITTER 1
- 4. COLLECTOR
- 5. COLLECTOR 2/BASE 1

STYLE 7:

- PIN 1. BASE
- 2. EMITTER
- 3. BASE
- 4. COLLECTOR
- 5. COLLECTOR

STYLE 8:

- PIN 1. CATHODE
- 2. COLLECTOR
- 3. N/C
- 4. BASE
- 5. EMITTER

STYLE 9:

- PIN 1. ANODE
- 2. CATHODE
- 3. ANODE
- 4. ANODE
- 5. ANODE

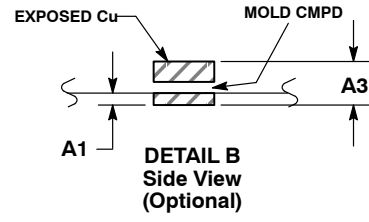
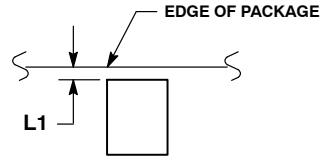
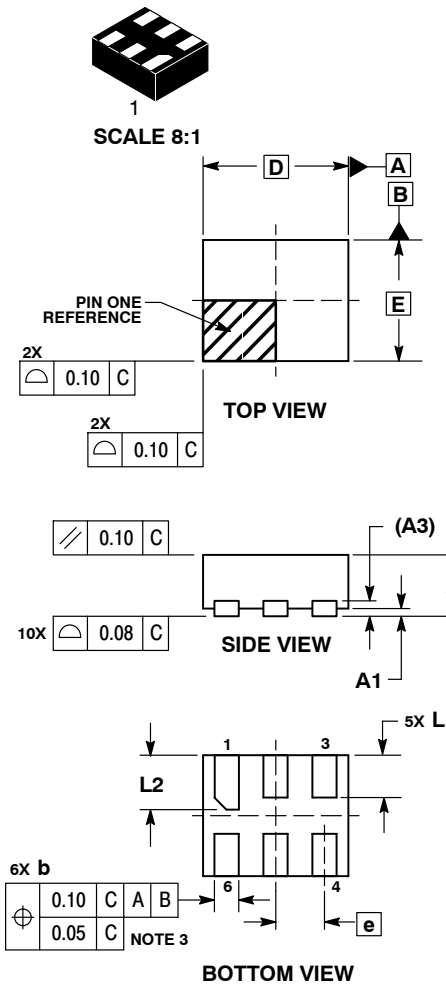
Note: Please refer to datasheet for style callout. If style type is not called out in the datasheet refer to the device datasheet pinout or pin assignment.

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DESCRIPTION:	SC-88A (SC-70-5/SOT-353)	PAGE 1 OF 1

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UDFN6, 1.2x1.0, 0.4P
CASE 517AA
ISSUE D

DATE 03 SEP 2010



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.25 AND 0.30 mm FROM TERMINAL.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

MILLIMETERS		
DIM	MIN	MAX
A	0.45	0.55
A1	0.00	0.05
A3	0.127	REF
b	0.15	0.25
D	1.20 BSC	
E	1.00 BSC	
e	0.40 BSC	
L	0.30	0.40
L1	0.00	0.15
L2	0.40	0.50

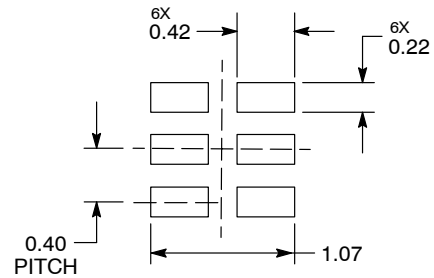
GENERIC MARKING DIAGRAM*



X = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

MOUNTING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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DESCRIPTION:	6 PIN UDFN, 1.2X1.0, 0.4P	PAGE 1 OF 1

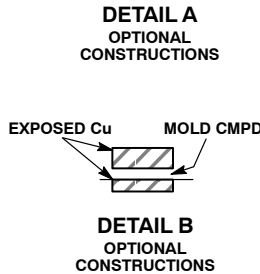
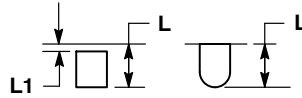
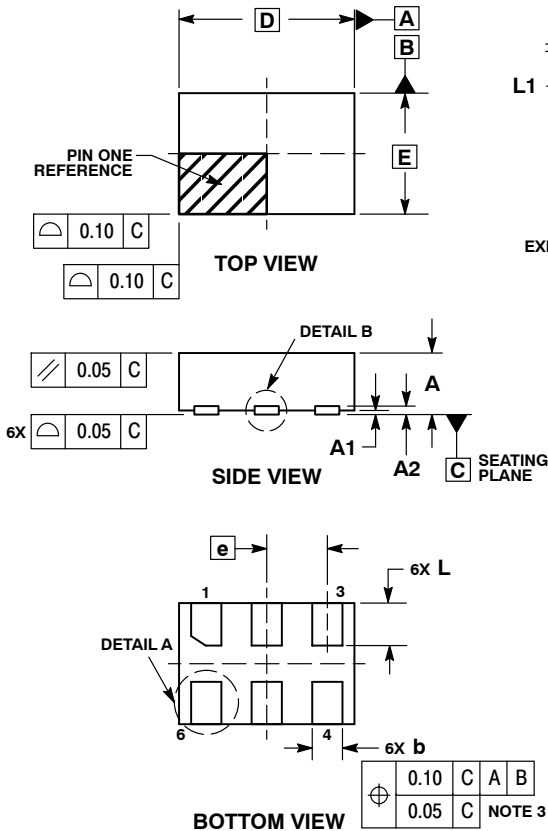
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SCALE 4:1

UDFN6, 1.45x1.0, 0.5P
CASE 517AQ
ISSUE O

DATE 15 MAY 2008

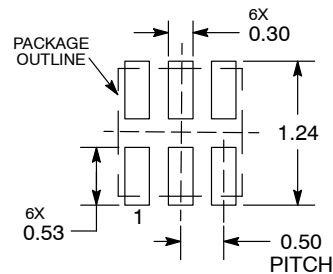


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM THE TERMINAL TIP.

MILLIMETERS		
DIM	MIN	MAX
A	0.45	0.55
A1	0.00	0.05
A2	0.07 REF	
b	0.20	0.30
D	1.45 BSC	
E	1.00 BSC	
e	0.50 BSC	
L	0.30	0.40
L1	---	0.15

MOUNTING FOOTPRINT



DIMENSIONS: MILLIMETERS

*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

GENERIC MARKING DIAGRAM*



X = Specific Device Code

M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

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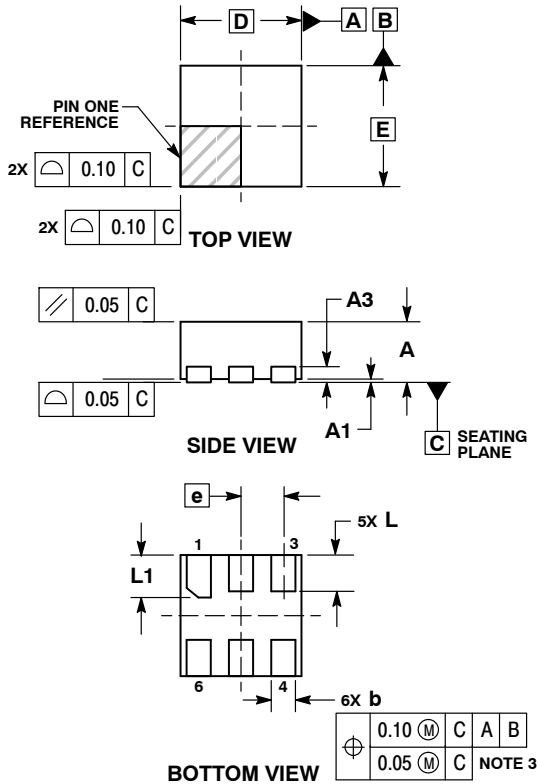
**MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS**



UDFN6, 1x1, 0.35P
CASE 517BX
ISSUE O

SCALE 4:1

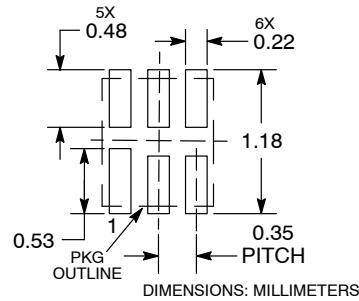
DATE 18 MAY 2011



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: MILLIMETERS.
 3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.20 MM FROM TERMINAL TIP.
 4. PACKAGE DIMENSIONS EXCLUSIVE OF BURRS AND MOLD FLASH.

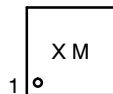
MILLIMETERS		
DIM	MIN	MAX
A	0.45	0.55
A1	0.00	0.05
A3	0.13	REF
b	0.12	0.22
D	1.00	BSC
E	1.00	BSC
e	0.35	BSC
L	0.25	0.35
L1	0.30	0.40

**RECOMMENDED
SOLDERING FOOTPRINT***



*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

**GENERIC
MARKING DIAGRAM***



X = Specific Device Code
M = Date Code

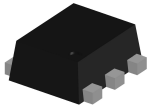
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**MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS**



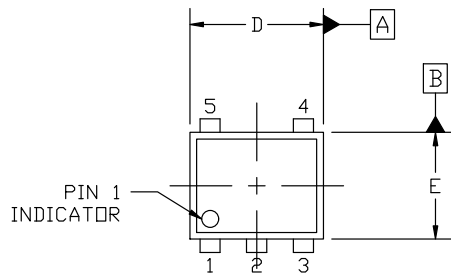
SOT-953 1.00x0.80x0.37, 0.35P
CASE 527AE
ISSUE F

DATE 17 JAN 2024

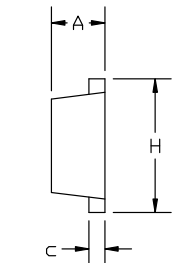
NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF THE BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

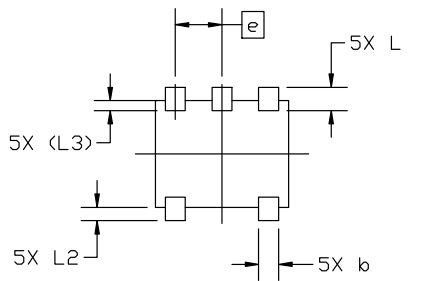
MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.34	0.37	0.40
b	0.10	0.15	0.20
C	0.07	0.12	0.17
D	0.95	1.00	1.05
E	0.75	0.80	0.85
e	0.35 BSC		
H	0.95	1.00	1.05
L	0.125	0.175	0.225
L2	0.05	0.10	0.15
L3	0.075 (REF)		



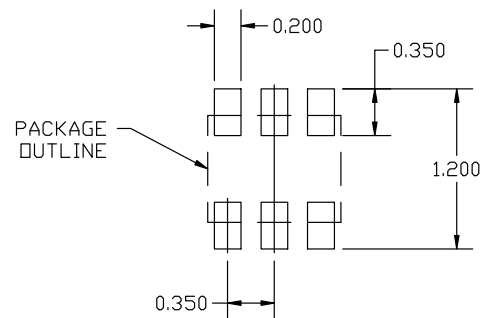
TOP VIEW



SIDE VIEW



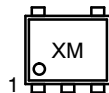
BOTTOM VIEW



RECOMMENDED MOUNTING FOOTPRINT

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

GENERIC MARKING DIAGRAM*



X = Specific Device Code
M = Month Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

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