



MAX6900/1/2 Product Notice

Maxim Integrated Products
120 San Gabriel Drive
Sunnyvale, CA 94086
(408) 737-7600

Dear MAX6900/01/02 Customer:

Maxim has discovered moisture sensitivity with the MAX6900 family of parts in the SOT23 package. As a result, we are forced to change the package type from the 6-pin or 8-pin SOT23 to a 6-pin or 8-pin thin QFN package. Mechanical drawings for both packages are attached and available on the Maxim web site at www.maxim-ic.com. It is recommended to resource industry-standard land patterns for the two devices and note the dimensions of the exposed pad on the bottom of the QFN package. Although the two packages are footprint compatible, the QFN may not be a drop-in replacement to the SOT23 package due to the exposed pad on the belly of the TQFN and the nature of solder bonds.

This letter will serve as official notification of Maxim's intent to discontinue the MAX6900/01/02 in the SOT23 package. The information below will outline how to obtain samples of the new package for your qualification as well as how Maxim will convert your current and future demand for these parts.

TECHNICAL ISSUES/ SOLUTIONS

In humid environments, this particular chip-on-lead (COL) SOT23 package has been found to be unreliable in combination with the MAX6900 family. This problem occurs only for the MAX6900/01/02 products and does not relate to any other Maxim product housed in a SOT23 package. Please note that this issue was discovered from a stringent qualification process, and to date Maxim has received no field failures.

This SOT23 COL package appears to be sensitive to moisture, humidity and bias conditions, which induce minor leakages resulting in product electrical failures. Since the MAX6900 is a very low power RTC, even very small leakage currents can cause the part to fail Maxim's datasheet specifications, or in the worst cases, fail completely. The leakage appears to effect the crystal startup circuitry, 2-wire interface or the overall current consumption of the part.

After our testing and failure analysis isolated the problem to the package, Maxim immediately began testing the MAX6900/01/02 in the QFN package so we could maintain the identical footprint and electrical specifications of the SOT23. Initial reliability stress testing through biased 85degC/85% humidity testing has produced no failures to date after subjecting 3 different assembly lots to 500 hours in the 85degC/ 85% humidity chamber and gives us every confidence that the QFN package will eliminate the problems observed with the SOT23. All of the failures of the SOT23 occurred within 85 hours of humidity testing and we have seen zero failures in the QFN package in the humidity chamber for the initial QFN package parts.

Release to production will be after the new package has been qualified. The release to production is expected to be in early August. Until then, Maxim will require a signature acknowledging the information put forth in this letter and as a waiver allowing Maxim to ship the MAX6900/01/02 in a QFN package prior to Maxim's release to production.

QFN SCHEDULE

The MAX6900 in the QFN package are available on a waiver prior to qualification.

The MAX6901 in the QFN package will be available on a waiver prior to qualification and are scheduled to be ready for delivery in September.

The MAX6902 in the QFN package will be available on a waiver prior to qualification and are scheduled to be ready for delivery at the end of July.

Customers can still purchase the SOT23 MAX6900/1/2's with a waiver. Please contact our customer service department for a copy of the waiver. If you have already have parts on order with Maxim, these orders must be amended to a new part number to reflect acceptance of the waiver.

We encourage our customers to contact us with specific delivery issues. The more we understand your schedules, we can work to meet them and streamline this transition as much as possible.

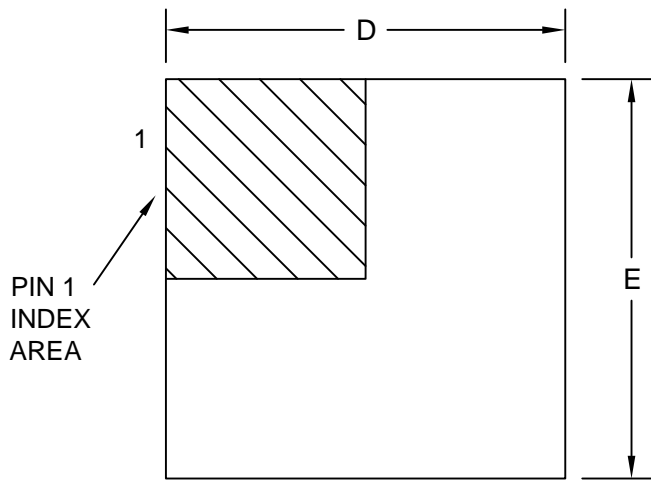
CURRENT BACKLOG

All future builds of the MAX6900/1/2 will be packaged in the 6-pin thin QFN package with the same pinout and footprint as the current SOT23 version of the MAX6900/1/2, respectively. Pinout and mechanical dimensions are available on the Maxim website at www.maxim-ic.com.

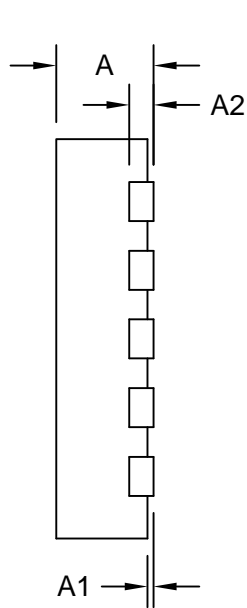
For any questions please contact your local Maxim Account Manager. In addition you may contact the following at Maxim Headquarters:

Brigitte Palouda
Business Manager
Phone: 408-530-6771
Email: Brigitte.Palouda@maximhq.com

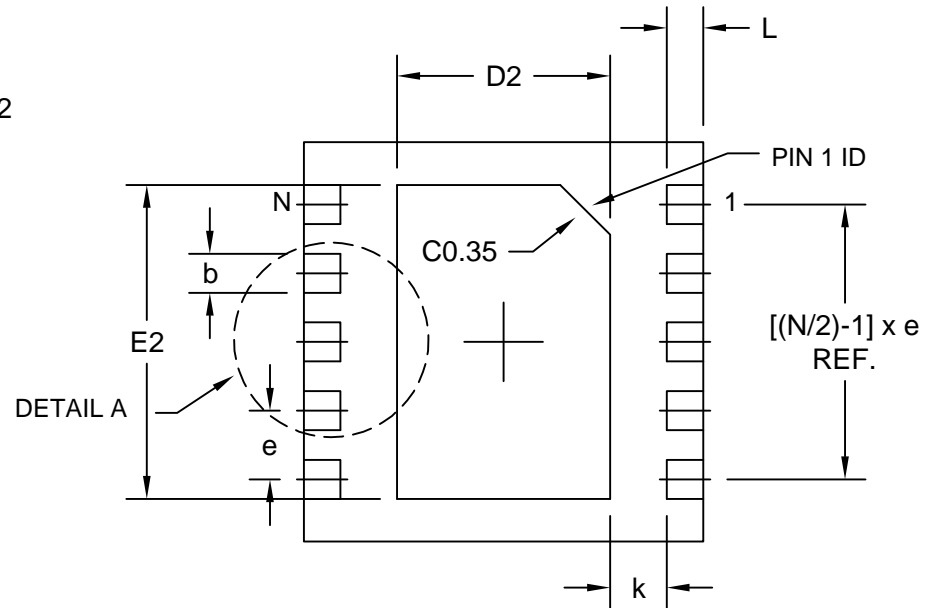
Jim Waldron
Business Manager
Phone: 972-371-4322
Email: Jim.Waldron@misnts1.dalsemi.com



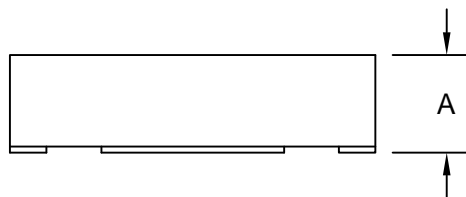
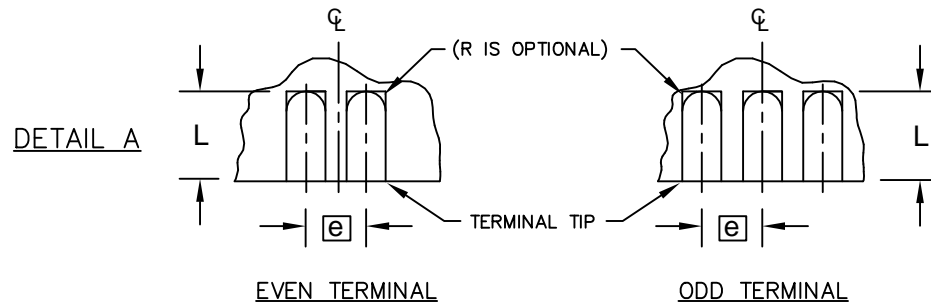
TOP VIEW



SIDE VIEW





BOTTOM VIEW



SIDE VIEW

NUMBER OF LEADS SHOWN ARE FOR REFERENCE ONLY



 		
PROPRIETARY INFORMATION		
TITLE: PACKAGE OUTLINE, 6, 8 & 10L, TDFN, EXPOSED PAD, 3x3x0.80 mm		
APPROVAL	DOCUMENT CONTROL NO. 21-0137	REV. D 1/2

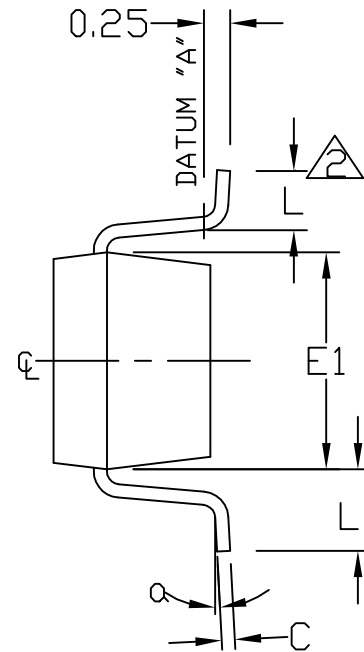
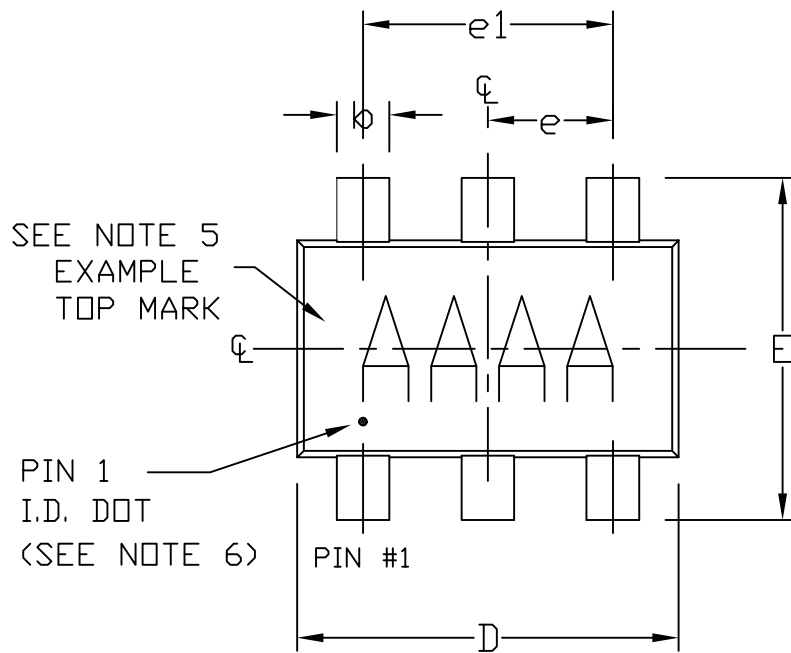
COMMON DIMENSIONS		
SYMBOL	MIN.	MAX.
A	0.70	0.80
D	2.90	3.10
E	2.90	3.10
A1	0.00	0.05
L	0.20	0.40
k	0.25 MIN.	
A2	0.20 REF.	

PACKAGE VARIATIONS							
PKG. CODE	N	D2	E2	e	JEDEC SPEC	b	[(N/2)-1] x e
T633-1	6	1.50±0.10	2.30±0.10	0.95 BSC	MO229 / WEEA	0.40±0.05	1.90 REF
T833-1	8	1.50±0.10	2.30±0.10	0.65 BSC	MO229 / WEEC	0.30±0.05	1.95 REF
T1033-1	10	1.50±0.10	2.30±0.10	0.50 BSC	MO229 / WEED-3	0.25±0.05	2.00 REF

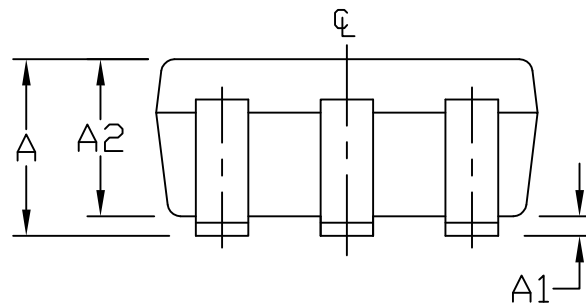
NOTES:

1. ALL DIMENSIONS ARE IN mm. ANGLES IN DEGREES.
2. COPLANARITY SHALL NOT EXCEED 0.08 mm.
3. WARPAGE SHALL NOT EXCEED 0.10 mm.
4. PACKAGE LENGTH/PACKAGE WIDTH ARE CONSIDERED AS SPECIAL CHARACTERISTIC(S).
5. DRAWING CONFORMS TO JEDEC MO229, EXCEPT DIMENSIONS "D2" AND "E2".
6. "N" IS THE TOTAL NUMBER OF LEADS.

 			
PROPRIETARY INFORMATION			
TITLE: PACKAGE OUTLINE, 6, 8 & 10L, TDFN, EXPOSED PAD, 3x3x0.80 mm			
APPROVAL	DOCUMENT CONTROL NO.	REV.	2/2
	21-0137	D	



SYMBOL	MIN	MAX
A	0.90	1.45
A1	0.00	0.15
A2	0.90	1.30
b	0.35	0.50
C	0.08	0.20
D	2.80	3.00
E	2.60	3.00
E1	1.50	1.75
L	0.35	0.60
L1	0.60 REF.	
e1	1.90 BSC.	
e	0.95 BSC.	
α	0°	10°



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. FOOT LENGTH MEASURED AT INTERCEPT POINT BETWEEN DATUM A & LEAD SURFACE.
3. PACKAGE OUTLINE EXCLUSIVE OF MOLD FLASH & METAL BURR. MOLD FLASH, PROTRUSION OR METAL BURR SHOULD NOT EXCEED 0.25 MM.
4. PACKAGE OUTLINE INCLUSIVE OF SOLDER PLATING.
5. PIN 1 IS LOWER LEFT PIN WHEN READING TOP MARK FROM LEFT TO RIGHT. (SEE EXAMPLE TOP MARK)
6. PIN 1 I.D. DOT IS 0.3 MM ϕ MIN. LOCATED ABOVE PIN 1.
7. MEETS JEDEC MO178, VARIATION AB.
8. SOLDER THICKNESS MEASURED AT FLAT SECTION OF LEAD BETWEEN 0.08mm AND 0.15mm FROM LEAD TIP.
9. LEAD TO BE COPLANAR WITHIN 0.1 MM.



PROPRIETARY INFORMATION

TITLE:

PACKAGE OUTLINE, SOT-23, 6L

APPROVAL

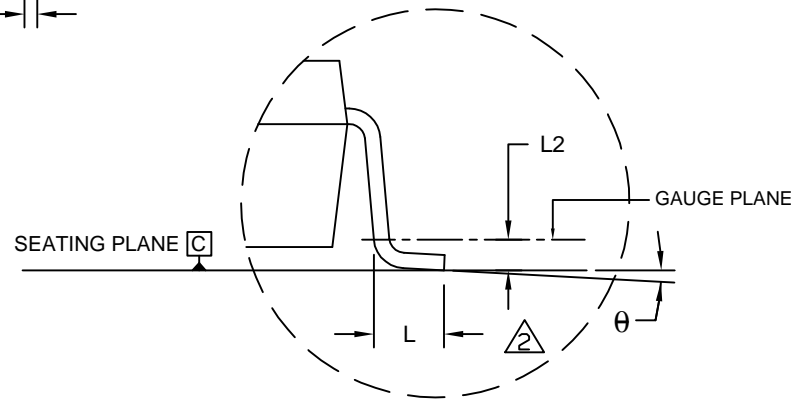
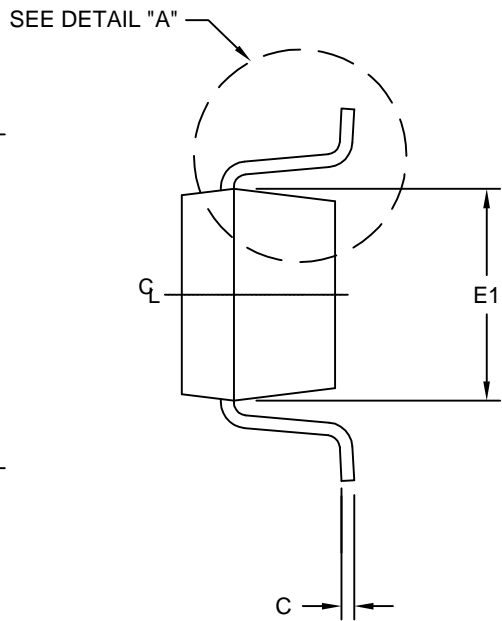
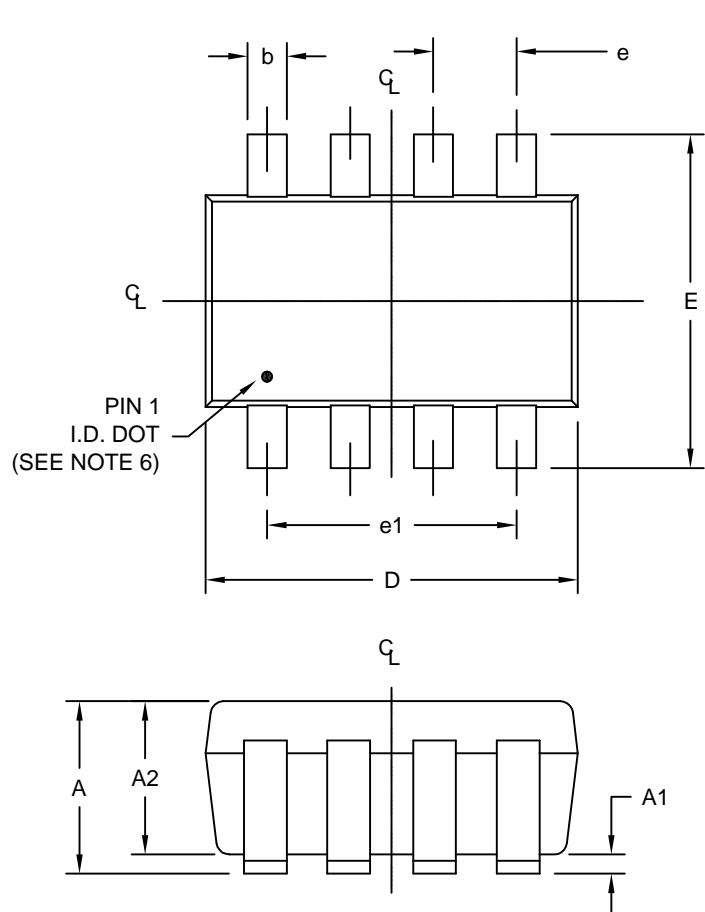
DOCUMENT CONTROL NO.

21-0058

REV.

F

1/1



SYMBOL	MIN	MAX
A	0.90	1.45
A1	0.00	0.15
A2	0.90	1.30
b	0.28	0.45
C	0.09	0.20
D	2.80	3.00
E	2.60	3.00
E1	1.50	1.75
L	0.30	0.60
L2	0.25 BSC.	
e	0.65 BSC.	
e1	1.95 REF.	
θ	0°	8°

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. FOOT LENGTH MEASURED FROM LEAD TIP TO UPPER RADIUS OF HEEL OF THE LEAD PARALLEL TO SEATING PLANE C.
3. PACKAGE OUTLINE EXCLUSIVE OF MOLD FLASH & METAL BURR.
4. PACKAGE OUTLINE INCLUSIVE OF SOLDER PLATING.
5. COPLANARITY 4 MILS. MAX.
6. PIN 1 I.D. DOT IS 0.3 MM Ø MIN. LOCATED ABOVE PIN 1.
7. SOLDER THICKNESS MEASURED AT FLAT SECTION OF LEAD BETWEEN 0.08mm AND 0.15mm FROM LEAD TIP.
8. MEETS JEDEC MO178.

DALLAS SEMICONDUCTOR **MAXIM**

PROPRIETARY INFORMATION

TITLE: PACKAGE OUTLINE, SOT-23, 8L BODY

APPROVAL	DOCUMENT CONTROL NO. 21-0078	REV. D	1/1
----------	---------------------------------	-----------	-----