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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #20078**

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**Issue Date:** 03-May-2013

**TITLE:** Lead frame change SOIC 20 and SOIC 28 from UTAC

**PROPOSED FIRST SHIP DATE:** 03-Aug-2013

**AFFECTED CHANGE CATEGORY(S):** Bill of Materials

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact your local ON Semiconductor Sales Office or Charlie Yu < [charlie.yu@onsemi.com](mailto:charlie.yu@onsemi.com) >

**SAMPLES:** Contact your local ON Semiconductor Sales Office

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Francis Lualhati < [ffxczy@onsemi.com](mailto:ffxczy@onsemi.com) >

**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <[quality@onsemi.com](mailto:quality@onsemi.com)>.

**DESCRIPTION AND PURPOSE:**

L/F supplier change due to the floods in Thailand in 2011.

The change in L/F results in a change in MSL level. The new L/F has an MSL 3 rating.



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RELIABILITY DATA SUMMARY SOIC 28:

RELIABILITY TEST	CONDITION	S/S	ONSQF0099.1	ONSQF0100.1	ONSQF0101.1	ONSQF0102.1
1. PRECON LEVEL 3			CONTROL LOT	QUAL LOT-1	QUAL LOT-2	QUAL LOT-3
- ELECTRICAL TEST		153 UNITS/ LOT	0/153	0/153	0/153	0/153
- VISUAL INSPECTION	40X		0/153	0/153	0/153	0/153
- TMCL 5 CYC	-65/150C					
- BAKE 24 HRS	125C					
- SOAK L3 192 HRS	30C/ 60%RH					
- CONVECTION REFLOW 3 X	260C(+0-5°C)					
- FLUX IMMERSE						
- VISUAL INSPECTION	40X		0/153	0/153	0/153	0/153
- ELECTRICAL TEST						
			1/153 BIN4 =1	2/153 BIN4 =2	2/153 BIN4 =2	0/153
- FA NON-DESTRUCTIVE ANALYSIS			BIN4=1FUNC,VRSET	BIN4=2 FUNC,VRSET	BIN4=2FUNC,VRSET	
- RETEST WITH NEW PROGRAM			PASS =1	PASS=2	PASS=2	
<b>2.ACLV_P_L3</b>			74	72	72	76
2.1 96 HRS.	121C/100%RH					
- ELECTRICAL TEST			0/74	0/72	0/72	0/76
<b>3.TMCL-P_L3</b>			77	77	77	77
3.1 100 CYCS.	-65/150C	77 /LOT				
- ELECTRICAL TEST			0/77	0/77	0/77	0/77
3.2 500 CYCS.	-65/150C					
- ELECTRICAL TEST			0/77	0/77	0/77	0/77
<b>4. DPA</b>		5 UNITS / LOT				
4.1 POST TMCL-P_L3 @ 500 CYC			NOV03-21,12	NOV03-21,12	NOV03-21,12	NOV03-21,12
			0/5	0/5	0/5	0/5
<b>5. HTS W/O PRECON</b>			80	80	80	80
5.1 168 HRS	150C	80 /LOT				
- ELECTRICAL TEST			1/80	1/80	0/80	0/80
- FA NON-DESTRUCTIVE ANALYSIS			BIN5,CC/CSS_PINTTEST	BIN4,VRSET		
- RETEST WITH NEW PROGRAM			PASS =1	PASS =1		
5.2 504 HRS	150C	80 /LOT				
- ELECTRICAL TEST			0/80	0/80	0/80	0/80
5.3 1000 HRS	150C	80 /LOT				
- ELECTRICAL TEST			0/80	0/80	0/80	0/80



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**RELIABILITY DATA SUMMARY SOIC 28 Continued:**

<b>6. MSL TEST-L3 @ 260C</b>		10 UNITS / LOT				
- ELECTRICAL TEST			0/10	0/10	0/10	0/10
- VISUAL INSPECTION	40X		0/10	0/10	0/10	0/10
- C-TSAM PRE-STRESS						
DIE			0/10	0/10	0/10	0/10
DAP			0/10	0/10	0/10	0/10
LEAD			0/10	0/10	0/10	0/10
TSAM			0/10	0/10	0/10	0/10
- BAKE 24 HRS	125C					
- SOAK L3 192 HRS	30C/ 60%RH					
- CONVECTION REFLOW 3 X	260C(+0-5°C)					
- VISUAL INSPECTION	40X		0/10	0/10	0/10	0/10
- ELECTRICAL TEST			0/10	0/10	0/10	0/10
- C-TSAM POST-STRESS						
DIE			0/10	0/10	0/10	0/10
DAP			0/10	0/10	0/10	0/10
LEAD			0/10	0/10	0/10	0/10
TSAM			0/10	0/10	0/10	0/10
- X-SECTION	100X	2 UNITS/ LOT	0/2	0/2	0/2	0/2
- DECAPSULATION		2 UNITS/ LOT	0/2	0/2	0/2	0/2



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RELIABILITY DATA SUMMARY SOIC 20:

RELIABILITY TEST	CONDITION	SAMPLE	ONSQF0071.1	ONSQF0072.1	ONSQF0073.1	STATUS
<b>1. PRECON LEVEL 3 @ 260C</b>		160/LOT				
- ELECTRICAL TEST			0/160	0/160	0/160	DONE
- TMCL 5 CYC	-65/150C					DONE
- BAKE 24 HRS	125C					DONE
- SOAK L3 192 HRS	30°C/60%RH					DONE
- CONVECTION REFLOW 3X	260°C (+0/-5°C)					DONE
- FLUX/IMMERSE						DONE
- EXTERNAL VISUAL INSPECTION	40X		0/160	0/160	0/160	DONE
- ELECTRICAL TEST			0/160	0/160	2/160 B4, FUNC=2	DONE
- CUSTOMER CONSIDER					FUNC ,INVALID UNIT=2	
- 1st RETEST					2/2 OUT_LEAK_YBATT	DONE
- 2nd RETEST					0/2	DONE,OCT30,12
<b>2. ACLY-P_L3</b>						
2.1 96 HRS	121C/15PSIG/100%RH	80/LOT				DONE
- ELECTRICAL TEST			0/80	0/80	0/80	DONE
<b>3. TMCL-P_L3</b>			80	80	80	
3.1 200 CYCS	-65/150C	80/ LOT				DONE
- ELECTRICAL TEST			0/80	0/80	0/80	DONE
3.2 500 CYCS	-65/150C	80/ LOT				DONE
- ELECTRICAL TEST			0/80	1/80 BIN6=1	0/80	DONE
- RETEST				SHORT PIN12=1		DONE NOV01-02,12
- FA NON-DESTRUCTIVE				NOT FOUND ASSEMBLY RELATED		DONE NOV14,12
<b>4. DPA TEST</b>		5 /LOT	5	5	5	
4.1 POST TMCL-P @ 500 CYC			0/5	0/5	0/5	DONE
						DONE
<b>5. HTS W/O PRECON</b>			80	80	80	
5.1 168 HRS	150C	80 /LOT				DONE
- ELECTRICAL TEST			0/80	0/80	0/80	DONE
5.2 504 HRS	150C	80 /LOT				DONE
- ELECTRICAL TEST			0/80	0/80	3/80 B4-PARA;LEAK =2	DONE
					B6; FUNCTION =1	DONE
- 1st RETEST					3/3 OUT_LEAK_YBATT	DONE
- 2nd RETEST					0/3	DONE,OCT30,12
5.3 1000 HRS	150C	80 /LOT				DONE
- ELECTRICAL TEST						DONE
			1/80 YBATT_21V_OUT8	0/80	4/80	
					SHORT OUT8_PIN12 AT PIN12 =2	
					YBATT_21V_OUT8 AT PIN12= 2	
- FA NON-DESTRUCTIVE			LEAKAGE PIN 12 =1		LEAKAGE PIN 12 = 4	
- RETEST			SHORT=1		SHORT = 3 ,BIN6=1	
- FA NON-DESTRUCTIVE			NOT FOUND ASSEMBLY RELATED		NOT FOUND ASSEMBLY RELATED	DONE
1000 HRS (RETEST GOOD @ 504 Hrs)					3	
- ELECTRICAL TEST						DONE
					0/3	



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**RELIABILITY DATA SUMMARY SOIC 20 Continued :**

<b>6. MSL-L3</b>		<b>10/ LOT</b>	<b>10</b>	<b>10</b>	<b>10</b>	
- C-SAM PRE- STRESS			SEP11,12	SEP11,12	SEP11,12	DONE
DIE			0/10	0/10	0/10	
DAP			0/10	0/10	0/10	
LEAD			0/10	0/10	0/10	
TSAM			0/10	0/10	0/10	
- BAKE 24 HRS	<b>125C</b>					DONE
- SDAK L3 192 HRS	<b>30°C/ 60%RH</b>					DONE
- CONVECTION REFLOW 3X	<b>260°C (+0/-5°C)</b>					DONE
- EXTERNAL VISUAL INSPECTION	<b>40X</b>		0/10	0/10	0/10	DONE
- C-SAM POST- STRESS						DONE
DIE			0/10	0/10	0/10	
DAP			0/10	0/10	0/10	
LEAD			0/10	0/10	0/10	
TSAM			0/10	0/10	0/10	
- ELECTRICAL TEST						DONE
			0/10	0/10	0/10	DONE

**CHANGED PART IDENTIFICATION:** None

**List of affected General Parts:**

CAT4026V-T1 SOIC 28  
 CAT310W-T1 SOIC 20