

**Date:** 31 Oct 2012

**Product Category:** Analog (Thermal, Power Management & Safety)

**Device Family:**  

**Notification subject:** CCB 1178.01 Initial Notice: Qualification of 3L SOT-223 with conductive die attach at LPI assembly site.

**Notification text:** PCN Status:  
Initial notification

Microchip Parts Affected:  
See attachments of affected catalog part numbers (CPN) labeled as...  
PCN\_CYER-29INGL572\_Affected\_CPN.xls  
PCN\_CYER-29INGL572\_Affected\_CPN.pdf

Description of Change:  
Qualification of 3L SOT-223 with conductive die attach at LPI assembly site.

Impacts to Data Sheet:  
None

Reason for Change:  
To improve on time delivery performance

Change Implementation Status:  
In Progress

Estimated First Ship Date:  
January 11, 2013 (date code: 1302)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Markings to Distinguish Revised from Unrevised Devices:  
Traceability code

Revision History:  
October 31, 2012: Issued initial notification.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable

products.

**Attachment(s):**

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

**Terms and Conditions:**

If you wish to change your product/process change notification (PCN) profile please log on to our website at <http://www.microchip.com/PCN> sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

To opt out of future offer or information emails (other than product change notification emails), click here to go to [microchipDIRECT](#) and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

## Product Change Notification - CYER-29INGL572

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Parts Affected

MCP1703  
MCP1703A  
MCP1754  
MCP1754S  
MCP1790  
MCP1824S  
MCP1825S  
MCP1826S  
TC1108  
TC1262  
TC1264

PCN_CYER-29INGL572
CATALOG_PART_NBR
MCP1703-1202E/DB
MCP1703-1502E/DB
MCP1703-1802E/DB
MCP1703-2502E/DB
MCP1703-2802E/DB
MCP1703-3002E/DB
MCP1703-3302E/DB
MCP1703-4002E/DB
MCP1703-5002E/DB
MCP1703A-1202E/DB
MCP1703A-1502E/DB
MCP1703A-1802E/DB
MCP1703A-2502E/DB
MCP1703A-2802E/DB
MCP1703A-3002E/DB
MCP1703A-3302E/DB
MCP1703A-4002E/DB
MCP1703A-5002E/DB
MCP1703AT-1202E/DB
MCP1703AT-1502E/DB
MCP1703AT-1802E/DB
MCP1703AT-2502E/DB
MCP1703AT-2802E/DB
MCP1703AT-3002E/DB
MCP1703AT-3301E/DB
MCP1703AT-3302E/DB
MCP1703AT-3402E/DBV01
MCP1703AT-4002E/DB
MCP1703AT-5002E/DB
MCP1703T-1202E/DB
MCP1703T-1502E/DB
MCP1703T-1802E/DB
MCP1703T-2402E/DB
MCP1703T-2502E/DB
MCP1703T-2802E/DB
MCP1703T-3002E/DB
MCP1703T-3301E/DB
MCP1703T-3302E/DB
MCP1703T-4002E/DB
MCP1703T-5002E/DB
MCP1754S-3302E/DB
MCP1754S-5002E/DB
MCP1754ST-3302E/DB
MCP1754ST-5002E/DB
MCP1790-3002E/DB
MCP1790-3002E/DBVAO
MCP1790-3302E/DB
MCP1790-5002E/DB
MCP1790-5002E/DBVAO
MCP1790T-3002E/DB

MCP1790T-3002E/DBVAO
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MCP1790T-5002E/DB
MCP1790T-5002E/DBV01
MCP1790T-5002E/DBV02
MCP1790T-5002E/DBVAO
MCP1824ST-0802E/DB
MCP1824ST-1202E/DB
MCP1824ST-1802E/DB
MCP1824ST-2502E/DB
MCP1824ST-3002E/DB
MCP1824ST-3302E/DB
MCP1824ST-5002E/DB
MCP1825S-0802E/DB
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MCP1825S-2502E/DB
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MCP1826S-3002E/DB
MCP1826S-3302E/DB
MCP1826S-5002E/DB
MCP1826ST-0802E/DB
MCP1826ST-1002E/DB
MCP1826ST-1202E/DB
MCP1826ST-1802E/DB
MCP1826ST-2502E/DB
MCP1826ST-3002E/DB
MCP1826ST-3302E/DB
MCP1826ST-5002E/DB
TC1108-2.5VDB
TC1108-2.5VDBTR
TC1108-2.7VDB
TC1108-2.7VDBTR
TC1108-2.8VDB
TC1108-2.8VDBTR
TC1108-3.0VDB
TC1108-3.0VDBTR
TC1108-3.3VDB

TC1108-3.3VDBTR
TC1108-5.0VDB
TC1108-5.0VDBTR
TC1262-2.5VDB
TC1262-2.5VDBTR
TC1262-2.8VDB
TC1262-2.8VDBTR
TC1262-3.0VDB
TC1262-3.0VDBTR
TC1262-3.3VDB
TC1262-3.3VDBMR
TC1262-3.3VDBTR
TC1262-3.3VDBTR-V01
TC1262-5.0VDB
TC1262-5.0VDBTR
TC1264-1.8VDB
TC1264-1.8VDBTR
TC1264-2.5VDB
TC1264-2.5VDBTR
TC1264-3.0VDB
TC1264-3.0VDBTR
TC1264-3.3VDB
TC1264-3.3VDBTR



**MICROCHIP**

# **QUALIFICATION PLAN**

**PCN #: CYER-29INGL572**

**Oct. 24, 2012**

**Qualification of 3L SOT-223 with conductive die attach  
at LPI assembly site.**

Distribution

Surasit P.  
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**Purpose:** \_\_\_\_\_ Qualification of 3L SOT-223 with conductive die attach  
at LPI assembly site.

**MP code:** \_\_\_\_\_ VKAB1

**Part No.:** \_\_\_\_\_ MCP1790

**BD No:** \_\_\_\_\_ BDM-xxxxx rev.A (Engineering BD)

**CCB No:** \_\_\_\_\_ 1178.01

**Package:**

**Type** \_\_\_\_\_ 3L SOT-223

**Die thickness:** \_\_\_\_\_ 11 mils

**Die size:** \_\_\_\_\_ 62.5 x 63.4 mils

**Lead frame:**

**Paddle size:** \_\_\_\_\_ 118 x 97 mils (PSJ China)

**Material** \_\_\_\_\_ PMC-90

**Surface** \_\_\_\_\_ Ag ring

**Process** \_\_\_\_\_ Stamped

**Lead Lock** \_\_\_\_\_ Yes

**Part Number** \_\_\_\_\_ 092500308

**Wire:**

**Material** \_\_\_\_\_ Au (MKE Korea)

**Die Attach Epoxy:**

**Part Number** \_\_\_\_\_ CRM-1064L (Sumitomo Singapore)

**Conductive** \_\_\_\_\_ Yes

**Mold Compound:** \_\_\_\_\_ G600 / Sumitomo (Taiwan)



Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NIPdAu finish prior to testing. Standard Pb-free: Matte tin/ NIPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability—SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Standard SnPb Solderability	JESD22B-102E; Perform 8 hour steam aging prior to testing.	22	5	1	27	> 95% lead coverage	5	
Backward Solderability	Standard SnPb: SnPb finish, SnPb solder, wetting temp 215°C for SMD & 245°C for through hole packages. JESD22B-102E; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NIPdAu finish prior to testing.	22	5	1	27	> 95% lead coverage	5	
Wire Bond Pull - WBP	Backward: Matte tin/ NIPdAu finish, SnPb solder, wetting temp 215°C for SMD. Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	30 bonds from a minimum of 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	+175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25C.	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020D for package type; Electrical test pre and post stress at +25°C. Perform SAM analysis using the standard sample size. MSL-1 @ 260°C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Unbiased HAST	+130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Please decap/ inspect 5 units for anomalies.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. (Parts can be tested at Room temp only)	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.