Product Change Notification - CYER-18SMGE942

Date:	08 Aug 2013
Product Category:	Analog (Thermal, Power Management & Safety)
Notification subject:	CCB 1320.01 Initial Notice: Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.
Notification text:	PCN Status: Initial notification Microchip Parts Affected: See attachments of affected catalog part numbers (CPN) labeled as… PCN_CYER-18SMGE942_Affected_CPN.xls PCN_CYER-18SMGE942_Affected_CPN.pdf Description of Change: Qualification of 3L SOT-223 with conductive die attach at ATP assembly site. Impacts to Data Sheet: Yes – The package outside dimensions will be revised. Reason for Change: To improve on time delivery performance Change Implementation Status: In Progress Estimated First Ship Date:

October 18, 2013 (date code: 1342)

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:
August 8, 2013: 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):

PCN_CYER-18SMGE942_Affected CPN.pdf PCN_CYER-18SMGE942_Qual Plan.pdf PCN_CYER-18SMGE942_Affected CPN.xlsx

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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PCN_CYER-18SMGE942
CATALOG_PART_NBR
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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-2052E/DB
MCP1703A-2502E/DB
MCP1703A-2802E/DB
MCP1703A-3002E/DB
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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

QUALIFICATION PLAN

PCN #: CYER-18SMGE942

Date:
July 17, 2013

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

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Purpose: Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.

MP code: VKAB1

Part No.: MCP1790

BD No: BDM-000364 rev.A (Engineering BD)

CCB No: 1320.01

Package:

Type 3L SOT-223

Width or Size N/A

Die thickness: 11 mils

Die size: 62.5 x 63.4 mils

Lead frame:

Paddle size: 133 x 102 mils (ASM Hongkong)

Material C194

Surface Ag ring

Process Etched

Lead Lock Yes

Part Number 101377161

Wire:

Material Au (Heesung South Korea)

Die Attach Epoxy:

Part Number 8290 (Henkel South Korea)

Conductive Yes

Mold Compound: G700LS (Sumitomo Singapore)

Reliability Test plan: See attached, STD Package Reliability Test plan on each package.

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. Standard SnPb: SnPb finish, SnPb solder, wetting temp 215°C for SMD & 245°C for through hole packages.	22	5	1	27	> 95% lead coverage	5	
Backward Solderability	JESD22B-102E; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	
Wire Bond Pull - WBP	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 and hot temp. (Parts can be tested at Room temp only)	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 and hot temp. (Parts can be tested at Room temp only)	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	
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	