

## Product / Process Change Notification JLIO-7L2VG6

The information below reflects a change that is being implemented.

Notice Date: 11/05/2008

Product Category: Mixed Signal Devices; dsPIC; PIC16xxx;  
PIC17xxx; PIC18xxx

Notification Subject: CCB#861: QUALIFICATION OF 40L PDIP  
(.6000") WITH G600 MOLD COMPOUND AT  
UTL (NSEB) ASSEMBLY

Notification Body:

PCN Status:  
Initial Notification

Microchip Part#s Affected (please see the link for these files at the end of this  
PCN):  
[CCB#861\\_Microchip Catalog Part#s Affected.xls](#)  
[CCB#861\\_Microchip Catalog Part#s Affected.pdf](#)

Description of Change:  
Change in bill of materials

Pre-Change:  
Mold compound: EME 6600CS  
Die attach epoxy: 8390A

Post-Change:  
Mold compound: G600  
Die attach epoxy: 8200T

Impacts to Data Sheet:  
None

Reason for Change:  
To improve manufacturability

Change Implementation Status:  
In progress

Estimated Change Implementation Date(s):  
December 1st, 2008 (Date Code: 0849)

NOTE: Please be advised that during a transition period you may receive parts  
with either bill of materials, due to existing inventory of the original bill of  
materials.

Markings to Distinguish Revised From Unrevised Devices: (e.g.: Date Code,  
Device Marking, Ship Container Marking)  
Traceability code

## Microchip Catalog Part#s Affected

AY0438-I/P  
AY0438/P  
DSPIC30F3011-20E/P  
DSPIC30F3011-20I/P  
DSPIC30F3011-30I/P  
DSPIC30F3014-20E/P  
DSPIC30F3014-20I/P  
DSPIC30F3014-30I/P  
DSPIC30F4011-20E/P  
DSPIC30F4011-20I/P  
DSPIC30F4011-30I/P  
DSPIC30F4013-20E/P  
DSPIC30F4013-20I/P  
DSPIC30F4013-30I/P  
PIC16C64A-04/P  
PIC16C64A-04I/P  
PIC16C64A-04I/P053  
PIC16C64A-10/P  
PIC16C64A-10I/P  
PIC16C64A-20/P  
PIC16C64A-20E/P  
PIC16C64A-20I/P  
PIC16C65A-04/P  
PIC16C65A-04I/P  
PIC16C65A-10/P  
PIC16C65A-10I/P  
PIC16C65A-20/P  
PIC16C65A-20E/P  
PIC16C65A-20I/P  
PIC16C65B-04/P  
PIC16C65B-04E/P  
PIC16C65B-04I/P  
PIC16C65B-20/P  
PIC16C65B-20E/P  
PIC16C65B-20I/P  
PIC16C65B-25/P  
PIC16C65B-E/PPKG  
PIC16C662-04/P  
PIC16C662-04I/P  
PIC16C662-10/P  
PIC16C662-10I/P  
PIC16C662-20/P  
PIC16C662-20I/P  
PIC16C67-04/P  
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PIC16C67-10I/P  
PIC16C67-20/P  
PIC16C67-20E/P  
PIC16C67-20I/P  
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PIC16C74A-10/P  
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PIC16C77-20I/P  
PIC16C774-E/P  
PIC16C774-I/P  
PIC16C774/P  
PIC16F59-E/P  
PIC16F59-I/P  
PIC16F724-E/P  
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PIC16F74-I/P126  
PIC16F74-I/P138  
PIC16F74-I/P147  
PIC16F74-I/P4AP  
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PIC16F77-I/PC09  
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PIC16F777-I/P

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PIC18LF4685-I/P

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TC7106AIPL  
TC7106ARCPL  
TC7106CPL  
TC7106IPL  
TC7106RCPL  
TC7107ACPL  
TC7107AIPL  
TC7107ARCPL  
TC7107CPL  
TC7107IPL  
TC7107RCPL  
TC7109ACPL  
TC7109ACPL514  
TC7109CPL  
TC7116ACPL  
TC7116CPL  
TC7117ACPL  
TC7117CPL  
TC7117RCPL  
TC7126ACPL  
TC7126ARCPL  
TC7126CPL  
TC7126IPL  
TC7126RCPL  
TC7129CPL  
TC811CPL  
TC850CPL





**MICROCHIP**

## **QUALIFICATION PLAN**

**CCB: 861  
PCN#: JLIO-7V2VG6**

**Date:  
October 10, 2008**

**Qualification of 40L PDIP (.600") With  
G600 Mold Compound  
At  
UTL (NSEB) Assembly**

Distribution

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**Purpose:** \_\_\_\_\_ To qualify 40L PDIP (.600") using Sumitomo G600 mold compound at UTL (NSEB)

**Mask:** \_\_\_\_\_ MPC-DECS97S2XXXX

**Part No.:** \_\_\_\_\_ PIC18F4685-I/P

**Bonding No.:** \_\_\_\_\_ BDE-000708 Rev 01

**Package:**

**Type** \_\_\_\_\_ 40L PDIP

**Die thickness:** \_\_\_\_\_ 15 mils

**Die size:** \_\_\_\_\_ 168.0 x 273.7 mils

**Lead frame:**

**Paddle size:** \_\_\_\_\_ 300 x 300 mils

**Material** \_\_\_\_\_ CDA194 / Shinko (Malaysia)

**Surface** \_\_\_\_\_ Ag spot plating

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

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

**Part Number** \_\_\_\_\_ FB0047

**Wire:**

**Material** \_\_\_\_\_ Au

**Wire Diameter** \_\_\_\_\_ 1.0 mil / Tanaka (Malaysia)

**Die Attach Epoxy:**

**Part Number** \_\_\_\_\_ 8200T / Ablestik (USA)

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

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

**Reliability Test plan:** \_\_\_\_\_ See attached, STD Package Reliability Test plan for 40L PDIP (.600") with G600 halogen-free mold compound at UTL

| Package Reliability Tests |                                                           |             |                                                        |                  |             |                                |                |                                                                                      |
|---------------------------|-----------------------------------------------------------|-------------|--------------------------------------------------------|------------------|-------------|--------------------------------|----------------|--------------------------------------------------------------------------------------|
| Test Name                 | Conditions                                                | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Quantity of Lots | Total Units | Fail Accept #                  | Est. Dur. Days | Special Instructions                                                                 |
| Solderability             | JESD22 B102; Perform 8 hour steam aging prior to testing. | 22          | 0                                                      | 1                | 22          | > 95% lead coverage            | 5              |                                                                                      |
| Wire Bond Pull - WBP      | Mil. Std. 883-2011                                        | 5           | 0                                                      | 1                | 5           | Cpk > 1.33 or 0 fails after TC | 5              | 30 bonds from a min. 5 devices.                                                      |
| Wire Bond Shear - WBS     | CDF-AEC-Q100-001                                          | 5           | 0                                                      | 1                | 5           | Cpk > 1.33                     | 5              | 30 bonds from a min. 5 devices.                                                      |
|                           |                                                           |             |                                                        |                  |             |                                |                |                                                                                      |
| Lead Integrity            | JESD22 B105                                               | 5           | 0                                                      | 1                | 5           | 0 (No lead breakage or cracks) | 5              | 10 leads from each of 5 parts. Not required for SMD, only required for through-hole. |
|                           |                                                           |             |                                                        |                  |             |                                |                |                                                                                      |
| External Visual           | Mil. Std. 883-2009/2010                                   | ALL         | 0                                                      | 3                | ALL         | 0                              | 5              | All devices prior to submission for qualification testing                            |
|                           |                                                           |             |                                                        |                  |             |                                |                |                                                                                      |

| Package Reliability Tests |                                                                                                                                                              |             |                                                        |                  |             |               |                |                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------|------------------|-------------|---------------|----------------|----------------------|
| Test Name                 | Conditions                                                                                                                                                   | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Quantity of Lots | Total Units | Fail Accept # | Est. Dur. Days | Special Instructions |
| HAST *                    | +130 °C/85% RH for 96 hours. Electrical test pre and post stress at +25 and +85°C.                                                                           | 77          | 5                                                      | 3                | 246         | 0             | 10             |                      |
| Autoclave *               | +121 °C/15 psig for 96 hours. Electrical test pre and post stress at +25 °C                                                                                  | 77          | 5                                                      | 3                | 246         | 0             | 10             |                      |
| Temp Cycle*               | -65 °C to +150 °C for 500 cycles. Electrical test pre and post stress at +85°C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. | 77          | 5                                                      | 3                | 246         | 0             | 15             |                      |