



Product Change Notification / MFOL-02TISW617

Date:

04-Jul-2024

Product Category:

16-Bit - Microcontrollers And Digital Signal Controllers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6123 Final Notice: Qualification of Microchip Technology Gresham – Fab 4 (GRTM) as an additional fabrication site for selected dsPIC33EP128xx, dsPIC33EP256xx, dsPIC33EP32xx, dsPIC33EP512xx, DSPIC33EP64xx, PIC24EP128GP2xx, PIC24EP128MC2xx, PIC24EP256GP2xx, PIC24EP256MC2xx, PIC24EP32GP2xx, PIC24EP32MC2xx, PIC24EP512GP2xx, PIC24EP512MC2xx, PIC24EP64GP2xx and PIC24EP64MC2xx device families available in various packages.

Affected CPNs:

[MFOL-02TISW617_Affected_CPN_07042024.pdf](#)

[MFOL-02TISW617_Affected_CPN_07042024.csv](#)

Notification Text:

PCN Status:Final Notification

PCN Type:Manufacturing Change

Microchip Parts Affected:Please open one of the files found in the Affected CPNs section.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:Qualification of Microchip Technology Gresham – Fab 4 (GRTM) as an additional fabrication site for selected dsPIC33EP128xx, dsPIC33EP256xx, dsPIC33EP32xx, dsPIC33EP512xx, DSPIC33EP64xx, PIC24EP128GP2xx, PIC24EP128MC2xx, PIC24EP256GP2xx, PIC24EP256MC2xx, PIC24EP32GP2xx, PIC24EP32MC2xx, PIC24EP512GP2xx, PIC24EP512MC2xx, PIC24EP64GP2xx and PIC24EP64MC2xx device families available in various packages.

Pre and Post Change Summary:

	Pre Change		Post Change		
Fab Site	Taiwan Semiconductor Manufacturing Corp. (Fab 3)*	Taiwan Semiconductor Manufacturing Corp. (Fab 11)	Taiwan Semiconductor Manufacturing Corp. (Fab 3)*	Taiwan Semiconductor Manufacturing Corp. (Fab 11)	Microchip Technology Gresham – Fab 4 (GRTM)
Wafer Diameter	8 inch	8 inch	8 inch	8 inch	8 inch
Quality Certification	ISO-9001/ IATF16949/IATF16949	IATF16949/ISO-14001	ISO-9001/ IATF16949/IATF16949	IATF16949/ISO-14001	ISO-9001/ IATF16949/ ISO-14001

Note: *Applies only to specific products dsPIC33EP64xx and PIC24EP64xx products

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve on-time delivery performance by qualifying Microchip Technology Gresham – Fab 4 (GRTM) as an additional fab assembly site.

Change Implementation Status:In Progress

Estimated First Ship Date:January 31, 2024 (date code: 2405)

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

Time Table Summary:

	March 2023					>	January 2024					>	July 2024				
Workweek	09	10	11	12	13		01	02	03	04	05		27	28	29	30	31
Initial PCN Issue Date		x															
Qual Report													x				

Availability																	
Final PCN Issue Date											X						
Estimated Implementation Date											X						

Method to Identify Change:Traceability code

Qualification Report:Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History:March 9, 2023: Issued initial notification.

January 29, 2024: Issued final notification. Updated the affected parts list. Updated notification subject, description of change, and qual title accordingly. Provided estimated first ship date to be on January 31, 2024.

February 8, 2024: Re-issued final notification. Updated PCN title from initial notice to final notice.

July 4, 2024: Re-issued final notification to include the Qual Report and updated time table summary to reflect Qual Report availability. Updated the Notification subject, description of change and affected parts list to include CPNs PIC24EP256GP204T-I/MV031 and PIC24EP256GP204T-I/MV032.

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

Attachments:

[PCN_MFOL-02TISW617_Qual Report.pdf](#)

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

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DSPIC33EP256MC204T-I/ML
DSPIC33EP256MC504T-I/ML
PIC24EP256GP204T-I/ML
PIC24EP256MC204-I/MV
DSPIC33EP256GP504-I/ML
DSPIC33EP256MC206T-I/PT
DSPIC33EP256GP504T-E/MV
DSPIC33EP256MC204T-E/MV
DSPIC33EP256MC206-I/MR
DSPIC33EP256MC506-I/MR
DSPIC33EP256MC504T-E/MV
PIC24EP256GP206-I/MR
PIC24EP256MC206-I/MR
PIC24EP256GP204-I/ML
PIC24EP256MC204-I/ML
DSPIC33EP256GP504-E/MV
DSPIC33EP256MC504-E/ML
DSPIC33EP256MC204T-I/MV
DSPIC33EP256MC504T-I/MV
PIC24EP256GP204T-I/MV
PIC24EP256MC204T-I/MV
PIC24EP256MC204-E/MV
DSPIC33EP256GP504-E/ML
DSPIC33EP256MC204-E/ML
DSPIC33EP256MC206-I/PT
PIC24EP256GP204-I/PT
DSPIC33EP256GP506-E/MR
DSPIC33EP256MC206-E/MR
DSPIC33EP256MC506-E/MR
PIC24EP256GP206-E/MR
DSPIC33EP256MC204T-E/MLC02
PIC24EP256MC206T-I/MR
DSPIC33EP256GP504T-I/MV
DSPIC33EP256MC204-E/MV
DSPIC33EP256MC504-E/MV
PIC24EP256GP204-E/MV
PIC24EP256GP206T-I/MR
DSPIC33EP256MC504-I/MV
PIC24EP256GP204-I/MV
PIC24EP256GP204T-E/MV
PIC24EP256MC204T-E/MV
DSPIC33EP256GP504T-E/ML
PIC24EP256GP204-E/ML
PIC24EP256MC204-E/ML
DSPIC33EP256MC206-E/PT
DSPIC33EP256GP506-I/MR

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DSPIC33EP256MC504T-E/ML
PIC24EP256GP204T-E/ML
PIC24EP256MC204T-E/ML
DSPIC33EP256MC206T-E/PT
PIC24EP256GP204-E/PT
DSPIC33EP256GP504-I/MV
DSPIC33EP256MC204-I/MV
DSPIC33EP256MC204T-E/ML
DSPIC33EP256GP504T-I/ML
PIC24EP256MC204T-I/ML
PIC24EP256GP204T-I/PT
PIC24EP256GP204T-I/ML029
PIC24EP256GP204T-I/MV030
PIC24EP256GP206-E/PT
PIC24EP256GP206-I/PT
PIC24EP256GP206T-I/PT
PIC24EP256GP206T-E/PT
DSPIC33EP256MC506T-E/PT
DSPIC33EP256GP504-E/PT
DSPIC33EP256MC204-E/PT
PIC24EP256MC204-E/PT
DSPIC33EP256GP504-I/PT
PIC24EP256GP202T-E/MM
DSPIC33EP256MC204-I/PT
DSPIC33EP256MC504-I/PT
PIC24EP256MC204-I/PT
PIC24EP256MC204T-I/PT
DSPIC33EP256GP502-E/MM
DSPIC33EP256MC502-E/MM
PIC24EP256GP202-E/MM
DSPIC33EP256GP502-E/SP
DSPIC33EP256MC202-E/SP
DSPIC33EP256MC502-E/SS
PIC24EP256GP202-E/SS
DSPIC33EP256GP502-I/MM
DSPIC33EP256MC202-I/MM
DSPIC33EP256MC502-I/MM
PIC24EP256GP202-I/MM
PIC24EP256MC202-I/MM
DSPIC33EP256GP502-I/SP
DSPIC33EP256MC502-I/SP
PIC24EP256GP202-I/SP
DSPIC33EP256GP502-I/SS
DSPIC33EP256MC202-I/SS
DSPIC33EP256MC502-I/SS
PIC24EP256GP202-I/SS
PIC24EP256MC202-I/SS

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DSPIC33EP256MC506-I/PT
DSPIC33EP256GP502-I/SO
DSPIC33EP256MC202-I/SO
DSPIC33EP256MC502-I/SO
PIC24EP256GP202-I/SO
PIC24EP256MC202-I/SO
PIC24EP256MC206-I/PT
DSPIC33EP256MC506T-I/PT
PIC24EP256MC206T-I/PT
DSPIC33EP256GP502T-I/MM
PIC24EP256GP202T-I/MM
DSPIC33EP256GP502T-I/SS
PIC24EP256GP202T-I/SS
DSPIC33EP256GP504T-H/MV
DSPIC33EP256MC204T-H/MV
DSPIC33EP256MC504T-H/MV
PIC24EP256GP204T-H/MV
PIC24EP256MC204T-H/MV
DSPIC33EP256GP504T-H/ML
DSPIC33EP256MC204T-H/ML
DSPIC33EP256MC504T-H/ML
PIC24EP256GP204T-H/ML
PIC24EP256MC204T-H/ML
DSPIC33EP256GP504T-H/PT
DSPIC33EP256MC204T-H/PT
DSPIC33EP256MC504T-H/PT
PIC24EP256GP204T-H/PT
PIC24EP256MC204T-H/PT
DSPIC33EP256MC206T-H/PT
DSPIC33EP256MC506T-H/PT
PIC24EP256MC202-H/SS
DSPIC33EP256GP506-H/MR
DSPIC33EP256GP504-H/MV
DSPIC33EP256MC204-H/MV
DSPIC33EP256MC504-H/MV
PIC24EP256GP204-H/MV
PIC24EP256MC204-H/MV
DSPIC33EP256GP504-H/ML
DSPIC33EP256MC204-H/ML
DSPIC33EP256MC504-H/ML
PIC24EP256GP204-H/ML
PIC24EP256MC204-H/ML
DSPIC33EP256MC206-H/PT
DSPIC33EP256MC506-H/PT
PIC24EP256GP204T-I/MV031
PIC24EP256GP204T-I/MV032
DSPIC33EP512GP502-E/MM

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DSPIC33EP512MC206T-I/MR
DSPIC33EP512MC506T-I/MR
DSPIC33EP512GP502T-I/MM
DSPIC33EP512GP502T-I/SO
DSPIC33EP512GP506T-I/MR
PIC24EP512GP204T-I/MV
DSPIC33EP512MC504T-I/MV
DSPIC33EP512MC204T-I/MV
DSPIC33EP512GP504T-I/MV
PIC24EP512MC206T-I/MR
DSPIC33EP512MC204-I/ML
PIC24EP512GP204T-I/ML
DSPIC33EP512MC504T-I/ML
PIC24EP512GP204-I/ML
DSPIC33EP512GP506-I/MR
DSPIC33EP512MC504-I/ML
DSPIC33EP512MC502-I/SP
DSPIC33EP512MC504-I/PT
PIC24EP512GP202-I/SP
PIC24EP512MC202-I/SP
PIC24EP512MC204-E/MV
DSPIC33EP512MC502T-E/MM
DSPIC33EP512GP502T-E/MM
DSPIC33EP512MC204-I/PT
DSPIC33EP512GP504-E/ML
PIC24EP512GP206T-I/MR
DSPIC33EP512GP506T-I/PT
PIC24EP512GP204T-I/PT
PIC24EP512MC204T-I/ML
DSPIC33EP512GP502-E/SP
PIC24EP512GP202-E/MM
DSPIC33EP512MC202-E/SP
PIC24EP512GP202-I/MM
DSPIC33EP512GP502-I/SO
DSPIC33EP512GP504-I/PT
PIC24EP512GP204T-E/ML
DSPIC33EP512MC202-I/MM
DSPIC33EP512MC206-I/PT
DSPIC33EP512MC502-I/MM
DSPIC33EP512GP506-I/PT
DSPIC33EP512MC202-I/SO
DSPIC33EP512MC502-I/SO
PIC24EP512MC204-I/ML
PIC24EP512GP202-E/SP
PIC24EP512MC202-E/SP
PIC24EP512MC204T-E/ML
PIC24EP512MC206T-E/MR

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DSPIC33EP512MC206T-E/MR
DSPIC33EP512MC502-E/SO
PIC24EP512GP202-E/SO
DSPIC33EP512GP506-E/MR
DSPIC33EP512MC204T-I/ML
DSPIC33EP512GP504T-I/ML
PIC24EP512MC204T-I/MV
DSPIC33EP512GP506T-E/MR
PIC24EP512MC206-I/PT
PIC24EP512GP206-I/PT
DSPIC33EP512GP504-I/ML
DSPIC33EP512MC206-I/MR
PIC24EP512GP204-I/PT
PIC24EP512GP202-I/SO
PIC24EP512MC202-I/SO
DSPIC33EP512GP502-I/MM
DSPIC33EP512MC506-I/PT
DSPIC33EP512MC506-I/MR
PIC24EP512MC204-I/MV
DSPIC33EP512MC202-I/SP
DSPIC33EP512MC206-E/MR
PIC24EP512GP206-E/MR
PIC24EP512MC206-E/MR
DSPIC33EP512MC204T-E/MV
DSPIC33EP512GP504T-E/MV
PIC24EP512MC202-I/MM
PIC24EP512MC204-I/PT
DSPIC33EP512GP502-I/SP
DSPIC33EP512MC506-E/MR
DSPIC33EP512MC504T-E/ML
DSPIC33EP512MC204T-E/ML
DSPIC33EP512MC504T-E/MV
DSPIC33EP512GP504-E/MV
DSPIC33EP512MC204-E/MV
DSPIC33EP512MC504-E/MV
PIC24EP512GP206-E/PT
DSPIC33EP512GP504-E/PT
DSPIC33EP512MC504-E/PT
PIC24EP512MC204-E/ML
DSPIC33EP512MC502-E/SP
PIC24EP512GP206-I/MR
PIC24EP512MC206-I/MR
PIC24EP512GP204-I/MV
DSPIC33EP512MC504-I/MV
PIC24EP512GP204-E/MV
DSPIC33EP512GP504-I/MV
DSPIC33EP512GP506-E/PT

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DSPIC33EP512MC204-E/ML
DSPIC33EP512MC504-E/ML
PIC24EP512GP204-E/ML
DSPIC33EP512MC204-I/MV
DSPIC33EP512GP506-H/MR
DSPIC33EP512MC206-H/MR
DSPIC33EP512MC506-H/MR
PIC24EP512GP206-H/MR
PIC24EP512MC206-H/MR
DSPIC33EP512GP504-H/MV
DSPIC33EP512MC204-H/MV
DSPIC33EP512MC504-H/MV
PIC24EP512GP204-H/MV
PIC24EP512MC204-H/MV
DSPIC33EP512GP504-H/ML
DSPIC33EP512MC204-H/ML
DSPIC33EP512MC504-H/ML
PIC24EP512GP204-H/ML
PIC24EP512MC204-H/ML
DSPIC33EP512GP504-H/PT
DSPIC33EP512MC204-H/PT
DSPIC33EP512MC504-H/PT
PIC24EP512GP204-H/PT
PIC24EP512MC204-H/PT
DSPIC33EP512GP506-H/PT
DSPIC33EP512MC206-H/PT
DSPIC33EP512MC506-H/PT
PIC24EP512GP206-H/PT
PIC24EP512MC206-H/PT
DSPIC33EP512GP502T-H/MM
DSPIC33EP512MC202T-H/MM
DSPIC33EP512MC502T-H/MM
PIC24EP512GP202T-H/MM
PIC24EP512MC202T-H/MM
DSPIC33EP512GP506T-H/MR
DSPIC33EP512MC206T-H/MR
DSPIC33EP512MC506T-H/MR
PIC24EP512GP206T-H/MR
PIC24EP512MC206T-H/MR
DSPIC33EP512GP504T-H/MV
DSPIC33EP512MC204T-H/MV
DSPIC33EP512MC504T-H/MV
PIC24EP512GP204T-H/MV
PIC24EP512MC204T-H/MV
DSPIC33EP512GP504T-H/ML
DSPIC33EP512MC204T-H/ML
DSPIC33EP512MC504T-H/ML

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DSPIC33EP512GP504T-H/PT
DSPIC33EP512MC204T-H/PT
DSPIC33EP512MC504T-H/PT
PIC24EP512GP204T-H/PT
PIC24EP512MC204T-H/PT
PIC24EP512MC206T-H/PT
DSPIC33EP512GP506T-H/PT
DSPIC33EP512MC206T-H/PT
DSPIC33EP512MC506T-H/PT
PIC24EP512GP206T-H/PT
DSPIC33EP512GP502-H/MM
DSPIC33EP512MC202-H/MM
DSPIC33EP512MC502-H/MM
PIC24EP512GP202-H/MM
PIC24EP512MC202-H/MM
DSPIC33EP512GP502-H/SP
DSPIC33EP512MC502-H/SP
PIC24EP512MC202-H/SO
PIC24EP128GP202T-I/MM038
PIC24EP128GP202-I/MM038
PIC24EP128GP202-E/MM
DSPIC33EP128MC502T-E/MM
DSPIC33EP128MC502T-E/SS
PIC24EP128GP202T-E/SS
DSPIC33EP128GP504T-E/ML
DSPIC33EP128MC204T-E/ML
DSPIC33EP128MC504T-E/ML
DSPIC33EP128MC206T-E/PT
DSPIC33EP128MC202T-E/MM
DSPIC33EP128GP506T-I/PT
DSPIC33EP128MC206-E/PT
PIC24EP128GP204T-I/PT037
PIC24EP128GP204-I/PT030
PIC24EP128GP204-I/PT035
PIC24EP128GP204-I/PT037
PIC24EP128GP204T-I/PT030
PIC24EP128GP204T-I/PT032
PIC24EP128GP204T-I/PT035
DSPIC33EP128GP502T-E/MM
DSPIC33EP128GP502-I/SO
DSPIC33EP128GP504-E/MV
PIC24EP128GP204-E/MV
PIC24EP128GP204-E/PT
PIC24EP128GP204-I/MV
PIC24EP128GP206T-I/MR
DSPIC33EP128GP504T-I/MV
PIC24EP128GP204T-I/MV

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DSPIC33EP128GP504T-E/MV
PIC24EP128GP204T-E/MV
DSPIC33EP128MC204T-I/MV
DSPIC33EP128MC504T-I/MV
PIC24EP128MC204T-I/MV
DSPIC33EP128MC204T-I/ML
DSPIC33EP128MC504T-I/ML
PIC24EP128MC204T-I/ML
DSPIC33EP128MC204T-I/PT
PIC24EP128GP204T-I/PT
DSPIC33EP128MC206T-I/PT
DSPIC33EP128MC506T-I/PT
DSPIC33EP128GP502-E/SS
PIC24EP128MC206-E/MR
DSPIC33EP128MC502-E/SS
PIC24EP128GP206T-I/PT
DSPIC33EP128MC204T-E/MV
DSPIC33EP128MC504T-E/MV
PIC24EP128MC204T-E/MV
DSPIC33EP128MC202-E/SO
DSPIC33EP128MC206-E/MR
DSPIC33EP128MC506-E/MR
DSPIC33EP128MC204-E/MV
DSPIC33EP128MC504-E/MV
PIC24EP128MC204-E/MV
DSPIC33EP128GP504-E/ML
DSPIC33EP128MC204-E/ML
DSPIC33EP128MC504-E/ML
PIC24EP128MC204-E/ML
DSPIC33EP128MC204-E/PT
DSPIC33EP128MC504-E/PT
DSPIC33EP128MC506-E/PT
DSPIC33EP128GP506-E/PT
DSPIC33EP128GP502-I/MM
DSPIC33EP128MC202-I/MM
DSPIC33EP128MC502-I/MM
PIC24EP128GP202-I/MM
DSPIC33EP128GP502-I/SP
DSPIC33EP128MC202-I/SP
DSPIC33EP128MC502-I/SP
PIC24EP128GP202-I/SP
PIC24EP128MC202-I/SP
DSPIC33EP128GP502-I/SS
DSPIC33EP128MC202-I/SS
DSPIC33EP128MC502-I/SS
PIC24EP128GP202-I/SS
PIC24EP128MC202-I/SS

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PIC24EP128GP202-I/SO
PIC24EP128MC202-I/SO
DSPIC33EP128GP506-I/MR
DSPIC33EP128MC206-I/MR
DSPIC33EP128MC506-I/MR
PIC24EP128GP206-I/MR
PIC24EP128MC206-I/MR
DSPIC33EP128GP504-I/MV
DSPIC33EP128MC204-I/MV
DSPIC33EP128MC504-I/MV
PIC24EP128MC204-I/MV
DSPIC33EP128GP504-I/ML
DSPIC33EP128MC204-I/ML
DSPIC33EP128MC504-I/ML
PIC24EP128GP204-I/ML
PIC24EP128MC204-I/ML
DSPIC33EP128GP504-I/PT
DSPIC33EP128MC204-I/PT
DSPIC33EP128MC504-I/PT
PIC24EP128GP204-I/PT
PIC24EP128MC204-I/PT
DSPIC33EP128GP506-I/PT
DSPIC33EP128MC206-I/PT
DSPIC33EP128MC506-I/PT
PIC24EP128GP206-I/PT
PIC24EP128MC206-I/PT
DSPIC33EP128GP502T-I/MM
DSPIC33EP128MC202T-I/MM
DSPIC33EP128MC502T-I/MM
DSPIC33EP128MC202T-I/SS
PIC24EP128GP202T-I/SS
DSPIC33EP128GP506T-I/MR
DSPIC33EP128MC206T-I/MR
DSPIC33EP128MC506T-I/MR
PIC24EP128MC206T-I/MR
PIC24EP128GP204-I/PT039
PIC24EP128GP204T-I/PT039
DSPIC33EP128MC206T-H/MR
DSPIC33EP128MC204T-H/MV
DSPIC33EP128GP504T-H/MV
DSPIC33EP128MC504T-H/MV
PIC24EP128GP204T-H/MV
PIC24EP128MC204T-H/MV
DSPIC33EP128MC504T-H/ML
DSPIC33EP128GP506-H/MR
DSPIC33EP128MC206-H/MR
DSPIC33EP128MC506-H/MR

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DSPIC33EP128GP504-H/MV
DSPIC33EP128MC204-H/MV
DSPIC33EP128MC504-H/MV
PIC24EP128GP204-H/MV
PIC24EP128MC204-H/MV
DSPIC33EP128GP504-H/ML
DSPIC33EP128MC204-H/ML
DSPIC33EP128MC504-H/ML
PIC24EP128GP204-H/ML
PIC24EP128MC204-H/ML
DSPIC33EP128GP504-H/PT
DSPIC33EP128MC204-H/PT
DSPIC33EP128MC504-H/PT
PIC24EP128GP204-H/PT
PIC24EP128MC204-H/PT
DSPIC33EP128GP506-H/PT
DSPIC33EP128MC206-H/PT
DSPIC33EP128MC506-H/PT
PIC24EP128GP206-H/PT
PIC24EP128MC206-H/PT
DSPIC33EP32MC204-E/PTA8
PIC24EP32MC202-E/MM021
PIC24EP32GP203-E/M5
PIC24EP32MC203-E/M5
DSPIC33EP32GP503-E/M5
DSPIC33EP32MC503-E/M5
PIC24EP32GP203-I/M5
PIC24EP32MC203-I/M5
DSPIC33EP32GP503-I/M5
DSPIC33EP32MC503-I/M5
DSPIC33EP32GP502T-E/MM
DSPIC33EP32MC502T-E/MM
PIC24EP32GP202T-E/MM
DSPIC33EP32GP502-E/SP
DSPIC33EP32MC202-E/SP
PIC24EP32GP202T-I/SS
DSPIC33EP32MC502-E/SS
PIC24EP32GP202-E/SS
PIC24EP32MC202-E/SS
DSPIC33EP32GP502-I/MM
DSPIC33EP32GP502-E/MM
DSPIC33EP32MC502-E/MM
PIC24EP32GP202-E/MM
PIC24EP32MC202-E/MM
PIC24EP32GP202-E/SP
PIC24EP32MC202-E/SP
DSPIC33EP32MC504-I/ML

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DSPIC33EP32GP504-I/ML
DSPIC33EP32MC204-I/ML
DSPIC33EP32GP504-I/PT
DSPIC33EP32MC204-I/PT
PIC24EP32MC204-I/PT
DSPIC33EP32MC204T-I/PT
DSPIC33EP32MC504T-I/ML
PIC24EP32GP204T-I/ML
PIC24EP32MC204T-I/ML
DSPIC33EP32GP504T-I/PT
DSPIC33EP32MC202T-I/SO
DSPIC33EP32MC502T-I/SO
PIC24EP32GP202T-I/SO
DSPIC33EP32MC502T-E/SS
PIC24EP32GP202T-E/SS
PIC24EP32MC202T-E/SS
PIC24EP32MC204T-I/MV
DSPIC33EP32GP504T-I/ML
DSPIC33EP32MC204T-I/ML
DSPIC33EP32GP502T-E/SO
DSPIC33EP32MC502T-E/SO
PIC24EP32GP202T-E/SO
DSPIC33EP32GP504T-E/MV
DSPIC33EP32MC204T-E/MV
DSPIC33EP32MC504T-E/MV
PIC24EP32GP204T-E/MV
PIC24EP32MC204T-E/MV
DSPIC33EP32GP504T-E/ML
DSPIC33EP32MC204T-E/ML
DSPIC33EP32MC504T-E/ML
DSPIC33EP32MC204T-E/PT
DSPIC33EP32GP502-E/SO
DSPIC33EP32MC504T-I/MV
PIC24EP32GP204T-I/MV
PIC24EP32GP204T-E/ML
PIC24EP32MC204T-E/ML
DSPIC33EP32GP504T-E/PT
DSPIC33EP32GP504T-I/MV
DSPIC33EP32MC204T-I/MV
DSPIC33EP32MC502-I/MM
PIC24EP32MC202-I/MM
DSPIC33EP32GP502-I/SP
DSPIC33EP32MC502-I/SS
DSPIC33EP32MC502-I/SP
PIC24EP32GP202-I/SP
PIC24EP32MC202-I/SP
DSPIC33EP32MC202-I/SP

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DSPIC33EP32MC502-E/SO
PIC24EP32GP202-E/SO
DSPIC33EP32GP504-E/MV
DSPIC33EP32MC204-E/MV
DSPIC33EP32MC504-E/MV
DSPIC33EP32GP504-E/PT
DSPIC33EP32MC204-E/PT
PIC24EP32MC202-E/SO
PIC24EP32MC202-I/SO
DSPIC33EP32GP504-I/MV
DSPIC33EP32MC204-I/MV
DSPIC33EP32MC504-I/MV
PIC24EP32GP204-I/MV
DSPIC33EP32GP502-I/SO
DSPIC33EP32MC502-I/SO
DSPIC33EP32MC202-I/SO
DSPIC33EP32GP502T-I/SO
PIC24EP32GP204-E/MV
DSPIC33EP32GP504-E/ML
DSPIC33EP32MC204-E/ML
DSPIC33EP32MC504-E/ML
PIC24EP32GP204-E/ML
PIC24EP32MC204-E/ML
PIC24EP32GP202-I/SO
PIC24EP32MC202-I/SS
DSPIC33EP32GP502T-I/MM
DSPIC33EP32MC502T-I/MM
PIC24EP32GP202T-I/MM
PIC24EP32GP202-I/SS
PIC24EP32MC204-E/MV
PIC24EP32GP202-I/MM
PIC24EP32MC202T-E/MM021
DSPIC33EP32MC202-I/MM
DSPIC33EP32MC202T-I/MM
DSPIC33EP32MC202T-E/MM
DSPIC33EP32MC202-E/MM
PIC24EP32GP204T-E/PT
DSPIC33EP32MC504-E/PT
DSPIC33EP32MC504-I/PT
DSPIC33EP32MC504T-I/PT
PIC24EP32GP204-E/PT
PIC24EP32GP204-I/PT
PIC24EP32GP204T-I/PT
DSPIC33EP32MC202-I/SS
DSPIC33EP32MC202T-I/SS
DSPIC33EP32MC202T-E/SS
DSPIC33EP32MC202-E/SS

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DSPIC33EP32GP502T-I/SS
DSPIC33EP32GP502T-E/SS
PIC24EP32MC202T-E/MM023
DSPIC33EP32GP504T-H/MV
DSPIC33EP32MC204T-H/MV
DSPIC33EP32MC504T-H/MV
PIC24EP32GP204T-H/MV
PIC24EP32MC204T-H/MV
DSPIC33EP32GP504T-H/ML
DSPIC33EP32MC204T-H/ML
DSPIC33EP32MC504T-H/ML
PIC24EP32GP204T-H/ML
PIC24EP32MC204T-H/ML
DSPIC33EP32GP504T-H/PT
DSPIC33EP32MC204T-H/PT
DSPIC33EP32MC504T-H/PT
PIC24EP32GP204T-H/PT
PIC24EP32MC204T-H/PT
DSPIC33EP32MC202-H/MM
DSPIC33EP32GP504-H/MV
DSPIC33EP32MC204-H/MV
DSPIC33EP32MC504-H/MV
PIC24EP32GP204-H/MV
PIC24EP32MC204-H/MV
PIC24EP32GP203-H/M5
PIC24EP32MC203-H/M5
DSPIC33EP32GP503-H/M5
DSPIC33EP32MC503-H/M5
DSPIC33EP32MC204-H/PT
PIC24EP64GP204-I/PTC03
DSPIC33EP64MC204-I/PTC02
PIC24EP64MC203-I/M5
DSPIC33EP64GP503-I/M5
DSPIC33EP64MC503-I/M5
DSPIC33EP64MC203-I/M5
PIC24EP64MC203-E/M5
DSPIC33EP64GP503-E/M5
DSPIC33EP64MC503-E/M5
DSPIC33EP64MC203-E/M5
PIC24EP64GP203-I/M5
PIC24EP64GP203-E/M5
PIC24EP64GP204-E/PT
DSPIC33EP64GP506-E/PT
PIC24EP64GP206-E/PT
DSPIC33EP64GP502-I/MM
DSPIC33EP64GP502-E/MM
PIC24EP64GP202-E/MM

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DSPIC33EP64GP502-I/SP
PIC24EP64GP202-I/SP
DSPIC33EP64GP502-E/SO
PIC24EP64GP202-I/SS
PIC24EP64GP202-E/SO
DSPIC33EP64GP506-E/MR
PIC24EP64GP206-E/MR
DSPIC33EP64GP504-I/PT
PIC24EP64GP204-I/PT
PIC24EP64GP204-I/MV
DSPIC33EP64GP504-I/ML
PIC24EP64GP204-I/ML
DSPIC33EP64GP504-E/MV
PIC24EP64GP204-E/MV
DSPIC33EP64GP506-I/PT
PIC24EP64GP206-I/PT
DSPIC33EP64GP504-E/ML
PIC24EP64GP204-E/ML
DSPIC33EP64GP504-E/PT
PIC24EP64GP202-I/SO
DSPIC33EP64GP506-I/MR
PIC24EP64GP206-I/MR
DSPIC33EP64GP502-I/SO
DSPIC33EP64GP504-I/MV
DSPIC33EP64GP502T-I/SO
DSPIC33EP64GP506T-I/MR
PIC24EP64GP206T-I/MR
DSPIC33EP64GP504T-I/MV
DSPIC33EP64GP504T-I/ML
PIC24EP64GP202T-I/MM
PIC24EP64GP202T-I/SS
DSPIC33EP64MC206-E/PTA8
DSPIC33EP64GP504T-E/MV
PIC24EP64GP204T-E/MV
DSPIC33EP64GP504T-E/ML
PIC24EP64GP204T-E/ML
PIC24EP64GP206T-E/MR
PIC24EP64GP204T-I/ML
PIC24EP64GP204T-I/PT
DSPIC33EP64GP502T-E/MM
DSPIC33EP64GP506T-E/MR
PIC24EP64MC204-I/PTC06
DSPIC33EP64MC204T-E/PT
PIC24EP64MC202-E/SP
DSPIC33EP64MC202-E/SS
DSPIC33EP64MC502-E/SS
PIC24EP64MC202-E/SS

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PIC24EP64MC202-E/SO
DSPIC33EP64MC206-E/MR
DSPIC33EP64MC506-E/MR
PIC24EP64MC206-E/MR
DSPIC33EP64MC504T-E/PT
PIC24EP64MC204T-E/PT
DSPIC33EP64MC206T-E/PT
DSPIC33EP64MC506T-E/PT
PIC24EP64MC206T-E/PT
DSPIC33EP64MC202-I/SO
DSPIC33EP64MC502-I/SO
PIC24EP64MC202-I/SO
DSPIC33EP64MC206-I/MR
DSPIC33EP64MC506-I/MR
DSPIC33EP64MC202-E/MM
DSPIC33EP64MC502-E/MM
PIC24EP64MC202-E/MM
DSPIC33EP64MC202-E/SP
DSPIC33EP64MC502-E/SP
DSPIC33EP64MC502T-I/SO
PIC24EP64MC202T-I/SO
DSPIC33EP64MC206T-I/MR
DSPIC33EP64MC506T-I/MR
PIC24EP64MC206T-I/MR
DSPIC33EP64MC204-E/MV
PIC24EP64MC202T-E/SO
DSPIC33EP64MC206T-E/MR
DSPIC33EP64MC506T-E/MR
PIC24EP64MC206T-E/MR
DSPIC33EP64MC204T-E/MV
PIC24EP64MC206-I/MR
DSPIC33EP64MC204-I/MV
DSPIC33EP64MC504-I/MV
PIC24EP64MC204-I/MV
DSPIC33EP64MC204-I/ML
DSPIC33EP64MC204T-I/MV
DSPIC33EP64MC504T-I/MV
PIC24EP64MC204T-I/MV
DSPIC33EP64MC204T-I/ML
DSPIC33EP64MC504T-I/ML
DSPIC33EP64MC204-E/PT
DSPIC33EP64MC504-E/PT
PIC24EP64MC204-E/PT
DSPIC33EP64MC206-E/PT
DSPIC33EP64MC506-E/PT
DSPIC33EP64MC502-I/SP
PIC24EP64MC202-I/SP

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PIC24EP64MC202-I/SS
DSPIC33EP64MC504-I/ML
PIC24EP64MC204-I/ML
DSPIC33EP64MC204-I/PT
DSPIC33EP64MC504-I/PT
PIC24EP64MC204-I/PT
DSPIC33EP64MC206-I/PT
DSPIC33EP64MC506-I/PT
PIC24EP64MC206-I/PT
DSPIC33EP64MC202T-I/MM
DSPIC33EP64MC502T-I/MM
PIC24EP64MC202T-I/MM
DSPIC33EP64MC202T-I/SS
DSPIC33EP64MC502T-I/SS
PIC24EP64MC202T-I/SS
DSPIC33EP64MC202T-I/SO
PIC24EP64MC204T-I/ML
DSPIC33EP64MC204T-I/PT
DSPIC33EP64MC504T-I/PT
PIC24EP64MC204T-I/PT
DSPIC33EP64MC206T-I/PT
DSPIC33EP64MC504-E/MV
PIC24EP64MC204-E/MV
DSPIC33EP64MC204-E/ML
DSPIC33EP64MC504-E/ML
PIC24EP64MC204-E/ML
PIC24EP64MC206-E/PT
DSPIC33EP64MC202-I/MM
DSPIC33EP64MC502-I/MM
PIC24EP64MC202-I/MM
DSPIC33EP64MC202-I/SP
DSPIC33EP64MC506T-I/PT
PIC24EP64MC206T-I/PT
DSPIC33EP64MC202T-E/MM
DSPIC33EP64MC502T-E/MM
PIC24EP64MC202T-E/MM
DSPIC33EP64MC202T-E/SS
DSPIC33EP64MC502T-E/SS
PIC24EP64MC202T-E/SS
DSPIC33EP64MC202T-E/SO
DSPIC33EP64MC502T-E/SO
DSPIC33EP64MC504T-E/MV
PIC24EP64MC204T-E/MV
DSPIC33EP64MC204T-E/ML
DSPIC33EP64MC504T-E/ML
PIC24EP64MC204T-E/ML
DSPIC33EP64GP502-E/SS

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DSPIC33EP64MC204T-H/MV
DSPIC33EP64MC504T-H/MV
PIC24EP64GP204T-H/MV
PIC24EP64MC204T-H/MV
DSPIC33EP64MC206T-H/PT
DSPIC33EP64GP502-H/MM
DSPIC33EP64MC202-H/MM
DSPIC33EP64MC502-H/MM
DSPIC33EP64MC502-H/SP
DSPIC33EP64GP504-H/MV
DSPIC33EP64MC204-H/MV
DSPIC33EP64MC504-H/MV
PIC24EP64GP204-H/MV
PIC24EP64MC204-H/MV
PIC24EP64GP203-H/M5
PIC24EP64MC203-H/M5
DSPIC33EP64GP503-H/M5
DSPIC33EP64MC503-H/M5
DSPIC33EP64MC203-H/M5
DSPIC33EP64MC204-H/PT
DSPIC33EP64MC504-H/PT
DSPIC33EP64MC206-H/PT
DSPIC33EP64MC202T-H/MM
DSPIC33EP64GP504T-H/MV



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QUALIFICATION REPORT SUMMARY

PCN #: MFOL-02TISW617

**Date:
January 19, 2023**

Qualification of Microchip Technology Gresham – Fab 4 (GRTM) as an additional fabrication site for selected dsPIC33EP128xx, dsPIC33EP256xx, dsPIC33EP32xx, dsPIC33EP512xx, DSPIC33EP64xx, PIC24EP128GP2xx, PIC24EP128MC2xx, PIC24EP256GP2xx, PIC24EP256MC2xx, PIC24EP32GP2xx, PIC24EP32MC2xx, PIC24EP512GP2xx, PIC24EP512MC2xx, PIC24EP64GP2xx and PIC24EP64MC2xx device families available in various packages. This is an AEC Q100 Grade 0 qualification.



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PROCESS QUAL PLAN

Purpose: Qualification of Microchip Technology Gresham – Fab 4 (GRTM) as an additional fabrication site for selected dsPIC33EP128xx, dsPIC33EP256xx, dsPIC33EP32xx, dsPIC33EP512xx, DSPIC33EP64xx, PIC24EP128GP2xx, PIC24EP128MC2xx, PIC24EP256GP2xx, PIC24EP256MC2xx, PIC24EP32GP2xx, PIC24EP32MC2xx, PIC24EP512GP2xx, PIC24EP512MC2xx, PIC24EP64GP2xx and PIC24EP64MC2xx device families available in various packages. This is an AEC Q100 Grade 0 qualification.

CCB No. : 6123

I. Summary:

In keeping with guidelines established in Microchip specification QCI-39000, three lots of dsPIC33EP256/32, were used for qualification testing. This qualification will release the TLAC1/TLAE1/TLAF1, device family process to production.

II. Device Description:

Device	dsPIC33EP256/32
MSL	4632
Product	16 Bit DSC, 64KB Flash, 8KB RAM, 60 MHz, 64 Pin, MCPWM, QEI, CAN, 3 OpAmp, 3 Comp 16 Bit DSC/MCU, 256KB Flash, 32KB RAM, 60 MHz, 64 Pin, MCPWM, QEI, CAN, 3 OpAmp, 4 Comp, PTG, CTMU 16 Bit DSC/MCU, 32KB Flash, 4KB RAM, 60 MHz, 44 Pin, MCPWM, QEI, CAN, 3 OpAmp, 4 Comp, PTG, CTMU
Document Revision	A

III. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3	Lot 4
DEVICE	dsPIC33EP256	dsPIC33EP64	dsPIC33EP32	dsPIC33EP256
WAFER LOT	GRSM423380186.5 00	GRSM423240586.1 21	GRSM424291753.2 10	GRSM423312514.3 10
ASSEMBLY LOT	MTAI241300935.00 0	MTAI241902437.00 0	MTAI250301010.00 0	MTAI240402738.10 0
PACKAGE	64L TQFP	64L TQFP	64L TQFP	64L TQFP
QUAL #	R2301082	R2301335	R2400553	ESD-HBM/MM: ML0620230027 CDM: ML0620230028 ESD-LU: ML062023002 6
QUAL TESTS	ELFR, EDR+HTOL, EDR+RET	ELFR, EDR+HTOL, EDR+RET	ELFR, EDR+HTOL, EDR+RET	ESD- HBM/MM CDM ESD-LU

IV. Qualification Data:

Early Life Failure Rate (ELFR)

Test Method	AEC Q100-008
Test Condition	150°C / 48 hours Pre & Post Testing was done at +25°C and +150°C.
Sample Size (800 ea. min)	(Fail/Sample Size)
Lot 1	0/910
Lot 2	0/810
Lot 3	0/810

ENDURANCE + High Temperature Operational Life (EDR+HTOL)

Test Method	AEC Q100-005
Test Condition	150°C/408 hours Pre & Post Testing was done at +25°C, -40°C and +150°C.
Sample Size (77 ea. min)	(Fail/Sample Size)
Lot 1	0/77
Lot 2	0/78
Lot 3	0/99

These calculations only consider ELFR and DLT data from this Qualification	
Activation Energy	1.2 eV
Application Temperature	55 degrees C

ENDURANCE + RETENTION (EDR+RET)

Test Method	AEC Q100-005
Test Condition	175°C/504 hours Pre & Post Testing was done at +25°C and +150°C.
Sample Size (77 ea. min)	(Fail/Sample Size)
Lot 1	0/240
Lot 2	0/241
Lot 3	0/245

ESD-MM/HBM, CDM and Latch-Up

Test	Reference Method	Sample Size	Result
ESD – HBM	AEC-Q100-002E JS-001-2017	12/Lot 1	± 2000V
ESD – MM	AEC-Q100-003E JESD22-A115C	12/Lot 1	± 200V
ESD – CDM	AEC-Q100-11-C1 (ANSI/ESD 5.3.1-2009) JS-002-2014	18/Lot 1	± 1000V on all pins
ESD – LU	AEC-Q100-004D JESD78E	12/Lot 1	6 Pass @ +25°C ² 6 Pass @ +150°C ²

Note: Electrical Pre and Post-test = 25°C and 150°C

² +/-105mA Pulse

V. Conclusion:

Based on the results above, the devices comply with the reliability guidelines implemented in the qualification plan. Therefore, the device family and process are released to production as per guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements.



MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose Qualification of Microchip Technology Gresham – Fab 4 (GRTM) as an additional fabrication site for selected dsPIC33EP128xx, dsPIC33EP256xx, dsPIC33EP32xx, dsPIC33EP512xx, DSPIC33EP64xx, PIC24EP128GP2xx, PIC24EP128MC2xx, PIC24EP256GP2xx, PIC24EP256MC2xx, PIC24EP32GP2xx, PIC24EP32MC2xx, PIC24EP512GP2xx, PIC24EP512MC2xx, PIC24EP64GP2xx and PIC24EP64MC2xx device families available in various packages. This is an AEC Q100 Grade 0 qualification.

CN E000206083
QUAL ID R2301781 Rev. A
MP CODE TLAB1MV2XVM1
Part No. DSPIC33EP512MC506-H/PTVAO
Bonding No. BD-001232 Rev. 01
CCB No. 6087 and 6123

Package

Type 64L TQFP
Package size 10 x 10 x 1.0 mm

Lead Frame

Paddle size 200 x 200 mils
Material C7025
Surface BARE CU
Process STAMPED
Lead Lock No
Part Number 10106405
Treatment BOT

Material

Epoxy 3280
Wire Au
Mold Compound G700HA
Plating Composition Matte Sn



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Manufacturing Information

Assembly Lot No.	Wafer Lot No.
MTAI243402192.000	GRSM423472611.200
MTAI243500413.000	GRSM423472611.200
MTAI243500945.000	GRSM423472611.200

Result ☒ Pass ☐ Fail ☐ _____

64L TQFP (10x10x1.0 mm) assembled by MTAI pass reliability test per QCI-39000.
This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C
reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C, 85°C, 125°C and 150°C System: J750 Bake 150°C, 24 hrs. System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	JESD22-A113	693(0)	0/693	Pass	Good Devices
	Electrical Test: +25°C, 85°C, 125°C and 150°C System: J750	JIP/ IPC/JEDEC J-STD-020E	693(0)	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -55°C to +150°C, 1500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +85°C, 125°C and 150°C System: J750		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (>2.50 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.6 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C, 125°C and 150°C System: J750		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 1000 hrs. System: CHINEE	JESD22- A103		0/45		45 units
	Electrical Test: +25°C, 85°C, 125°C and 150°C System: J750		45(0)	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>12.60 grams)	CDF-AEC- Q100-001	30(0) bonds	0/30	Pass	