



Product Change Notification / ASER-14SQTF575

Date:

22-Dec-2022

Product Category:

Power Discrete Components

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6016 Final Notice: Qualification of MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

Affected CPNs:

[ASER-14SQTF575_Affected_CPN_12222022.pdf](#)
[ASER-14SQTF575_Affected_CPN_12222022.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 MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

Pre and Post Change Summary:

	Pre Change	Post Change

Fabrication Site	EPISIL Technologies Inc (ET6B)	EPISIL Technologies Inc (ET6B)	Microchip Technology Colorado (MCSO6)
Wafer Diameter	6 inches	6 inches	6 inches

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve productivity by qualifying MCSO6 as an additional fabrication site.

Change Implementation Status:In Progress

Estimated First Ship Date:January 16, 2023 (date code: 2303)

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

Due to unforeseen circumstances, that are out of Microchip's control, full qualification will be made available as soon as it is approved which may be after the estimated first ship date so that Microchip can maintain continuity of supply and not disrupt customer orders.

Time Table Summary:

	December 2022					>	January 2023					>	March 2023				
Workweek	4 9	5 0	5 1	5 2	5 3		1	2	3	4	5		9	1 0	1 1	1 2	1 3
Qual Report Availability															x		
Final PCN Issue Date				x													
Estimated Implementation Date									x								

Method to Identify Change:Traceability code

Qualification Plan:Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Estimated Qualification Completion Date:

March 17, 2023

Note 1: This final PCN will be updated to include the Qualification report as soon as it is completed.

Note 2: Please be advised the qualification completion times may be extended because of unforeseen business conditions.

Revision History:December 22, 2022: Issued final notification.

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

Attachments:

[PCN_ASER-14SQTF575 Qual Plan.pdf](#)

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

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

APT15DQ100BCTG
APT15DQ100BG
APT15DQ100KG
APT15DQ120BG
APT15DQ120BHBG
APT15DQ120D
APT15DQ120KG
APT30DQ100BG
APT30DQ100KG
APT30DQ120BCTG
APT30DQ120BG
APT30DQ120KG
APT40DQ100BCTG
APT40DQ100BG
APT40DQ120BG
APT40DQ120SG
APT60DQ100BG
APT60DQ100LCTG
APT60DQ120BG
APT60DQ120D
APT60DQ120SG
APT13GP120BDQ1G
APT15GN120BDQ1G
APT15GN120SDQ1G
APT15GP60BDQ1G
APT15GP90BDQ1G
APT15GT120BRDQ1G
APT20GF120BRDG
APT25GN120B2DQ2G
APT25GP120BDQ1G
APT25GT120BRDQ2G
APT27GA90BD15
APT33GF120B2RDQ2G
APT33GF120LRDQ2G
APT35GA90BD15
APT35GN120L2DQ2G
APT40GP90B2DQ2G
APT43GA90BD30
APT44GA60BD30
APT45GP120B2DQ2G
APT50GN120L2DQ2G
APT50GT120B2RDQ2G
APT50GT120JRDQ2
APT50GT120LRDQ2G
APT64GA90B2D30
APT64GA90LD30

APT80GA90LD40



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QUALIFICATION PLAN SUMMARY

PCN #: ASER-14SQTF575

**Date:
June 3, 2021**

Qualification of MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

Purpose: Qualification of MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

CCB# 6016

Qualification Number:	2021-0601
Description:	AEC-Q101 Qualification requirements for 600V DQ FRED technology at Microchip Fab 5.
Die Volt:	16F3F-060, 16K4F-060, 16F4F-060, 16K5F-060, 16F5F-060.
Package:	T0-220, T0-247(Commercial TO-268) and TO-264.
User Specification:	Respective 053-40xx Data Sheets.

Fab:	Microchip Technology Inc.
Lead Frame Material:	C19210 (PMC90), ½ hard Cu., Selective Ni plating
Die Attach:	Soft Solder VLO – 92.5Pb/5Sn/2.5Ag
Wire:	Aluminum
Mold Compound:	MG15F-140, Anhydride.
Lead Finish:	100Sn Plating

AEC-Q101 Item	Test	Abrv.	Reference	Location	Test Spec.	No. Lots	Sample Size/Lot	Comments
3	External Visual	EV	JESD22 B-101	Ennis	User Specification	4	610	All units submitted for qualification
4	Parametric Verification	PV		Bend	User Specification	4	25	Per Part Number
5	High Temperature Reverse Bias	HTRB	Mil-Std 750 M1038 Cond A	Ennis	1000 Hours @ Ta=175°C, Rated VRRM	4	77+5	Electrical Tests: Pre, 168 hrs, 500 hrs and 1000 hrs.
7	Temperature Cycle	TC	JESD22 A-104	Ennis	400 Cycles, -55°C to 175°C	4	77+5	Electrical Tests: Pre, 250 and 400 Cycles.
12	Destructive Physical Analysis	DPA	AEC-Q101-004					Thermal testing at Pre and 400 Cycles
8	Unbiased Highly Accelerated Stress Test	UHAST	JESD22 A-110	Ennis	96 Hours, Ta=130°C, RH=85%	4	77+5	Electrical Tests: Pre and 96 hrs.
9	Highly Accelerated Stress Test	HAST	JESD22 A-110	Ennis	96 Hours, 42V, Ta=130°C, RH=85%	4	77+5	Electrical Tests: Pre and 96 hrs.
12	Destructive Physical Analysis	DPA	AEC-Q101-004					
10(alt.)	Intermittent Operating Life	IOL	Mil-Std 750 M1037	Ennis	Cycles=60000/ (x+y), Delta Tj=100°C	4	77+5	Electrical Tests: Pre, 6k and 10k Cycles Thermal testing at Pre and 10k Cycles
11	ESD Characterization	CDM	AEC-Q101-001	Chandler	Destruct.	1	30	Use Generic Data
		HBM	AEC-Q101-005	Chandler	Destruct.	1	30	Use Generic Data
15	Resistance to Solder Heat	RSH	JESD22 B-106	Fastech	Per Part Specification	2	30	Use Generic Data
22	Thermal Resistance	TR	JESD24-3	Bend	Per Part Specification	3	10	Performed in Items 7 and 10(alt.)
23	Wire Bond Strength	WBS	Mil-Std 750 M2037	Fastech		2	5	Min. 10 bonds from each lot.
24	Bond Shear	BS	AEC-Q101-003	Fastech		2	5	Min. 10 bonds from each lot.
25	Die Shear	DS	Mil-Std 750 M2017	Fastech		2	5	5 die from each lot



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QUALIFICATION PLAN SUMMARY

PCN #: ASER-14SQTF575

**Date:
July 6, 2022**

Qualification of MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

Purpose: Qualification of MCSO6 as an additional fabrication site for selected APT1xx, APT2xx, APT3xx, APT4xx, APT5xx, APT6xx and APT8xx device families available in various packages.

CCB# 6016

Qualification Number:	2022-0603
Description:	Commercial Qualification requirements for 1200V and 1000V DQ FRED technology at Microchip Fab 5.
Die Volt:	1613F-120, 1634F-120, 1614F-120, 1645F-120, 1655F-120.
Package:	T0-220, T0-247(Commercial TO-268) and TO-264.
User Specification:	Respective 053-40xx Data Sheets.

Fab:	Microchip Technology Inc
Lead Frame Material:	C19210 (PMC90), ½ hard Cu., Selective Ni plating
Die Attach:	Soft Solder VLO – 92.5Pb/5Sn/2.5Ag
Wire:	Aluminum
Mold Compound:	MG15F-140, Anhydride.
Lead Finish:	100Sn Plating

Item #	Test	Abrv.	Reference	Location	Test Spec.	No. Lots	Sample Size/Lot	Comments
1	External Visual	EV	JESD22 B-101	Ennis	User Specification	4	125	All units submitted for qualification
2	Parametric Verification	PV		Bend	User Specification	4	25	Per Part Number
3	High Temperature Reverse Bias	HTRB	Mil-Std 750 M1038 Cond A	Ennis	1000 Hours @ Ta=175°C, Rated VRRM	4	24+2	Electrical Tests: Pre, 168 hrs, 500 hrs and 1000 hrs.
4	Temperature Cycle	TC	JESD22 A-104	Ennis	100, 400 Cycles, -55°C to 175°C	4	24+2	Electrical Tests: Pre, 100 and 400 Cycles.
	Thermal Resistance	RthJC		Bend	User Specification			Thermal testing at Pre, 100 and 400 Cycles
5	Unbiased Highly Accelerated Stress Test	UHAST	JESD22 A-110	Ennis	96 Hours, Ta=130°C, RH=85%	4	24+2	Electrical Tests: Pre and 96 hrs.
6	Highly Accelerated Stress Test	HAST	JESD22 A-110	Ennis	96 Hours, 42V, Ta=130°C, RH=85%	4	24+2	Electrical Tests: Pre and 96 hrs.
7	Intermittent Operating Life	IOL	Mil-Std 750 M1037	Ennis	6k, 10k Cycles, Delta Tj=100°C	4	24+2	Electrical Tests: Pre, 6k and 10k Cycles
	Thermal Resistance	RthJC		Bend	User Specification			Thermal testing at Pre, 6k and 10k Cycles