Product Change Notification / ALAN-09TNMZ646

Date:

22-Dec-2021

Product Category:

8-bit Microcontrollers, Driver / Interface ICs, Interface- LCD Drivers, Simple and Complex Programmable Logic, Special Purpose Analog to Digital Converters

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4981 Final Notice: Qualification of A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package.

Affected CPNs:

ALAN-09TNMZ646_Affected_CPN_12222021.pdf
ALAN-09TNMZ646_Affected_CPN_12222021.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 A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package.

Pre and Post Change Summary:

		Pre Change	Post Change	
Assembly Site		Microchip Technology Thailand (MMT)	Microchip Technology Thailand (Branch) / (MMT)	
Wire Material		Au	Au	
Die Attach Material		3280	3280	
Molding Compound Material		G600V	G600V	
Lead-Frame	Material	C151	C151	A194
	DAP Surface Prep	Ag Spot plated	Ag Spot plated	Bare Cu
	Treatment	None	None	BOT
	Process	Stamped	Stamped	Etched
	Lead-Lock	No	No	

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve on-time delivery performance by qualifying A194 as an additional lead-frame.

Change Implementation Status: In Progress

Estimated First Ship Date: January 10, 2022 (date code: 2203)

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

Time Table Summary:

	December 2021					->	January 2022				
Workweek	49	50	51	52	53		1	2	3	4	5
Qual Report Availability				X							
Final PCN Issue Date				X							
Estimated first ship 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: December 22, 2021: 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_ALAN-09TNMZ646_Pre and Post Change_Summary.pdf
PCN_ALAN-09TNMZ646_Qual Report1.pdf
PCN_ALAN-09TNMZ646_Qual Report2.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)

PIC16C64A-04E/L
PIC16C64A-04I/L
PIC16C64A-10I/L
PIC16C64A-20I/L
PIC16C65A-04/L
PIC16C65A-10/L
PIC16C65A-20/L
PIC16C65A-20I/L
PIC16LC65A-04I/L
PIC16C74A-04/L
PIC16C74A-10/L
PIC16C74A-20/L
PIC16LC74A-04/L
PIC16C74A-04I/L
PIC16C74A-20I/L
PIC16LC74A-04I/L
PIC16C74AT-04I/L
PIC16C662-04/L
PIC16C77-04/L
PIC16C77-10/L
PIC16C77-20/L
PIC16LC77-04/L
PIC16C77-04I/L
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TC850ILW
TC850CLW713

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AT89C51CC03CA-SLRUM

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HV518PJ-G-M903
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HV9408PJ-G
HV5122PJ-G
HV5222PJ-G
HV5522PJ-G
HV5530PJ-G
HV5622PJ-G
HV5630PJ-G
HV5308PJ-B-G
HV5308PJ-B-G-M903
HV5408PJ-B-G
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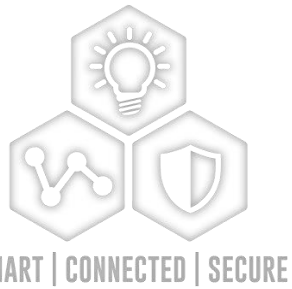
PIC16C64A-10/L
PIC16C64A-20/L
PIC16LC64A-04/L

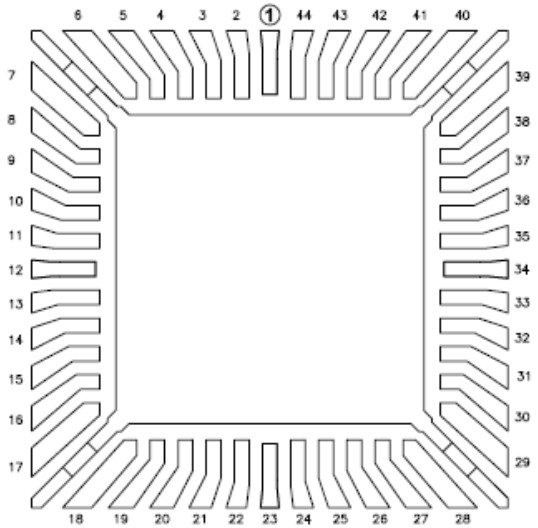
CCB 4981
Pre and Post Change Summary
PCN# ALAN-09TNMZ646

A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



Pre and Post Change Summary

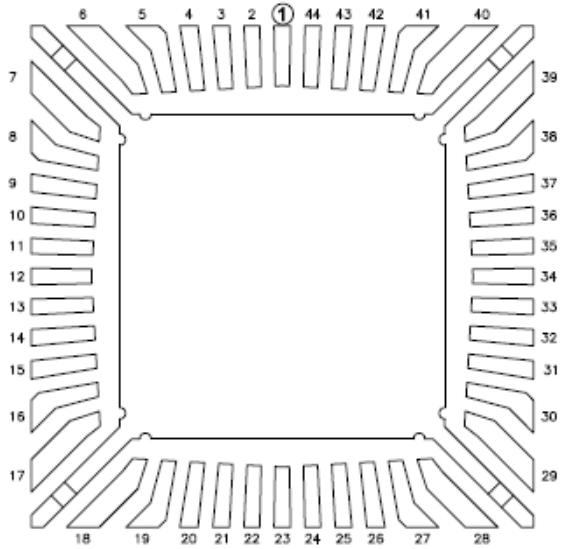
Pre change



LF PART#: 10104409

Material	C151
DAP Surface Prep	Ag Spot plated
Treatment	None
Process	Stamped
Lead-Lock	No

Post change



LF PART#: 10104414

Material	A194
DAP Surface Prep	Bare Cu
Treatment	BOT
Process	Etched
Lead-Lock	No

MICROCHIP

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN# ALAN-09TNMZ646

Date:
June 18, 2020

Qualification of MMT as a new assembly site for selected Microsemi MT89L80xx, MT89L85xx and MT89L86xx device families available in 44L PLCC (16.6x16.6x4.4mm) package using gold (Au) wire. The qualification of A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package will qualify by similarity.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as a new assembly site for selected Microsemi MT89L80xx, MT89L85xx and MT89L86xx device families available in 44L PLCC (16.6x16.6x4.4mm) package using gold (Au) wire. The qualification of A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package will qualify by similarity (QBS).
CN	ES342283
QUAL ID	Q19193 Rev. A
MP CODE	U02357T2XA01
Part No.	MT89L80AP1
Bonding No.	BDM-002262 Rev. A
CCB#	3995 and 4981
Package	
Type	44L PLCC
Lead Frame	
Paddle size	230 x 230 mils
Material	A194
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10104414
Treatment	BOT
Material	
Epoxy	3280
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-203401962.000	GF02920053749.100	1947TTS
MMT-203401966.000	GF02920053749.100	19470R1
MMT-203401967.000	GF02920053749.100	19478QK

Result [X] Pass [ ] Fail [ ] _____

44L PLCC assembled by MMT pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 245°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
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** +25°C System: J921	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 250°C max System: Vitronics Soltec MR1243			693		
	Electrical Test: +25°C System: J921			0/693	Pass	
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had beenpre-conditioned at 245°C 77 units / lot
	Electrical Test: +25°C System: J921		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0) 15 (0)	0/15 0/15	Pass Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had beenpre-conditioned at 245°C 77 units / lot
	Electrical Test :+25°CSystem: J921		231(0) Units	0/231	Pass	

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, 504 hrs System: SHEL LAB **Electrical Test:** +25°C System: J921	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
Solderability Temp 215°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	
Solderability Temp 245°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN# ALAN-09TNMZ646

Date:
June 2, 2020

Qualification of MMT as a new assembly site for selected Microsemi products of LE79Rxxx, MT093xxx, MT88xxx, MT89xxx, MT91xxx and ZL50xxx device families available in 44L PLCC (16.6x16.6x4.4mm), 32L PLCC (11.5x14x3.37mm) and 28L (11.5x11.5x4.4mm) packages using palladium coated copper with gold flash (CuPdAu) bond wire. The qualification of A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package will qualify by similarity (QBS).

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as a new assembly site for selected Microsemi products of LE79Rxxx, MT093xxx, MT88xxx, MT89xxx, MT91xxx and ZL50xxx device families available in 44L PLCC (16.6x16.6x4.4mm), 32L PLCC (11.5x14x3.37mm) and 28L (11.5x11.5x4.4mm) packages using palladium coated copper with gold flash (CuPdAu) bond wire. The qualification of A194 as an additional Lead-frame for various device families available in 44L PLCC (16.6x16.6x4.4mm) package will qualify by similarity (QBS).
CN	ES331390
QUAL ID	Q19189 Rev A
MP CODE	V20E17T2XA01
Part No.	MT8980DP1
Bonding No.	BDM-002264 Rev. A
CCB#	3997 and 4981
Package	
Type	44L PLCC
Lead Frame	
Paddle size	230 x 230 mils
Material	A194
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10104414
Treatment	BOT
Material	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G600V
Plating Composition	Matte Tin

MICROCHIP

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-203401963.000	GF02920054156.200	1947U2
MMT-203401964.000	GF02920054156.220	1947TU3
MMT-203401965.000	GF02920054156.210	1947TU4

Result [X] Pass [ ] Fail [ ] _____

44L PLCC assembled by MMT pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 245°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
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** +88°C System: CATALYST Bake 150°C, 24 hrs System: CHINEE 30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 250°C max System: Vitronics Soltec MR1243 **Electrical Test:** +88°C System: CATALYST	JESD22- A113 JIP/ IPC/JEDE C J-STD-020E	693(0)	693 693 693 693 0/693	Pass	Good Devices
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H **Electrical Test:** + 88°C System: CATALYST	JESD22- A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 245°C 77 units / lot
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +88°C System: CATALYST	JESD22- A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 245°C 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, 504 hrs System: SHEL LAB **Electrical Test:** +88°C System: CATALYST	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
Solderability Temp 215°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	
Solderability Temp 245°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	