Product Change Notification / GBNG-16RJZN641

Date:

01-Apr-2021

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4279.001 Final Notice: Qualification of GTK as a new assembly site for selected SST38VF640xx, SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm) package.

Affected CPNs:

GBNG-16RJZN641_Affected_CPN_04012021.pdf
GBNG-16RJZN641_Affected_CPN_04012021.csv

Notification Text:

PCN Status: Final notification

PCN Type: Manufacturing Change

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

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

Description of Change: Qualification of GTK as a new assembly site for selected SST38VF640xx, SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Lingsen Precision Industries, LTD. (LPI)	GREATEK ELETRONIC INC. (GTK)

Wire material	Au		Au	
Die attach material	8340		EN-4900GC	
Molding compound material	G700		G600F	
Lead frame material	C7025		C7025	
Lead frame paddle size	162 x 260	160x130	330 x 260	280 x 210
Lead Lock	Yes		No	
	See Pre and Post Change Summary for comparison.			

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve on-time delivery performance by qualifying GTK as a new assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date:
April 30, 2021 (date code: 2118)

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

Time Table Summary:

	December 2020				>	**April 2021**				
Workweek	49	50	51	52		14	15	16	17	18
Initial PCN Issue Date				X						
Qual Report Availability						X				
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:July 17, 2020: Issued initial notification.**December 21, 2020:** Re-issued initial notification to update the reference CCB number from CCB 4315 to CCB 4279.001. Updated the affected CPN list by adding SST39LF40xx and SST39VF40xx device families. Updated the qualification plan.**April 1, 2021:** Issued final notification. Attached the Qualification Report. Attached Pre and Post Summary. Added Lead Lock row to Pre and Post change summary table. Provided estimated first ship date to be on April 30, 2021.

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

Attachments:

PCN_GBNG-16RJZN641_Qual Report.pdf
PCN_GBNG-16RJZN641_Pre and Post Change Summary.pdf

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

Terms and Conditions:

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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.

CCB 4279.001
Pre and Post Change Summary
PCN #: GBNG-16RJZN641

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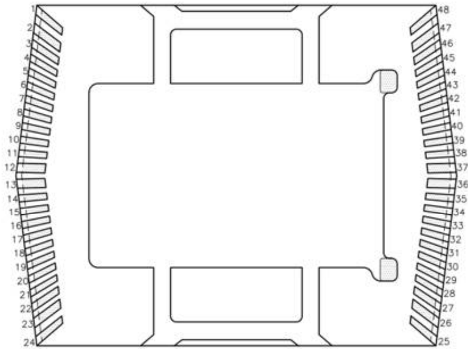
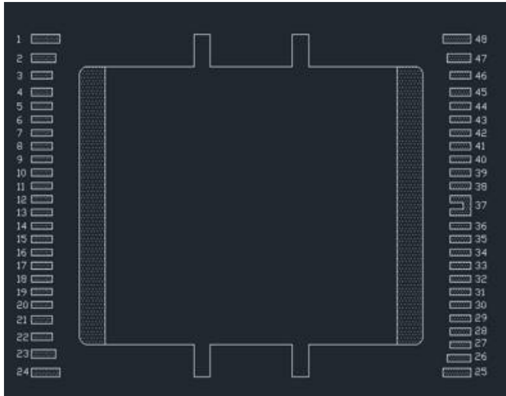
Qualification of GTK as a new assembly site for selected SST38VF640xx, SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm) package.

Lead frame Comparison

LPI	GTK
	
Paddle size: 162 x 260 mils	Paddle size: 330 x 260 mils

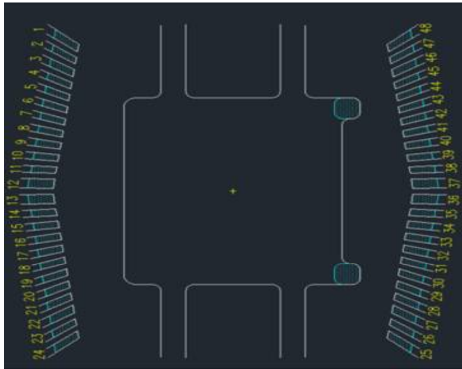
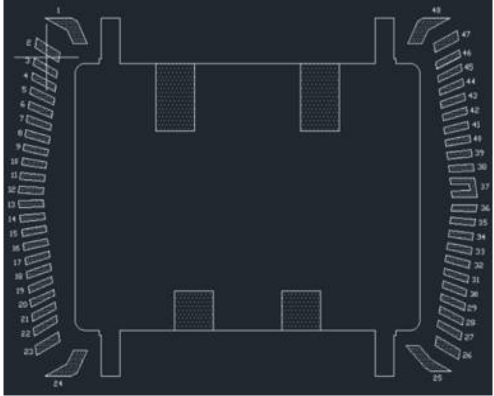
LPI

Paddle size	162 x 260 mils

GTK

Paddle size	330 x 260 mils

Lead frame Comparison

LPI	GTK
	

Paddle size	160x130 mils

Paddle size	280 x 210 mils

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: GBNG-16RJZN641

Date:
March 02, 2021

Qualification of GTK as a new assembly site for selected SST38VF640xx, SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm) package.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of GTK as a new assembly site for selected SST38VF640xx, SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm) package.
CCB No.	4279.001
CN	ES348366
QUAL ID	R2000754 Rev. A
MP CODE	X02035W9XA03
Part No.	SST38LF6401-90-RT/TV-ENG
Bonding No.	BDE-006342 Rev. 03
<u>Package</u>	
Type	48L TSOP
Package size	12 x 20 mm
<u>Lead Frame</u>	
Paddle size	330 x 260 mils
Material	C7025
Surface	Ag ring
Process	Stamped
Lead Lock	No
Part Number	11-07048-003
Treatment	None
<u>Material</u>	
Epoxy	EN-4900GC
Wire	Au wire
Mold Compound	G600F
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
GTK-212100034.000	GC01921100652.110	2034C7Q
GTK-212200001.000	GC01921141877.220	2035C84
GTK-212200002.000	GC01921141877.220	2035C8V

Result [X] Pass [ ] Fail [ ] ____________________

48L TSOP (12x12 mm) assembled by GTK pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 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
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** -55°C, 25°C and 125°C System: Nextest_GV2X	JESD22-A113	729(0)	729		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			729		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			729		
	3x Convection-Reflow 265°C max			729		
	System: Vitronics Soltec MR1243					
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X			0/729	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -55°C to +125°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		243		Parts had been pre-conditioned at 260°C
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	Pass	
	Stress Condition: -55°C to +125°C, 1000 Cycles System: TABAI ESPEC TSA-70H			243		
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.6 Volts System: HAST 6000X	JESD22-A110		243		Parts had been pre-conditioned at 260°C
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. **Bias Volt:** 3.6 Volts System: HAST 6000X			243		
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UHAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		243		Parts had been pre-conditioned at 260°C
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			243		
	Electrical Test: -55°C, 25°C and 125°C System: Nextest_GV2X		243(0)	0/243	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, 500 hrs System: TPS DC-166-F-ST350 **Electrical Test:** -55°C, 25°C and 125°C System: Nextest_GV2X	JESD22-A103	 45(0)	45 0/45	 Pass	45 units / lot
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	
Physical Dimensions	Physical Dimension, 10 units / lot from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	Mil.Std. 883-2011 CDF-AEC-Q100-001	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	

GBNG-16RJZN641 - CCB 4279 SST39LF40xx and SST39VF40xx device families available in 48L TSOP (12x20mm)

Affected Catalog Part Numbers(CPN)

SST38VF6401-90-5C-EKE
SST38VF6402-90-5C-EKE
SST38VF6403-90-5C-EKE
SST38VF6404-90-5C-EKE
SST38VF6401-90-5I-EKE
SST38VF6402-90-5I-EKE
SST38VF6403-90-5I-EKE
SST38VF6404-90-5I-EKE
SST38VF6401-90-4I-EKE
SST38VF6404-90-5I-EKE-NCM
SST38VF6401-90-5C-EKE-T
SST39LF401C-55-4C-EKE
SST39LF402C-55-4C-EKE
SST39VF401C-70-4C-EKE
SST39VF402C-70-4C-EKE
SST39VF401C-70-4I-EKE
SST39VF402C-70-4I-EKE
SST39LF401C-55-4C-EKE-T
SST39LF402C-55-4C-EKE-T
SST39VF401C-70-4C-EKE-T
SST39VF402C-70-4C-EKE-T
SST39VF401C-70-4I-EKE-T
SST39VF402C-70-4I-EKE-T