



MICROCHIP

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-27DRIR445

Date
October 26, 2015

**Qualification of non-conductive die attach epoxy 8900NC for
selected products available in 8L SOIC package at MTAI
assembly site.**

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MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of non-conductive die attach epoxy 8900NC for selected products available in 8L SOIC package at MTAI assembly site.
CN	BC151933
QUAL ID	Q15141
MP CODE	Y2AK1BC2XA00
Part No.	TC4420EOA
Bonding No.	BDE-003137 Rev. 01
CCB No.	1747

Package

Type	8L SOIC
Package size	150 mils
Die thickness	15 mils
Die size	79.1 x 75.0 mils

Lead Frame

Paddle size	95 x 158 mils
Material	CDA194
Surface	Ag spot
Process	Stamped
Lead Lock	No
Part Number	10100807
Treatment	None

Die attach material

Epoxy	8900NC
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI162401211.000	TMPE216175383.200	1537Y7W
MTAI162401640.000	TMPE216175383.200	15370EA
MTAI162401670.000	TMPE216175383.200	15370GC

Result

☒ Pass ☐ Fail ☐ _____

8L SOIC (.150") 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-020D standard.

Prepared By: Thinnapol Date: October 26, 2015 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Som Date: October 26, 2015 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85 °C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC C J-STD- 020D	135	0/135	Pass	

<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test :+25°C,125 °C and -40 °C System: ETS88	JESD22- A113	693(0)	693		Good Devices
	Bake 150 °C, 24 hrs System: CHINEE			693		
	85 °C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 125°C System: ETS88			0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 125°C System: ETS88 Bond Strength: Wire Pull (> 3.0 grams) Bond Shear (>18.00 grams)	JESD22-A104	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: ETS88	JESD22-A118	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 18 Volts System: HAST 6000X Electrical Test: +25°C and 125°C System: ETS88	JESD22-A110	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB Electrical Test : +25°C and 125°C System: ETS88	JESD22-A103	45(0)	0/45	Pass	45 units

PACKAGE QUALIFICATION REPORT						
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength Data Assembly	Wire Pull (> 3.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>18.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	

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Affected Catalog Part Numbers (CPN)

PCN_JAON-27DRIR445	
CATALOG_PART_NBR	Estimated First Ship Date (EFSD)
MCP1403-E/SN	June 17, 2016
MCP1403T-E/SN	June 17, 2016
MCP1404-E/SN	June 17, 2016
MCP1404-E/SNVAO	September 30, 2016
MCP1404T-E/SN	June 17, 2016
MCP1404T-E/SNVAO	September 30, 2016
MCP1405-E/SN	June 17, 2016
MCP1405T-E/SN	June 17, 2016
MCP1405T-E/SNVAO	September 30, 2016
MCP14A0153-E/SN	June 17, 2016
MCP14A0153T-E/SN	June 17, 2016
MCP14A0154-E/SN	June 17, 2016
MCP14A0154T-E/SN	June 17, 2016
MCP14A0155-E/SN	June 17, 2016
MCP14A0155T-E/SN	June 17, 2016
MCP14E3-E/SN	June 17, 2016
MCP14E3T-E/SN	June 17, 2016
MCP14E4-E/SN	June 17, 2016
MCP14E4T-E/SN	June 17, 2016
MCP14E4T-E/SNVAO	September 30, 2016
MCP14E5-E/SN	June 17, 2016
MCP14E5T-E/SN	June 17, 2016
TC1426COA	June 17, 2016
TC1426COA713	June 17, 2016
TC1427COA	June 17, 2016
TC1427COA713	June 17, 2016
TC1428COA	June 17, 2016
TC1428COA713	June 17, 2016
TC426COA	June 17, 2016
TC426COA713	June 17, 2016
TC426EOA	June 17, 2016
TC426EOA713	June 17, 2016
TC427COA	June 17, 2016
TC427COA713	June 17, 2016
TC427EOA	June 17, 2016
TC427EOA713	June 17, 2016
TC427VOA	June 17, 2016
TC427VOA713	June 17, 2016
TC428COA	June 17, 2016
TC428COA713	June 17, 2016
TC428EOA	June 17, 2016
TC428EOA713	June 17, 2016
TC428VOA	June 17, 2016

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Affected Catalog Part Numbers (CPN)

PCN_JAON-27DRIR445	
CATALOG_PART_NBR	Estimated First Ship Date (EFSD)
TC428VOA713	June 17, 2016
TC4423AVOA	June 17, 2016
TC4423AVOA713	June 17, 2016
TC4424AVOA	June 17, 2016
TC4424AVOA713	June 17, 2016
TC4424AVOA713APP	June 17, 2016
TC4425AVOA	June 17, 2016
TC4425AVOA713	June 17, 2016
TC4426ACOA	June 17, 2016
TC4426ACOA713	June 17, 2016
TC4426AEOA	June 17, 2016
TC4426AEOA713	June 17, 2016
TC4426AVOA	June 17, 2016
TC4426AVOA713	June 17, 2016
TC4426COA	June 17, 2016
TC4426COA713	June 17, 2016
TC4426COA713CAA	June 17, 2016
TC4426EOA	June 17, 2016
TC4426EOA713	June 17, 2016
TC4426VOA	June 17, 2016
TC4426VOA713	June 17, 2016
TC4427ACOA	June 17, 2016
TC4427ACOA713	June 17, 2016
TC4427AEOA	June 17, 2016
TC4427AEOA713	June 17, 2016
TC4427AEOA713AAA	June 17, 2016
TC4427AEOAAAA	June 17, 2016
TC4427AVOA	June 17, 2016
TC4427AVOA713	June 17, 2016
TC4427AVOA713-VAO	September 30, 2016
TC4427AVOA-VAO	September 30, 2016
TC4427COA	June 17, 2016
TC4427COA713	June 17, 2016
TC4427COA713HAZ	June 17, 2016
TC4427COA723	June 17, 2016
TC4427EOA	June 17, 2016
TC4427EOA713	June 17, 2016
TC4427EOA-VAO	September 30, 2016
TC4427VOA	June 17, 2016
TC4427VOA713	June 17, 2016
TC4428ACOA	June 17, 2016
TC4428ACOA713	June 17, 2016
TC4428ACOA713-GTD	June 17, 2016

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Affected Catalog Part Numbers (CPN)

PCN_JAON-27DRIR445	
CATALOG_PART_NBR	Estimated First Ship Date (EFSD)
TC4428AEOA	June 17, 2016
TC4428AEOA713	June 17, 2016
TC4428AVOA	June 17, 2016
TC4428AVOA713	June 17, 2016
TC4428AVOA713-VAO	September 30, 2016
TC4428COA	June 17, 2016
TC4428COA713	June 17, 2016
TC4428COA723	June 17, 2016
TC4428DCOA	June 17, 2016
TC4428EOA	June 17, 2016
TC4428EOA713	June 17, 2016
TC4428VOA	June 17, 2016
TC4428VOA713	June 17, 2016
TC4428VOA713-VAO	September 30, 2016