

Product Change Notification / RMES-15ZREP293

Date:

15-Jan-2021

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3379.002 and CCB 3280.001 Final Notice: Qualification of MTAI as an additional assembly and final test site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.

Affected CPNs:

RMES-15ZREP293_Affected_CPN_01152021.pdf RMES-15ZREP293_Affected_CPN_01152021.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 MTAI as an additional assembly and final test site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.

Pre Change:

Assembled at ANAP assembly site using palladium coated copper (PdCu) bond wire, 8290 die attach and G700LS mold compound material with NiPdAu lead plating in 60 x 60 mils paddle size without lead lock.**or** Assembled at ASSH assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900GC die attach and CEL-9240HF10AK mold compound material with Matte tin lead plating in 93 x 93 mils paddle size without lead lock.**and**

Tested at ASSH or ANAP Final Test site.

Post Change:

Assembled at ANAP assembly site using palladium coated copper (PdCu) bond wire, 8290 die attach and G700LS mold compound material with NiPdAu lead plating in 60 x 60 mils paddle size without lead lock. **Or**

Assembled at ASSH assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900GC die attach and CEL-9240HF10AK mold compound material with Matte tin lead plating in 93 x 93 mils paddle size without lead lock. **or** Assembled at MTAI assembly site using gold (Au) bond wire, 8390A die attach and G600V mold compound material with Matte tin lead plating in 90 x 90 mils paddle size with lead lock. **and**

Tested at ASSH, ANAP or MTAI Final Test site.

Pre and Post Change Summary:

		Pre Ch	ange	9		Post Change	
Assembly Sit	Amko e Philipp IN	r Technology bines (P1/P2), C. (ANAP)	ہ S (Sh	ASE Advanced Semiconductor Janghai) Co., Ltd. (ASSH)	Amkor Technology Philippines (P1/P2), INC. (ANAP)	ASE Advanced Semiconductor (Shanghai) Co., Ltd. (ASSH)	Microchip Technology Thailand (HQ) (MTAI)
Wire materia	al	PdCu		CuPdAu	PdCu	CuPdAu	Au
Die attach material		8290		EN-4900GC	8290	EN-4900GC	8390A
Molding compound material	Molding compound G700LS CEL-9240HF10AK G700LS CEL-9240HF10 material Material		CEL-9240HF10AK	G600V			
Lead frame material	(CDA194	CDA194 CDA194		CDA194	CDA194	
Paddle size	Paddle size60 x 60 mils93 x 93 r		93 x 93 mils	60 x 60 mils	93 x 93 mils	90 x 90 mils	
Lead Lock		No		No	No	No	Yes
Lead Plating	g	NiPdAu		Matte tin	NiPdAu	Matte tin	Matte Tin
		Pre Change				Post Change	
Final Te	st Site	ASE Advance Semiconduct (Shanghai) Co Ltd. (ASSH)	ed cor o.,	Amkor Technology Philippines (P1/P2), INC. (ANAP)	ASE Advanced Semiconductor (Shanghai) Co., Ltd. (ASSH) INC. (ANAP) Thailand (M		Microchip Technology Thailand (MTAI)
Base Quantity	Tube	100		100	100	100	100
Multiple (BQM)	Tape and Reel	4000		4000	4000	4000	4000
Din1	Tube	Pin 1 side (Bla	ick)	Not Applicable	Pin 1 side (Black)	Not Applicable	Pin 1 side (White)
Orientation	Tape and Reel	Quadrant 1	L	Quadrant 1	Quadrant 1	Quadrant 1	Quadrant 1
Tube Minor dimensional changes – see attachment					nensional changes – s	ee attachment	

1				
Carrier Tape	pe No change			
Cover Tape	pe Minor dimensional changes – see attachment			
Plastic Reel	Minor dimensional changes – see attachment			
Packing Procedure for Tube and Tape & Reel	See attachment			

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve on-time delivery performance by qualifying MTAI as an additional assembly and final test site

Change Implementation Status: In Progress

Estimated First Ship Date: February 15, 2021 (date code: 2108)

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

Time Table Summary:

	January 2021				Feb	ruary	2021	_		
Workweek	01	02	03	04	05	06	07	08	09	10
Qual Report Availability			х							
Final PCN Issue Date			х							
Estimated First Ship Date								х		

Method to Identify Change: Traceability code

Qualification Report: Please open the attachments included with this PCN labeled as PCN_#_Qual_Report. PCN_RMES-15ZREP293_Qual_Report – Assembly sitePCN_RMES-15ZREP293_Qual_Report – Final Test site

Revision History: January 15, 2021: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on February 15, 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_RMES-15ZREP293 _Qual_Report - Assembly Site.pdf PCN_RMES-15ZREP293_Qual_Report - Final Test.pdf PCN_RMES-15ZREP293_Pre and Post Change Summary.pdf

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

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RMES-15ZF AT24C16D and AT24C32E device families available in 8L SOIC packages.

Affected Catalog Part Numbers(CPN)

AT24C01D-SSHM-B AT24C02D-SSHM-T AT24C01D-SSHM-T AT24C04D-SSHM-T AT24C04D-SSHM-B AT24C04D-SSHM-T AT24C08D-SSHM-T AT24C08D-SSHM-T AT24C16D-SSHM-T AT24C16D-SSHM-T AT24C32E-SSHM-T



QUALIFICATION REPORT SUMMARY

PCN #: RMES-15ZREP293

Date: December 08, 2020

Qualification of MTAI as an additional final test site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages. Purpose: Qualification of MTAI as an additional final test site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.

CCB No.: 3280.001

Test / Evaluation	Test Conditions / Parameters	Results / Remarks
Datalog / Bin Comparison	 Compare test numbers, test names, test limit, test sequence, bin assignments & pass/fail results. Accept if all match or justify the differences 	PASSED
Test stability verification	 Test stability verification with TC at -40°C, 25°C and 85°C for singulated Accept on Cpk > 1.67 or justify/waive parameters if needed 	PASSED
Tester to Tester verification	 Perform GR&R. Site 1: Nextest_PT vs Nextest_SSV2t Platform 	PASSED
Yield correlation	 Lot Validation, Good vs. rejects comparison. (5000 pcs). Accept ± 2% yield difference 	PASSED
• The one failure is marginal fail at 85C with Singulates test program, but on Strip test program the failure get always pass result. Reject rate is 0%.		PASSED



QUALIFICATION REPORT SUMMARY RELIABILITY LABORATORY

PCN #: RMES-15ZREP293

Date: December 04, 2020

Qualification of MTAI as an additional assembly site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.



Purpose	Qualification of MTAI as an additional assembly site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.
CN	ES220208
QUAL ID	Q18136 Rev. A
MP CODE	365S6QC2XA00
Part No.	25LC640AT-H/SN
Bonding No.	BDE-004738 REV. 03
CCB No.	3379 and 3379.001
Package	
Туре	8L SOIC
Package size	150 mils
Lead Frame	
Paddle size	90 x 90 mils
Material	CDA194
Surface	Bare Cu on paddle
Process	Stamped
Lead Lock	Yes
Part Number	10100841
Treatment	Roughened
<u>Material</u>	
Ероху	8390A
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Tin



Manufacturing Information:

Assembly Lot No.	Wafer No.	Date Code
MTAI191002659.000	MCS0518466473.300	1823J79
MTAI191003913.000	MCS0518466473.300	1823Q4H
MTAI191003922.000	MCS0518466473.300	1823Q7C

Result

X 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-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 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-020E)	IPC/JEDE C J-STD- 020E	135	0/135	Pass	

Precondition Prior Perform Poliability Tosts	Electrical Test :+25°C,85°C,125°C and 150°C System: NEXTEST_PT	JESD22- A113	693(0)	693		Good Devices
(At MSL Level 1)	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			693		
	System: Vitronics Soltec MR1243					
	Electrical Test : +25°C,85°C,125°C and 150°C System: NEXTEST_PT			0/693	Pass	

	PACKAGE QUALIFICA	TION	REP	ORT		
Test Number	Test Condition	Standard/	Qty.	Def/SS.	Result	Remarks
(Reference)		Method	(Acc.)			
	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22- A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C,125°C and 150°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
Temp Cycle	Stress Condition: -65°C to +150°C, 2000 Cycles System : TABAI ESPEC TSA-70H			231		
	Electrical Test: +85°C,125°C and 150°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C
TASI	Electrical Test: +25°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+ 25°C,85°C,125°C and 150°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot

	PACKAGE QUALIFICATION REPORT					
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
	Stress Condition: Bake 175°C, 500 hrs System: SHEL LAB	JESD22- A103		45		45 units
High Temperature Storage Life	Electrical Test: +25°C,85°C,125°C and 150°C System: NEXTEST_PT		45(0)	0/45	Pass	
	Stress Condition: Bake 175°C, 1000 hrs System: SHEL LAB		45(0)	45	Pass	45 units
	Electrical Test :+ 25°C,85°C,125°C and 150°C System: NEXTEST_PT		43(0)	0/43		
Bond Strength	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>15.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	

CCB 3379.002 and 3280.001 Pre and Post Change Summary PCN #: RMES-15ZREP293



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



Qualification of MTAI as an additional assembly and final test site for selected Atmel AT24C0xD, AT24C16D and AT24C32E device families available in 8L SOIC packages.

LEAD FRAME COMPARISON

ANAP



Paddle size	60 x 60 mils		
Lead Lock	No		
Lead Plating	NiPdAu		
	•		



Paddle size	93 x 93 mils		
Lead Lock	No		
Lead Plating	Matte tin		

8 7 6 5 Image: Constrained line Image: Constrated line</

Paddle size	90 x 90 mils
Lead Lock	Yes
Lead Plating	Matte Tin



ASSH

MTAI

TUBE BQM AND PIN1 ORIENTATION





TUBE DIMENSION – Minor changes





TUBE NON-DRY PACK

	ASSH						M	ΆΙ		
					Red Bridge of Control		Mate	rial	Width	Length
SSB	Material SSB	Width 254 mm	Length 762 mm			228				650 mm
						ESD logo	Label	(MT)	HAI No inner Box)	
ESD标签	生产标签	Action				Carton	Dimension W	x L x H (cm)	Number of Bag/carton	
						M01-025 (C1)	15x64	x5.5	1	
Material	rial Dimension W x L x H (cm)	Number of			M01-026 (C2)	15x64	×10	2		
Wateria		Bag/carton			M01-027 (C3)	15x64	•X14	3		
Carton	27	'*62*11	6			M01-028 (C4)	28x63	(15.5	6	
L			I	1		M01-030 (C8)	23,037	x20	8	
									L Ű	



TUBE DRY PACK

			IVI I	ΑΙ			
			Material	Wid	lth	Length	
			MBB	160 ו	mm	650 mm	
Desiccant 2 Units	IC 1 cap		Caution Label	MBB Image: State of the s		МВВ	24
	Inner box		Carton		Numb of Inner box(es	er) per carton	
	Drawing number	Dimension W x L x H (cm)	Drawing number	Dimension W x L x H (cm)			
			M01-022 (PP)	15.5x62.0x14.0	1 per	1	
			M01-028 (C4)	28x63.5x11	2 per	1	
	M02-010	12.9x56.5x8	M01-029 (C6)	28x63.5x15.5	3 per	1	
			M01-030 (C8)	28x63.5x20	4 per	1	
			M01-040 (S6)	43x59x19	6 per	1	



NO DRY PACKING

ASSH

T/R BQM AND PIN1 ORIENTATION





CARRIER TAPE – No changes

ASSH MTAI /- Ø1.5 +0.1/-0.0 P2 2.0±0.1 (I) ΡQ 4.0±0.1 (II) Do ∉1,55±0,05 ---- 8.00 ,— ∅ 1.5 +0.1/-0.0 Т r 1.75±0.1 -----0.3±0.05 4.00 SEE NOTE 1 ----1.75 ±.10 0.30 ±.05 ---- \oplus \oplus \oplus \oplus \oplus \oplus D1 ≬1.6±0.1 \oplus \oplus Ð R 0.30 MAX. 5.50 ±.05 SEE NOTE 2 Bo \ R 0.3 12.0 +0.3/-0.1 Typical └─ R D.3 TYP. Ka Ka PI Ko Ao 🗕 Ao — W (mm.) ±0.3 P (mm.) ±0.1 P (mm.) ±0.1 $A_0 \pm 0.1$ or $B_0 \pm 0.1 \text{ or}$ $K_0 \pm 0.1$ or W (mm.) ±0.3 A₀ ±0.1 or $B_0 \pm 0.1 \text{ or}$ $K_0 \pm 0.1$ or Thickness Thickness or Specific Specific Specific Specific Specific Specific Specific or Specific or Specific or Specific 12 8 6.40 5.20 2.10 12 8 6.40 5.20 2.10 --



E1

COVER TAPE – Minor changes





PLASTIC REEL – Minor changes

ASSH

MTAI



Reel Diameter	Hub	W2 Max (mm)	Color	
330 mm	4 inch (100mm)	12.40	White	







Reel Diameter	Hub	W2 Max (mm)	Color
330 mm	4 inch (100mm)	18.40	Dark Blue



T/R NON-DRY PACK

ASSH









T/R DRY PACK

			Material	WIDTH	LENGTH	
			MBB	370mm	420mm	
Label Desiccant 2 Units Desiccant 2 Units Desiccant 2 Units <t< th=""><th>Inner Box</th><th>Box Box th Tape</th><th colspan="2">ME</th><th></th></t<>		Inner Box	Box Box th Tape	ME		
Inne	r box	Car	ton			
Drawing number	Dimension	Drawing number	Dimension	Number of Inner box(es)	of es)	
	W x L x H (cm)		W x L x H (cm)	per carto	on	
		M01-044 (SM)	37.0x38.0x11.0	1:1		
M02 015 (Small)		M01-045 (S4)	37.0x38.0x22.5	3:1		
INIOZ-012 (Small)	57X35.1X5.3	M01-046 (S5)	37.0x39.0x39.0	6:1		
		M01-047 (S3)	42.0x66.0x39.0	11:1		

ΝΛΤΛΙ



ASSH



T/R BQM AND PIN1 ORIENTATION





CARRIER TAPE – No changes





MTAI

W (mm or Spe	.) ±0.3 ecific	P (mm.) ±0.1 or Specific	A ₀ ±0.1 or Specific	$B_0 \pm 0.1$ or Specific	K ₀ ±0.1 or Specific	Thickness
12	2	8	6.40	5.20	2.10	-



COVER TAPE – Minor changes





PLASTIC REEL – Minor changes

ANAP MTAI W3 (Includes flagne distortion at outlet edge) See detail A D330 W (2) See detail E Ø329.99 +11 **W**1 (Measured at hub) V. W2 (Measured at hub) <u>ø</u>N Ø W1 13.5±0.5 1 AAJ (mm.) (BUH) 1.8 +10.1 Hub W2 Max (mm) Color Hub W2 Max (mm) Color **Reel Diameter Reel Diameter** 4 inch 4 inch 18.40 330 mm 17.50 White 330 mm Dark Blue (100mm) (100mm)



T/R NON-DRY PACK

ANAP





Note: With discussion with MCHIP QE (Jonas) to removed tracking label as this is not included on MCHIP requirement.

DO NOT DROP 禁止摔落

MTAI (MSL 1 – no inner box)







Carton Box	Dimension
M01-012 (B1)	35.5x35.5x2.8 cm (Max 1 Reel)
M01-013 (B2)	35.5x35.5x4 cm (Max 2 Reel)
M01-014 (B3)	35.5x35.5x6 cm (Max 3 Reel)
M01-015 (B8)	35.5x35.5x16.5 cm (Max 8 Reel)
M01-011 (TT)	36.5x38x39.5 cm (Max 15 Reel)

