Product Change Notification / RMES-28FEHU333

Date:

28-Dec-2022

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4404.002 and CCB 6051 Final Notice: Qualification of ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package.

Affected CPNs:

RMES-28FEHU333_Affected_CPN_12282022.pdf
RMES-28FEHU333_Affected_CPN_12282022.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 ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	Microchip Technology Thailand (Branch) (MMT)	ATX Semiconductor (Shanghai)Co. Ltd (ASSH)
Wire Material	CuPdAu or Au	PdCu
Die Attach Material	2200D	EN-4900G
Molding Compound Material	G600V	G700LY
Lead-Frame Material	C7025	C7025
Lead-Frame Paddle Size	118 x 87 mils or 82x 82 mils	126 x 87 mils
Lead finish	Matte tin	NiPdAu

		Pre change	**Post Change**	
Final Test Site		Microchip Technology Thailand (HQ) (MTAI)	Microchip Technology Thailand (HQ) (MTAI)	ATX Semiconductor (Shanghai)Co. Ltd (ASSH)
Pin 1 Orientation – Tube		White side	White side	Top Left
BQM per Tube		100	100	100
Tube/Bag		160 tube / bag	160 tube / bag	160 tube / bag
Tube	Color	Clear	Clear	Clear
	Size	With minor dimensional changes. See pre and post change for comparison.		
Packaging Method for Tube		See pre and post change for comparison.		
Pin 1 Orientation – TnR		Quadrant 1	Quadrant 1	Quadrant 1
BQM per TnR		2500	2500	2500 **or**5000
Cover Tape		With minor dimensional changes. See pre and post change for comparison.		
Plastic Reel		With minor dimensional changes. See pre and post change for comparison.		
Packaging Method for Tube		See pre and post change for comparison.		

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability by qualifying ASSH as a new assembly site and as an additional final test site

Change Implementation Status: In progress

Estimated First Ship Date: January 10, 2023 (date code: 2302)

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

change parts.

Time Table Summary:

	December 2022					January 2023				
Workweek	49	50	51	52	53	01	02	03	04	05
Qual Report Availability					X					
Final PCN Issue Date					X					
Estimated Implementation Date							X			

Method to Identify Change: Traceability code

Qualification Reports: Please open the attachments included with this PCN labeled as PCN_#_Qual_Report_Assembly
Please open the attachments included with this PCN labeled as PCN_#_Qual_Report_Final_Test

Revision History:December 28, 2022: Issued final notification. Attached is the qualification report and provided estimated first ship date by January 10, 2023.

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-28FEHU333_Pre and Post Change Summary.pdf
PCN_RMES-28FEHU333_Qual_Report_Assembly.pdf
PCN_RMES-28FEHU333_Qual_Report_Final_Test.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)

24LC256-E/ST
24AA256-E/ST
24FC256-E/ST
24LC256-I/ST
24AA256-I/ST
24FC256-I/ST
24LC256T-I/ST
24AA256T-I/ST
24FC256T-I/ST
24LC256T-E/ST
24LC256T-E/STNOK
24AA256T-E/ST
24FC256T-E/ST

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: RMES-28FEHU333

Date
December 8, 2021

Qualification of ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package. The 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package will be qualify by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose	**Qualification of ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package. The 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package will be qualify by similarity (QBS).**
CCB No.	4404 and 4404.002
CN	ES353255
QUAL ID	R2100296 Rev. C
MP CODE	66829Y9CXA00
Part No.	24LC512T-E/ST
Bonding No.	BDE-006431 Rev. 03
Package	
Type	8L TSSOP
Package size	4.4 mm
Lead Frame	
Paddle size	126 x 87 mils
Material	C7025
Surface	Roughening
Process	Stamped
Lead Lock	Yes
Part Number	LI-WMA400008-05-00
Treatment	Roughening
Material	
Epoxy	EN-4900G
Wire	PdCu
Mold Compound	G700LY
Plating Composition	NiPdAu

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASSH214600052.000	U08D921068648.300	2107KG8
ASSH214500170.000	U08D921068648.300	2106KE6
ASSH214600051.000	U08D921068648.300	2107KG3

Result [X] Pass [ ] Fail [ ] _____

8L TSSOP assembled by ASSH 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.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test:** +25°C, 85°C and 125°C System: NEXTEST_PT	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020D		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, 85°C and 125°C System: NEXTEST_PT			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	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H			231		
	Electrical Test: +85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 4.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (> 18.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			231		
	Electrical Test: + 25°C System: NEXTEST_PT		231(0)	0/231	Pass	
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH,192 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X			231		
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 4.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (> 18.00 grams)		15 (0)	0/15	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	JESD22-A103		45		45 units
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		45(0)	0/45	Pass	
	Stress Condition: Bake 175°C, 1008 hrs System: SHEL LAB			45		
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		45(0)	0/45	Pass	
	Bond Strength: Wire Pull (> 4.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (> 18.00 grams)		15 (0)	0/15	Pass	
Bond Strength Data Assembly	Wire Pull (> 4.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (> 18.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	

QUALIFICATION REPORT SUMMARY

PCN #: RMES-28FEHU333

Date:
November 28, 2022

Qualification of ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package. The 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package will be qualify by similarity (QBS).

Purpose: Qualification of ASSH as a new assembly site and as an additional final test site for 24AA256, 24LC256 and 24FC256 device families available in 8L TSSOP (4.4mm) package.

CCB #: 6051

Test Name	Test Conditions	Result / Remarks
Test Program Checkout	DLOGS for (1) DUTREAD (2) Sigpage (3) Fuse Read (4) Benchmark	**Passed**
Correlation Test / Site-to-site Verification	Correlation Pattern vs Actual Strip Maps are TALLY	**Passed**
Correlation lot	Run 1 qualification lot with 2849 units at currently qualified test site (original site – MTAI) to be retested at new test site (destination site – ASSH)	**Passed**

CCB 4404.002 and CCB 6051 Leadframe comparison PCN #: RMES-28FEHU333

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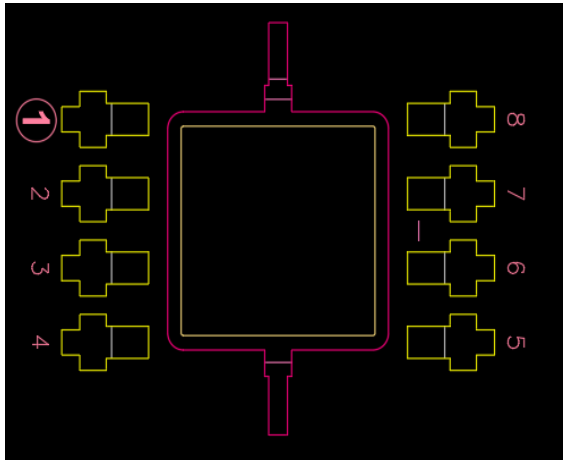
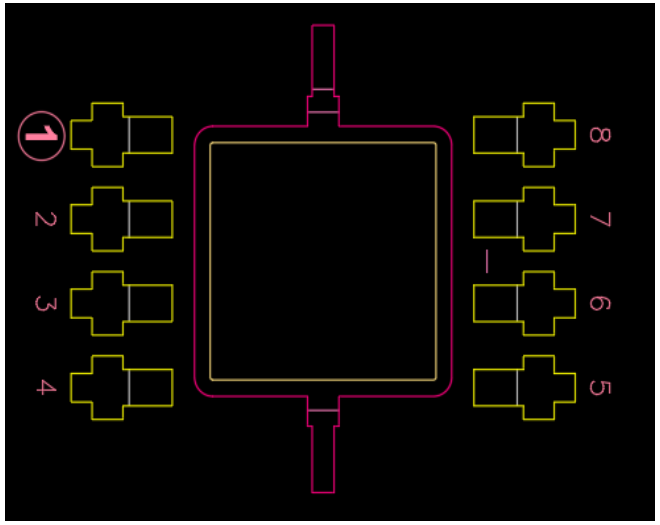
Pre and Post Change Summary – Lead Frame comparison

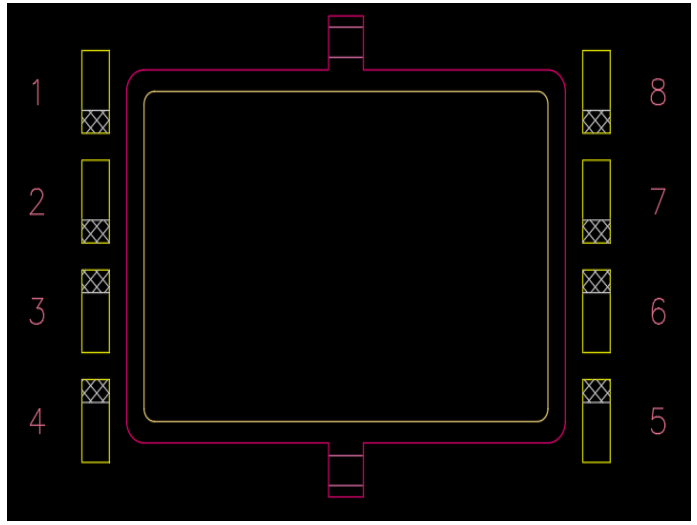
MMT_Assembly





Lead Frame Material	**C7025**	
Lead-Frame Paddle Size	**118 x 87 mils**	**82x 82 mils**
Lead finish	**Matte tin**	

ASSH_Assembly



Lead Frame Material	**C7025**
Lead-Frame Paddle Size	**126 x 87 mils**
Lead finish	**NiPdAu**

MICROCHIP

CCB 4404.002 and CCB 6051 Packing Materials for Tube PCN #: RMES-28FEHU333

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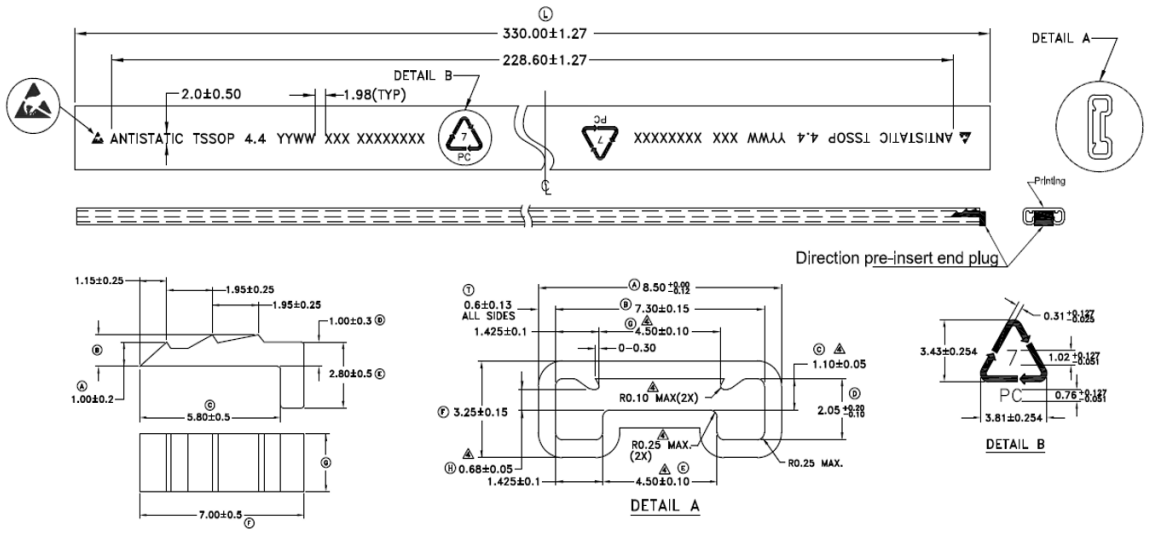
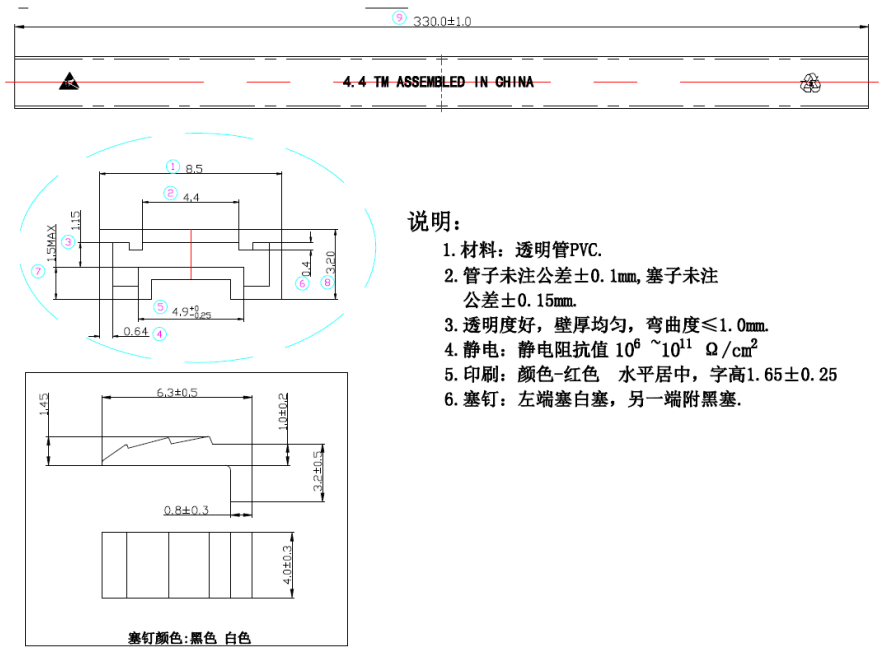
TUBE (8L TSSOP)

MTAI_Test



ASSH_Test



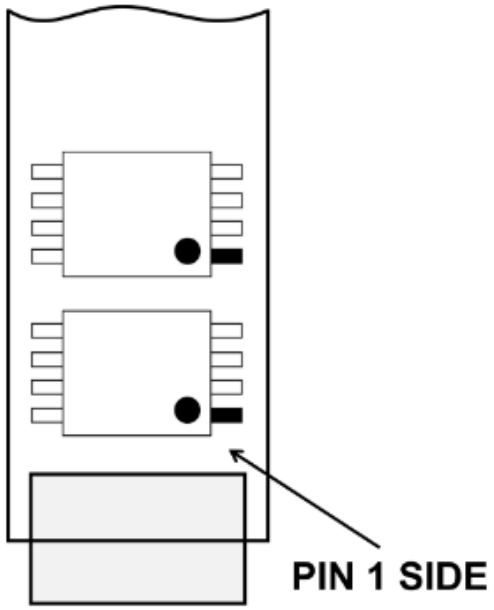
说明：

1. 材料：透明管PVC.
2. 管子未注公差±0.1mm，塞子未注公差±0.15mm.
3. 透明度好，壁厚均匀，弯曲度≤1.0mm.
4. 静电：静电阻抗值 10^6 ~10^{11} Ω/cm^2
5. 印刷：颜色-红色　水平居中，字高1.65±0.25
6. 塞钉：左端塞白塞，另一端附黑塞.

Location	Tube Length (mm)	Tube Color	BQM	Tube/Bag
MTAI	330.00 ±1.27	Clear	100	160
ATXSH (ASSH)	330±0.1	Clear	100	160

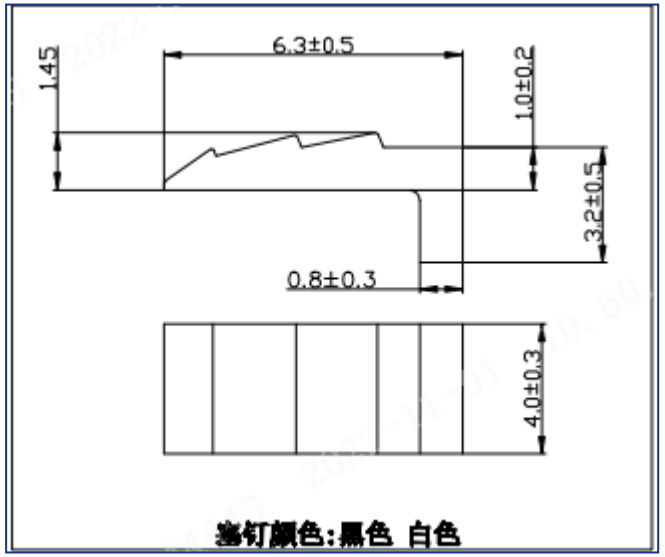
TUBE (8L TSSOP) – Pin 1 Orientation & Plug / Pin Color

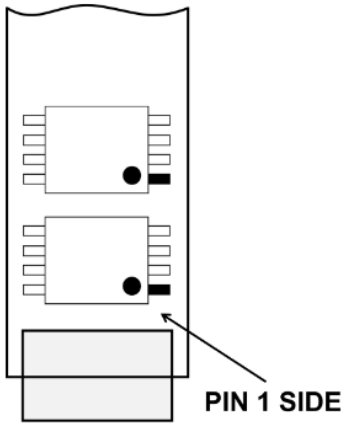
MTAI_Test



Media	Pin1 Side	Opposite Side
Plug	WHITE	YELLOW

ASSH_Test

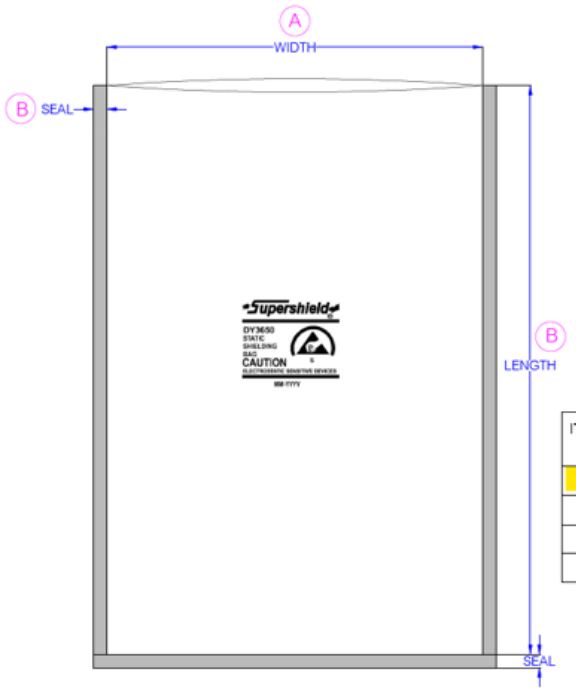


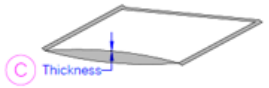


Media	Pin1 Side	Opposite Side
Plug	White	Black

TUBE Packing Static Sensitive Bag for Non dry Pack (MSL-1)

MTAI_Test



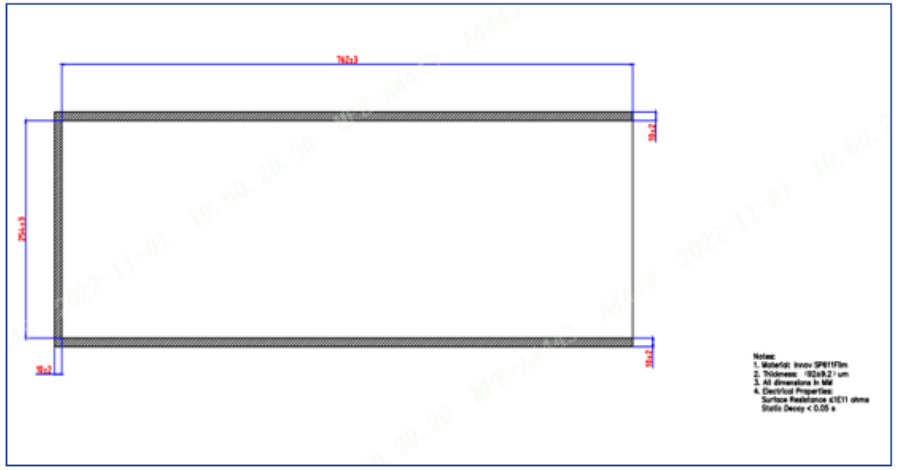


STATIC SHIELDING FILM (BAG)

Note:
(1) Printing Color: Yellow
(2) Thickness: 3mils +/- 10% (0.3)
(3) Specification Reference: MS-15090
(4) MM: Month code
(5) YYYY: Year code

ITEM	MEDIA	WIDTH (+5/-0 MM)	LENGTH (+5/-0 MM)	SEAL (+/-2 MM)	MCHP P/N
1	TUBE	160	650	10	24000002
2	T/R	220	300	10	24000042
3	T/R	370	420	10	24000023
4	TRAY	280	560	10	24000061

ASSH_Test



Plant	Length (mm)	Width (mm)	Thickness (mils)	Colour
MTAI	650 +5.0/-0.0	160 +5.0/-0.0	3.0 ±0.3	Transparent
ATXSH (ASSH)	762+/-3	254+/-3	2.3+/-0.23	Transparent

MICROCHIP

TUBE Packing Method for Non dry Pack (MSL-1)

MTAI_Test	ASSH_Test
Non-Dry pack for MSOP/TSSOP/QFN/DFN in tubes No inner box	No inner box

Packing Method of Outer carton for TUBE for Non dry Pack (MSL-1)

MTAI_Test

Carton	Dimension W x L x H (cm)	Number of Bag/carton
M01-031 (H1)	18x37.5x4.4	Partial bag
M01-032 (H5)	18x37.5x7	1
M01-033 (H0)	18x37x16	3
M01-015 (B8)	35.5x35.5x16.5	4

ASSH_Test

Carton	Dimension W x L x H (cm)	Number of Bag/carton
1	36.8X17.9X7	2
2	36.5X17.5X16	4
3	36.5X35X16.5	6

MICROCHIP

CCB 4404.002 and CCB 6051 Packing Materials for Tape and Reel (TnR)

PCN #: RMES-28FEHU333

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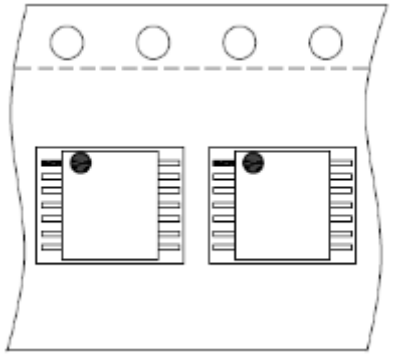
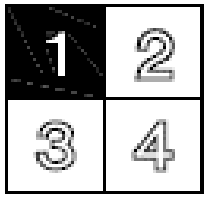
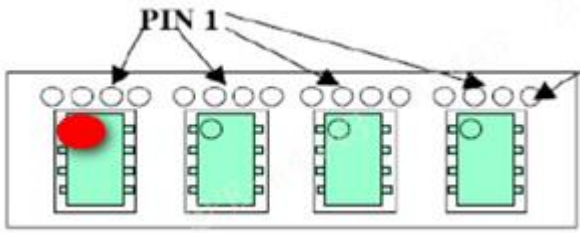
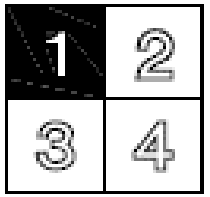
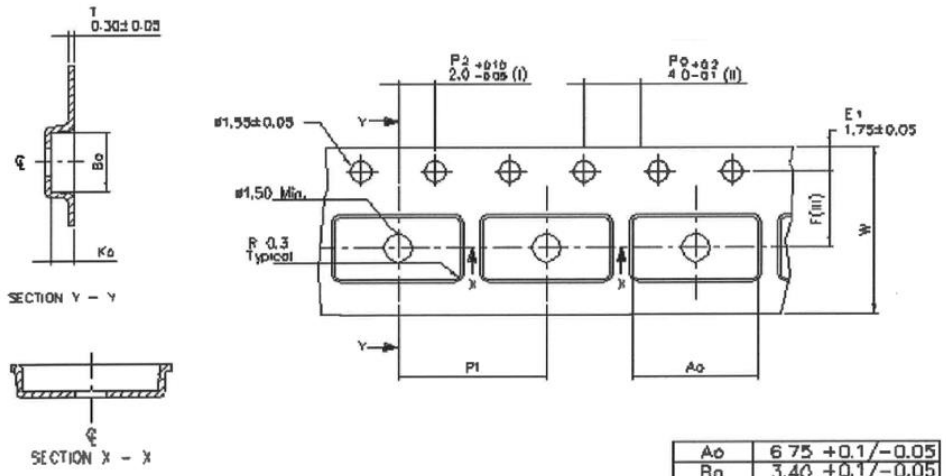
SMART | CONNECTED | SECURE

Pin1 Orientation Quadrant in Tape and Reel

MTAI_Test	ASSH_Test
  Quadrant 1	  Quadrant 1

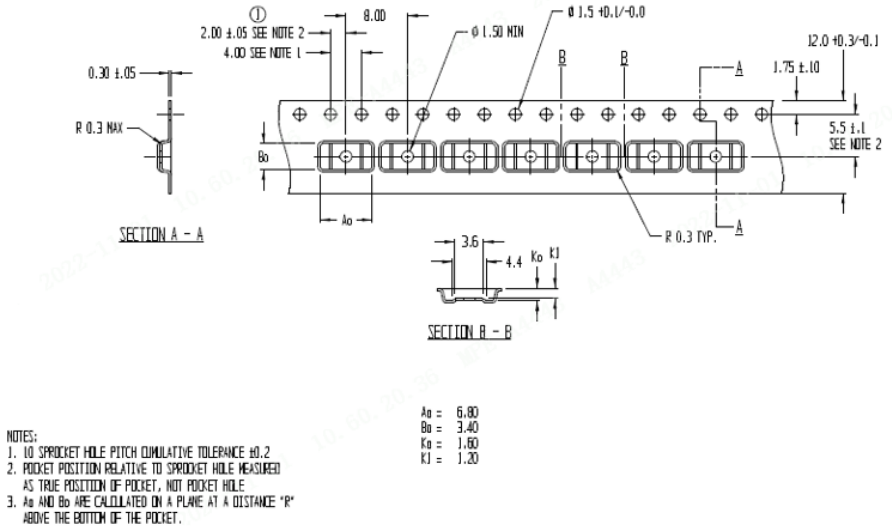
Carrier Tape (8L TSSOP)

MTAI_Test



Ao	6.75 +0.1/−0.05
Bo	3.40 +0.1/−0.05
Ko	1.30 +0.1/−0.05
F	5.50 +0.1/−0.05
P1	8.00 +0.1/−0.05
W	12.00 +/−0.1

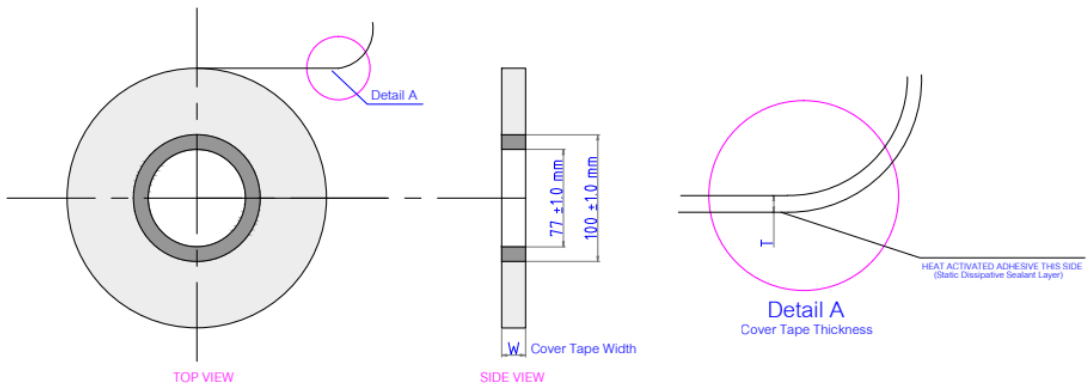
ASSH_Test



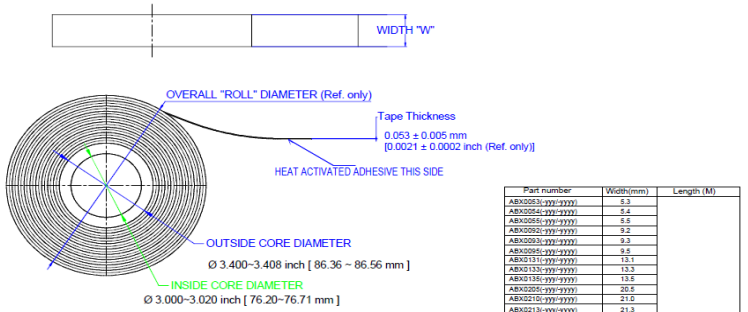
Plant	W (mm.)	P (mm.)	A0 (mm.)	B0 (mm.)	K0 (mm.)	K1 (mm.)	Thickness	BQM
MTAI	12.00 ±0.10	8 +0.1/-0.05	6.75 +0.1/-0.05	3.4 +0.1/-0.05	1.3 +0.1/-0.05	-	0.30±0.05	2500
ATXSH (ASSH)	12+0.3/-0.1	8+/-0.2	6.8+/-0.2	3.4+/-0.2	1.6+/-0.2	1.2+/-0.2	0.3+/-0.05	2500 or 5000

Cover Tape (8L TSSOP)

MTAI_Test



ASSH_Test



NOTE:
1. Tape width tolerance ± 0.10 mm (Nominal Tape width (W) < 65.5 mm)
   -Tape width tolerance ± 0.15 mm (65.5 mm ≤ Nominal Tape width (W) < 81.5mm)
   -Tape width tolerance ± 0.20 mm (81.5 mm ≤ Nominal Tape width (W) < 113.5 mm)
   -Tape width tolerance ± 0.25 mm (113.5 mm ≤ Nominal Tape width (W) < 145.5 mm)
   -Tape width tolerance ± 0.30 mm (145.5 mm ≤ Nominal Tape width (W))
2. Length (M): -yyy +5/-0 M or -yyyy +5/-0 M,where yyy or yyyy=Length
3. Please refer to Tech Bulletins for related properties of ABx
4. The color of side view on ABx: Green/Gray
5. Plastic core width dimension refer to below table

Part number	Width(mm)	Length (M)
ABX0053(-yyy/-yyyy)	5.3	300,500,1000...etc.
ABX0054(-yyy/-yyyy)	5.4	
ABX0055(-yyy/-yyyy)	5.5	
ABX0092(-yyy/-yyyy)	9.2	
ABX0093(-yyy/-yyyy)	9.3	
ABX0095(-yyy/-yyyy)	9.5	
ABX0131(-yyy/-yyyy)	13.1	
ABX0133(-yyy/-yyyy)	13.3	
ABX0135(-yyy/-yyyy)	13.5	
ABX0205(-yyy/-yyyy)	20.5	
ABX0210(-yyy/-yyyy)	21.0	
ABX0213(-yyy/-yyyy)	21.3	
ABX0215(-yyy/-yyyy)	21.5	
ABX0255(-yyy/-yyyy)	25.5	
ABX0260(-yyy/-yyyy)	26.0	
ABX0300(-yyy/-yyyy)	30.0	
ABX0301(-yyy/-yyyy)	30.1	
ABX0375(-yyy/-yyyy)	37.5	
ABX0495(-yyy/-yyyy)	49.5	
ABX0655(-yyy/-yyyy)	65.5	
ABX0815(-yyy/-yyyy)	81.5	
ABX0975(-yyy/-yyyy)	97.5	
ABX1135(-yyy/-yyyy)	113.5	
ABX1295(-yyy/-yyyy)	129.5	

Cover Tape Width (mm)	Core Spec (mm)
5.3	5.4 ±0.07
5.4	
5.5	
9.2	9.2 ±0.07
9.3	
9.5	9.5 ±0.07
13.1	13.3 ±0.07
13.3	
13.5	
20.5	21.0 ±0.07
21.0	

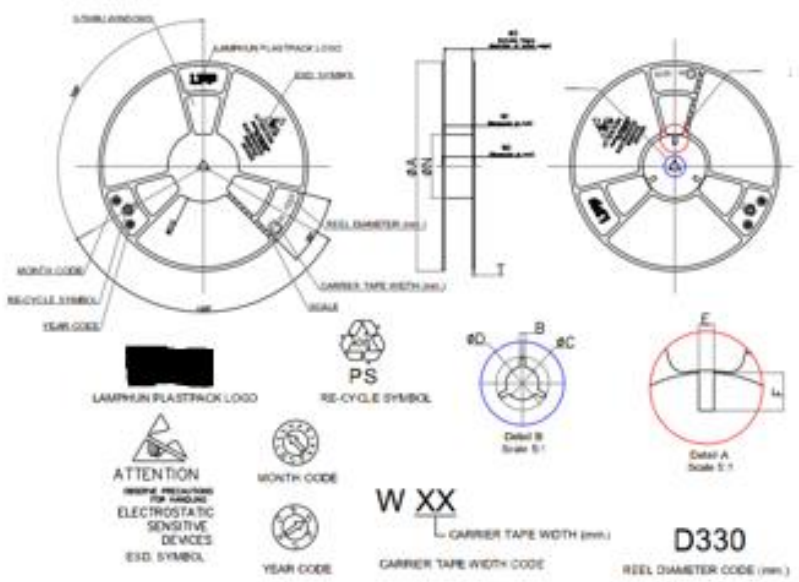
Cover Tape Width (mm)	Core Spec (mm)
21.3	21.3 ±0.07
21.5	
25.5	25.5 ±0.07
26.0	
30.0	30.0 ±0.07
30.1	
37.5	37.5 ±0.07
38.5	
49.5	49.5 ±0.07
65.5	65.5 ±0.07
81.5	81.5 ±0.07

Cover Tape Width (mm)	Core Spec (mm)
97.5	97.5 ±0.8
113.5	113.5 ±0.07
129.5	129.5 ±0.07

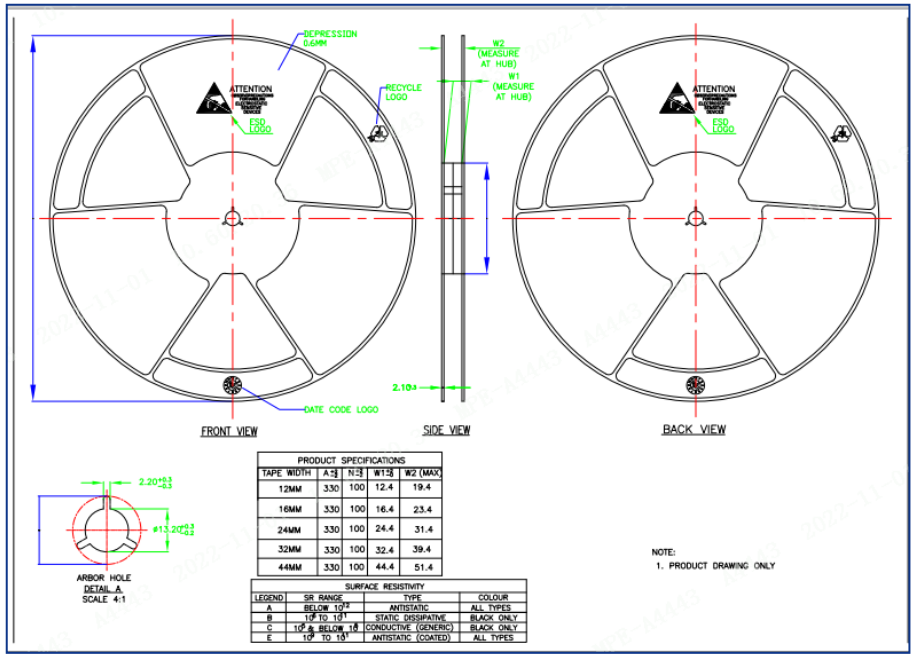
Plant	Width W (mm.)	Thickness T (mm.)	Colour	Sealing Methodology
MTAI	9.05 +0.05/-0.15	0.050 ±0.010	Clear	Heat Seal
ATXSH (ASSH)	9.2+/-0.1	0.053+/-0.005	Clear	Heat Seal

Plastic Reel (8L TSSOP)

MTAI_Test



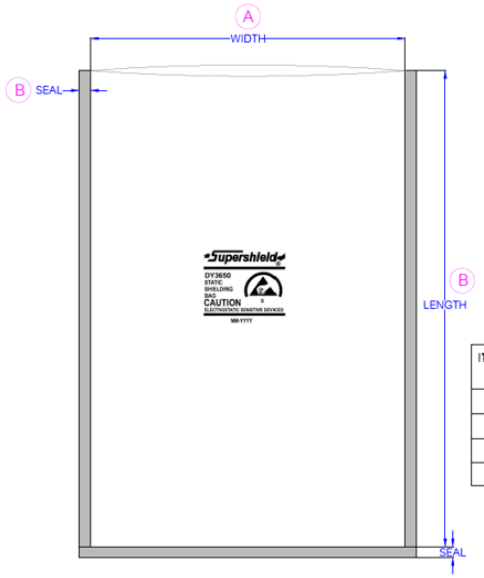
ASSH_Test

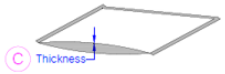


Plant	Reel Diameter (mm.)	Reel Hub Size (mm)	Reel Width Max (mm.)	Colour
MTAI	330 +/- 2.0	100 +/- 2.0	18.40 Max	Dark Blue
ATXSH (ASSH)	330+/-2	100+/-2	19.4 MAX	White

TAPE & REEL Packing Static Sensitive Bag for Non dry Pack (MSL-1)

MTAI_Test



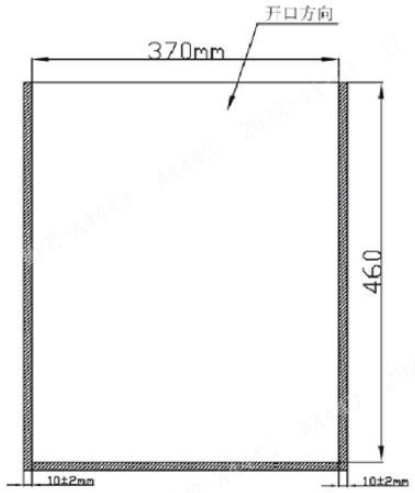


STATIC SHIELDING FILM (BAG)

Note:
(1) Printing Color: Yellow
(2) Thickness: 3mils +/- 10% (0.3)
(3) Specification Reference: MS-15090
(4) MM: Month code
(5) YYYY: Year code

ITEM	MEDIA	WIDTH (+5/-0 MM)	LENGTH (+5/-0 MM)	SEAL (+/-2 MM)	MCHP P/N
1	TUBE	160	650	10	24000002
2	T/R	220	300	10	24000042
3	T/R	370	420	10	24000023
4	TRAY	280	560	10	24000061

ASSH_Test

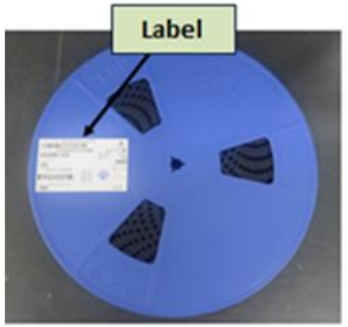


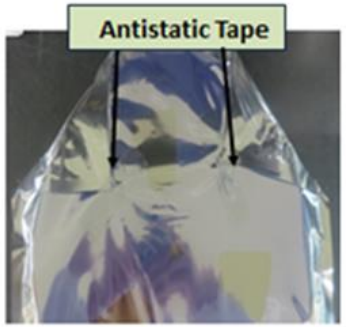
注意:
1.单位: MM
2.封边: 三边10±2
3.厚度公差: 0.075±10%mm
4.尺寸公差: ±5
5.材质: VMPET/CPE

Plant	Length (mm)	Width (mm)	Thickness (mils)	Colour
MTAI	420 +5.0/-0.0	370 +5.0/-0.0	3.0 ±0.3	Transparent
ATXSH (ASSH)	460+/-5	370+/-5	3+/-0.3	Transparent

T/R Packing Method for Non dry Pack (MSL-1)

MTAI_Test





No inner box

Reel/Bag
1

ASSH_Test

No inner box

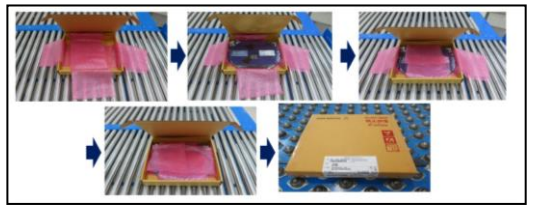
Reel/Bag
1

Packing method of Outer carton for T/R for Non dry Pack (MSL-1)

MTAI_Test

Carton	Dimension W x L x H (cm)	Number of reel per carton (Reel diameter (D) = 330mm)
M01-011 (TT)	36.5x38x39.5	15
M01-012 (B1)	35.5x35.5x2.8	1
M01-013 (B2)	35.5x35.5x4	2
M01-014 (B3)	35.5x35.5x6	3
M01-015 (B8)	35.5x35.5x16.5	8

Example



Packing for tape and reel in carton box B2 (DWG-M01-013) / B3 (DWG-M01-014).

Packing for tape and reel in carton box B8 (DWG-M01-015).

Packing for tape and reel in carton box TT (DWG-M01-011)

ASSH_Test

Carton	Dimension W x L x H (mm)	Number of reel per carton (Reel diameter (D) = 330mm)
1	357X356X42	1
2	365X350X165	8
3	384X362X385	15