



Product Change Notification: MFOL-27RDGN469

Date:

04-Aug-2026

Product Category:

32-Bit Microcontrollers

Notification Subject:

CCB 8424 Final Notice: Qualification of MPHL as an additional final test site and scan and pack site for selected ATSAM4LC8C, ATSAM4LS8C, ATSAML10D14A, ATSAML10D15A, ATSAML10D16A, ATSAML11D14A, ATSAML11D15A, ATSAML11D16A, ATSAMD21J18, ATSAML21G16B, ATSAML21G17B, ATSAML21G18B, ATSAMD21J17 device families available in various packages.

Affected CPNs:

[MFOL-27RDGN469_Affected_CPN_08042026.pdf](#)

[MFOL-27RDGN469_Affected_CPN_08042026.csv](#)

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 MPHL as an additional final test site and scan and pack site for selected ATSAM4LC8C, ATSAM4LS8C, ATSAML10D14A, ATSAML10D15A, ATSAML10D16A, ATSAML11D14A, ATSAML11D15A, ATSAML11D16A, ATSAMD21J18, ATSAML21G16B, ATSAML21G17B, ATSAML21G18B, ATSAMD21J17 device families available in various packages.

Pre and Post Summary Changes:

	Pre Change	Post Change		Change (Yes/No)
Final Test Site	ASE Test	ASE Test	Microchip Technology Operations	Yes

Scan and Pack Site	(ASE9)	(ASE9)	(Philippines) Corporation (MPHL)	
Packing Method	See Pre and Post Change Summary attachment for comparison.			Yes

Impacts to Datasheet: None

Change Impact: None

Reason for Change: To improve manufacturability and on time delivery performance by qualifying MPHL as an additional final test site and scan and pack site.

Change Implementation Status: In Progress

Estimated First Ship Date: 14 August 2026 (date code: 2633)

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

Timetable Summary:

	July 2026					>	August 2026				
Work Week	27	28	29	30	31		32	33	34	35	36
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 31, 2026: Issued final notification.

August 04, 2026: Re-issued final notification to update the Pre and Post Change Summary attachment (Slide 19), reflecting the 48L TQFP T/R Packing Method post-change from MTAI to MPHL.

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

Attachments:

PCN_MFOL-27RDGN469_Qualification Report.pdf

PCN_MFOL-27RDGN469_Pre and Post Change Summary.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):

ATSAML10D15A-MU
ATSAML10D16A-MU
ATSAML11D14A-MU
ATSAML11D15A-MU
ATSAML11D16A-MU
ATSAML10D14A-MUT
ATSAML10D15A-MUT
ATSAML10D16A-MUT
ATSAML11D14A-MUT
ATSAML11D15A-MUT
ATSAML11D16A-MUT
ATSAML10D14A-MFT
ATSAML10D15A-MFT
ATSAML10D16A-MFT
ATSAML11D14A-MFT
ATSAML11D15A-MFT
ATSAML11D16A-MFT
ATSAMD21J18A-CU
ATSAMD21J18A-CUA1
ATSAMD21J18A-CUT
ATSAMD21J18A-CUTA1
ATSAML21G16B-ANT
ATSAML21G17B-ANT
ATSAML21G18B-ANT
ATSAML21G18B-AUT
ATSAML21G18B-AUT-SLL
ATSAML21G16B-AUT
ATSAMD21J17A-CU
ATSAMD21J17A-CUA1
ATSAMD21J17A-CUT
ATSAMD21J17A-CUTA1
ATSAML21G17B-AUT

MFOL-27RDGN469 - CCB 8424 Final Notice: Qualification of MPHL as an additional final test site and scan and pack site for selected
ATSAM4LC8C, ATSAM4LS8C, ATSAML10D14A, ATSAML10D15A, ATSAML10D16A, ATSAML11D14A, ATSAML11D15A, ATSAML11D16A,
ATSAMD21J18, ATSAML21G16B, ATSAML21G17B, ATSAML21G18B, ATSAMD21J17 device families available in various packages.

ATSAM4LC8CA-AUR

ATSAM4LS8CA-AU

ATSAM4LS8CA-AUR

ATSAML10D14A-MF

ATSAML10D15A-MF

ATSAML10D16A-MF

ATSAML11D14A-MF

ATSAML11D15A-MF

ATSAML11D16A-MF

ATSAML10D14A-MU



QUALIFICATION REPORT SUMMARY

PCN #: MFOL-27RDGN469

**Date:
July 21, 2026**

Qualification of MPHL as an additional final test site and scan and pack site for selected ATSAM4LC8C, ATSAM4LS8C, ATSAML10D14A, ATSAML10D15A, ATSAML10D16A, ATSAML11D14A, ATSAML11D15A, ATSAML11D16A, ATSAMD21J18, ATSAML21G16B, ATSAML21G17B, ATSAML21G18B, ATSAMD21J17 device families available in various packages.



Purpose: Qualification of MPHL as an additional final test site and scan and pack site for selected ATSAM4LC8C, ATSAM4LS8C, ATSAML10D14A, ATSAML10D15A, ATSAML10D16A, ATSAML11D14A, ATSAML11D15A, ATSAML11D16A, ATSAMD21J18, ATSAML21G16B, ATSAML21G17B, ATSAML21G18B, ATSAMD21J17 device families available in various packages.

CCB No.: 8424

Test Name	Test Conditions	Sample Size	Qty of Lots	Fail/Accept Criteria	Result
Bin and Yield Comparison	Test the same units at existing and destination locations and compare Bin and Yield data.	2000	1	≤5%	Passed

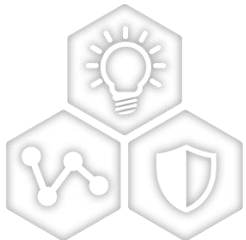
CCB 8424

Pre and Post Change Summary

PCN #: MFOL-27RDGN469

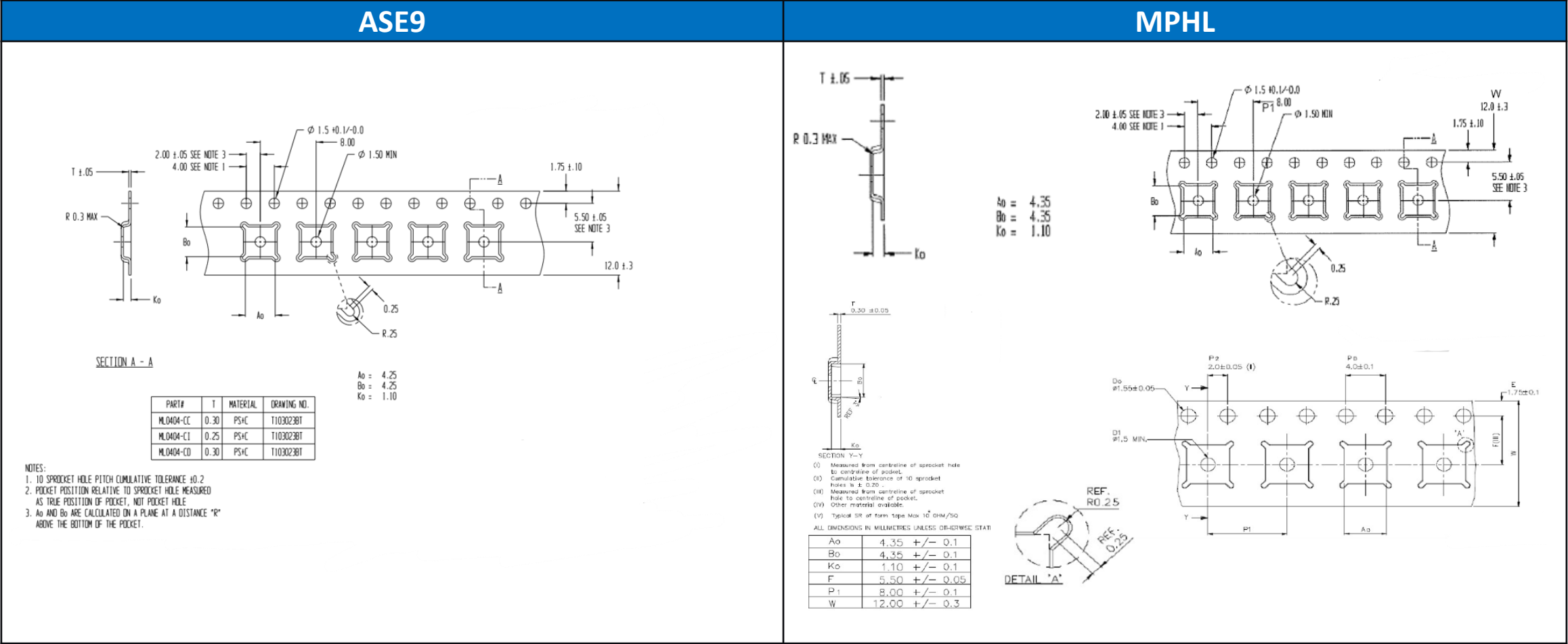


A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

PRE AND POST CHANGE SUMMARY – Carrier Tape (24L VQFN)



Plant	W (mm)	P (mm)	A0 (mm)	B0 (mm)	K0 (mm)	Thickness (mm)
ASE9	12.0±0.3	8.00±0.10	4.25±0.10	4.25±0.10	1.10±0.10	0.30±0.05
MPHL	12.0±0.3	8.00±0.10	4.35±0.10	4.35±0.10	1.10±0.10	0.30±0.05

PRE AND POST CHANGE SUMMARY – Cover Tape (24L VQFN)

ASE9

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)	
5.3	5.4	± 0.1
5.4		
5.5		
9.3	9.3	± 0.1
13.3	13.3	± 0.1

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)	
21.3	21.3	± 0.1
25.5	25.5	± 0.1
37.5	37.5	± 0.1
49.5	49.5	± 0.1
65.5	65.5	± 0.1
81.5	81.5	± 0.1

NOTE:

- Length (M): -yyy(y) +3/-0 M, where yyy(y)=Length
- Overall (Roll) Diameter:
 - For 300 meter length roll = 168 ± 10 mm
 - For 500 meter length roll = 203 ± 10 mm
 - For 600 meter length roll = 218 ± 10 mm
- Core width dimension refer to below table
- Please refer to tech bulletins for related properties of HUZ cover tape

MPHL

COVER TAPE WIDTH* (W ±0.1)	CARRIER TAPE WIDTH	ADHESIVE WIDTH (W ±0.15)
5.3	8	0.7x2
7.3	12	1.0x2
9.3	12	1.0x2
13.3	16	1.0x2
21.3	24	1.15x2
25.5, 26.3	32	1.15x2
37.5	44	1.65x2
49.5	56	1.65x2
65.5	72	1.65x2

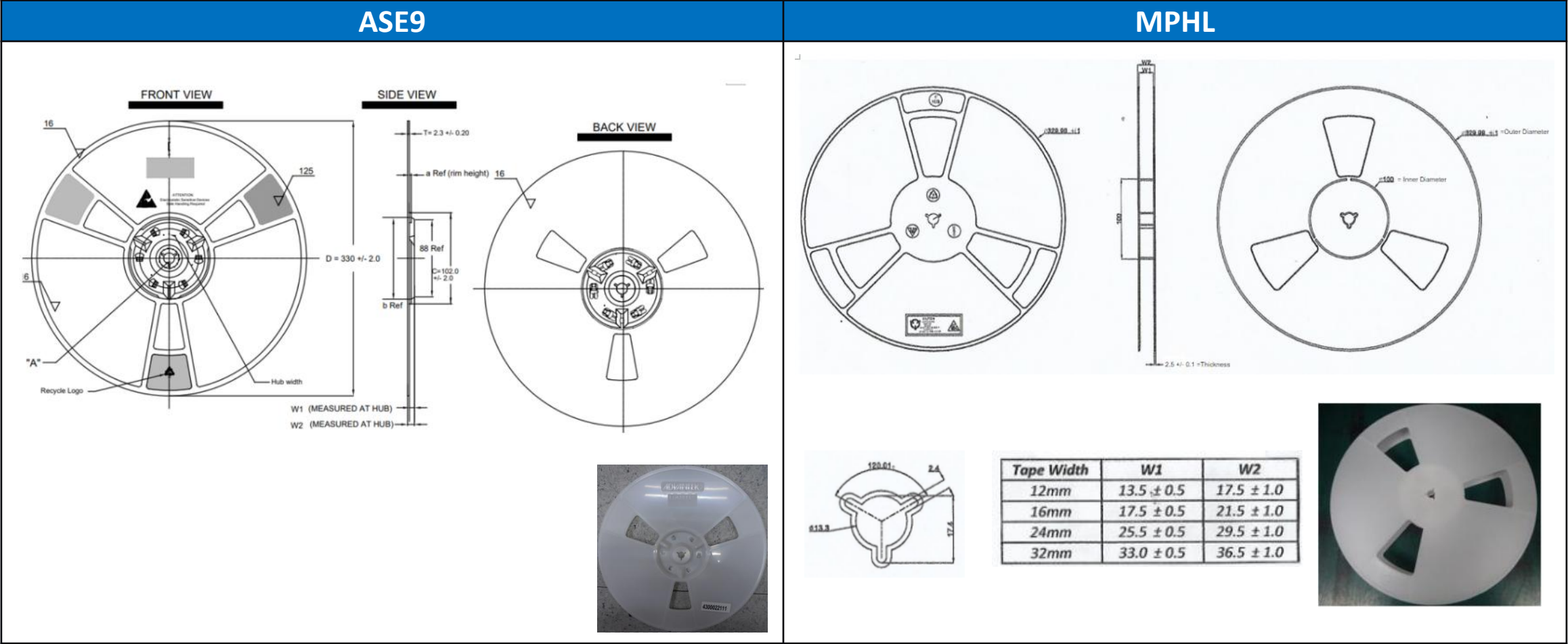
NOTES

- THICKNESS : 0.045–0.055mm.
- LIGHT TRANSMITTANCE : >80%
- TENSILE STRENGTH : 9.7kg/mm sq.
- ELONGATION : >120%
- SURFACE RESISTIVITY
UNDERSIDE : 10¹ OHMS/SQ MAX.
TOPSIDE : 10⁴ OHMS/SQ
- OTHER COVER TAPE WIDTH REFER TO W4.08–04.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

Plant	Width W (mm)	Thickness T (mm)	Color	Sealing Methodology
ASE9	9.3 ± 0.1	0.052 ± 0.005	Clear	Heat sealing
MPHL	9.3 ± 0.1	0.05 ± 0.005	Clear	Pressure sealing

PRE AND POST CHANGE SUMMARY – Reel (24L VQFN)



Plant	Reel Diameter (mm)	Reel Hub Size (mm)	Reel Width Max (mm)	Color
ASE9	330 ±2	102.0 ±2	22.2	WHITE
MPHL	330 ±2	100 ±2.0	29.5±1.0	White

PRE AND POST CHANGE SUMMARY – T/R Bag (24L VQFN)

ASE9

Technical drawing of the ASE9 bag showing dimensions and labels. The bag is rectangular with a central label area. Dimensions include: 420mm (width), 450mm (length), 156.3mm (width of central area), 87.5mm (width of label area), 10.3mm (thickness), 10.3mm (width of top/bottom flaps), 10.3mm (width of side flaps), 10.3mm (width of bottom flaps), 10.3mm (width of top/bottom flaps), 10.3mm (width of side flaps), 10.3mm (width of bottom flaps). Labels include: 'ATTENTION FOR ELECTROSTATIC SENSITIVE DEVICES', 'CAUTION MOISTURE SENSITIVE DEVICES', 'RECYCLE', 'MSL-1', 'MSL-3', 'MSL-4', 'MSL-5', 'MSL-6', 'MSL-7', 'MSL-8', 'MSL-9', 'MSL-10', 'MSL-11', 'MSL-12', 'MSL-13', 'MSL-14', 'MSL-15', 'MSL-16', 'MSL-17', 'MSL-18', 'MSL-19', 'MSL-20', 'MSL-21', 'MSL-22', 'MSL-23', 'MSL-24', 'MSL-25', 'MSL-26', 'MSL-27', 'MSL-28', 'MSL-29', 'MSL-30', 'MSL-31', 'MSL-32', 'MSL-33', 'MSL-34', 'MSL-35', 'MSL-36', 'MSL-37', 'MSL-38', 'MSL-39', 'MSL-40', 'MSL-41', 'MSL-42', 'MSL-43', 'MSL-44', 'MSL-45', 'MSL-46', 'MSL-47', 'MSL-48', 'MSL-49', 'MSL-50', 'MSL-51', 'MSL-52', 'MSL-53', 'MSL-54', 'MSL-55', 'MSL-56', 'MSL-57', 'MSL-58', 'MSL-59', 'MSL-60', 'MSL-61', 'MSL-62', 'MSL-63', 'MSL-64', 'MSL-65', 'MSL-66', 'MSL-67', 'MSL-68', 'MSL-69', 'MSL-70', 'MSL-71', 'MSL-72', 'MSL-73', 'MSL-74', 'MSL-75', 'MSL-76', 'MSL-77', 'MSL-78', 'MSL-79', 'MSL-80', 'MSL-81', 'MSL-82', 'MSL-83', 'MSL-84', 'MSL-85', 'MSL-86', 'MSL-87', 'MSL-88', 'MSL-89', 'MSL-90', 'MSL-91', 'MSL-92', 'MSL-93', 'MSL-94', 'MSL-95', 'MSL-96', 'MSL-97', 'MSL-98', 'MSL-99', 'MSL-100'. Material: NY25U/AL6U/L-LDPE140U.

MPHL

Diagrams and photos of the MPHL bags. The top diagram shows a rectangular bag with dimensions: 432mm (width), 432mm (length), 16cm (width of central area), 6cm (width of label area). The bottom diagram shows a rectangular bag with dimensions: 432mm (width), 432mm (length). The photos show the bags with labels: 'Moisture Barrier Bag' and 'Static Shielding Bag'.

Plant	Bag type	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 1	Moisture Barrier Bag	450 +6/-0	420 +6/-0	0.18
MPHL	MSL-1	Static Shielding Bag	432±5mm	406±5mm	0.07
	MSL-3	Moisture Barrier Bag	432±5mm	406±5mm	0.15

PRE AND POST CHANGE SUMMARY – T/R Desiccant (24L VQFN)

ASE9



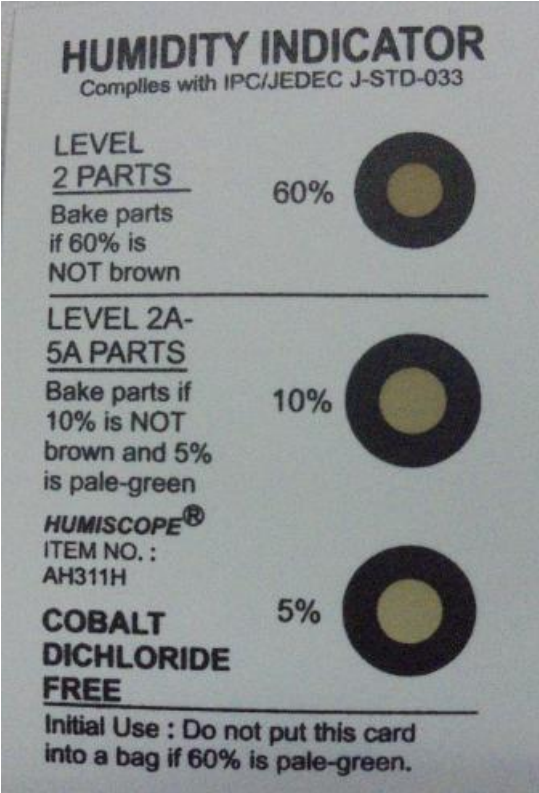
Desiccant each unit is 66 g

MPHL



Desiccant each unit is 33g

PRE AND POST CHANGE SUMMARY – T/R Humidity Indicator Card (HIC) (24L VQFN)

ASE9	MPHL
 The ASE9 Humidity Indicator Card is a rectangular card with a light gray background. It features three circular color indicators on the right side, each corresponding to a humidity level. The text on the card includes: 'HUMIDITY INDICATOR', 'Complies with IPC/JEDEC J-STD-033', 'LEVEL 2 PARTS', '60%', 'Bake parts if 60% is NOT brown', 'LEVEL 2A-5A PARTS', '10%', 'Bake parts if 10% is NOT brown and 5% is pale-green', 'HUMISCOPE®', 'ITEM NO.: AH311H', 'COBALT DICHLORIDE FREE', '5%', and 'Initial Use: Do not put this card into a bag if 60% is pale-green.'	   The MPHL Humidity Indicator Card is shown in two variations. The first variation is a rectangular card with a light gray background, featuring three circular color indicators on the right side. The text on the card includes: 'HUMIDITY INDICATOR', 'Complies with IPC/JEDEC J-STD-033', 'LEVEL 2 PARTS', '60%', 'Bake parts if 60% is NOT brown', 'LEVEL 2A-5A PARTS', '10%', 'Bake parts if 10% is NOT brown and 5% is azure', '5%', 'COBALT FREE', 'Initial use: Do not put this card into a bag if 60% is azure.', 'HIC-0560-CF-BA3', and 'www.amelcoosystems.com'. The second variation is a smaller, square card with a white background, featuring three circular color indicators on the right side. The text on the card includes: '5%', '10%', '60%', 'LEVEL 2A-5A PARTS', 'Bake parts if 10% is NOT brown and 5% is azure', 'COBALT FREE HUMIDITY INDICATOR CARD', 'JAPANESE METAL CONTAINER', 'COMPLIES WITH IPC/JEDEC J-STD-033', and 'MPS 5 4 3'.
▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free	▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free

PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-1 (24L VQFN)

ASE9

MPHL

label

label

Inner box

Bubble Wrap

Cardboard

ASE 2D label

Label

Scotch tape

Inner box
Dimension
W x L x H (cm)
37x35.3x7.8

1

Label

2

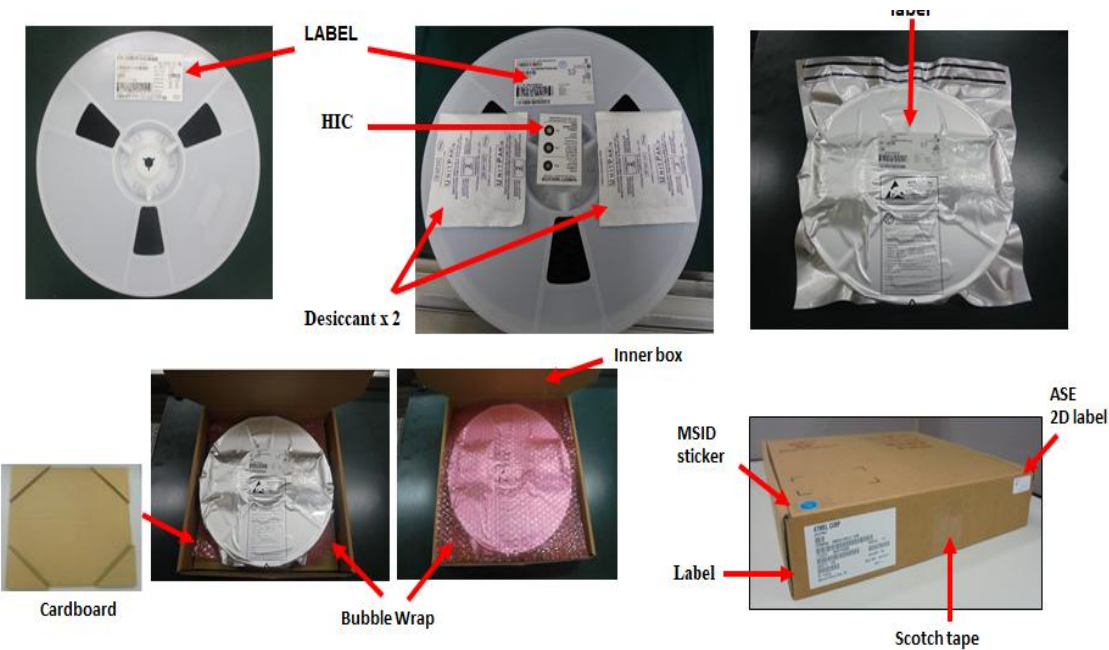
Caution Sticker

Label

No inner box

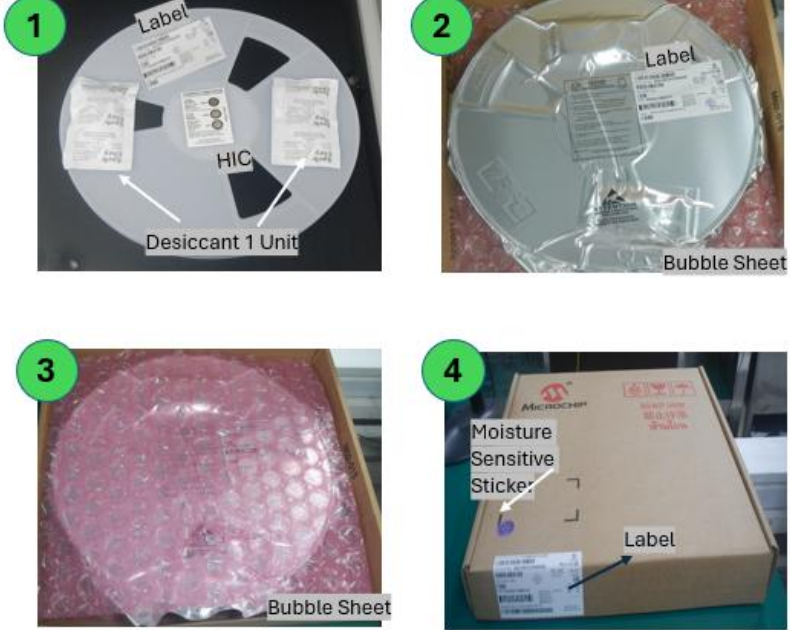
PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-3 (24L VQFN)

ASE9



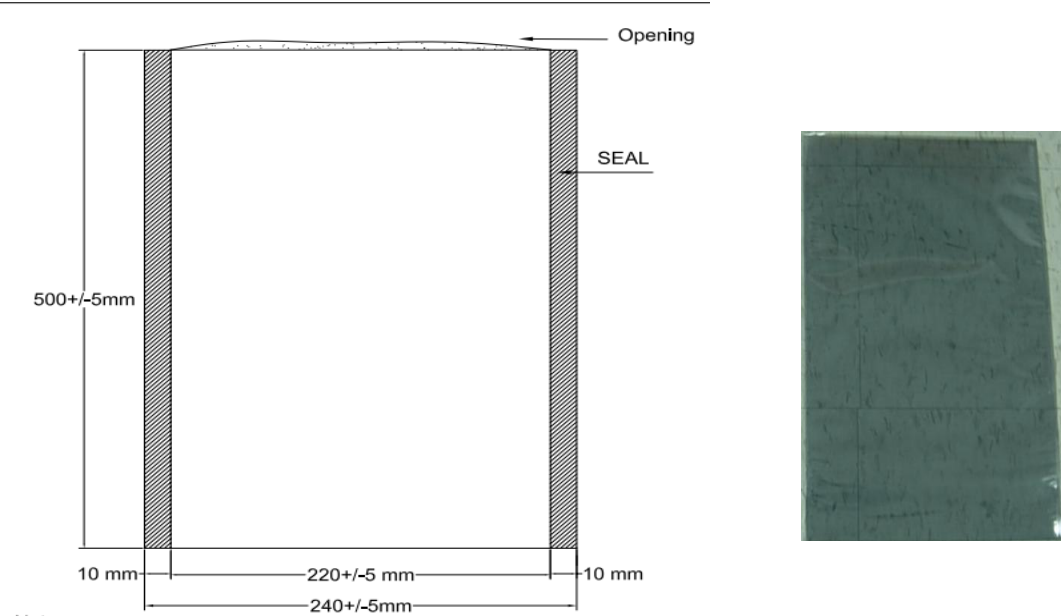
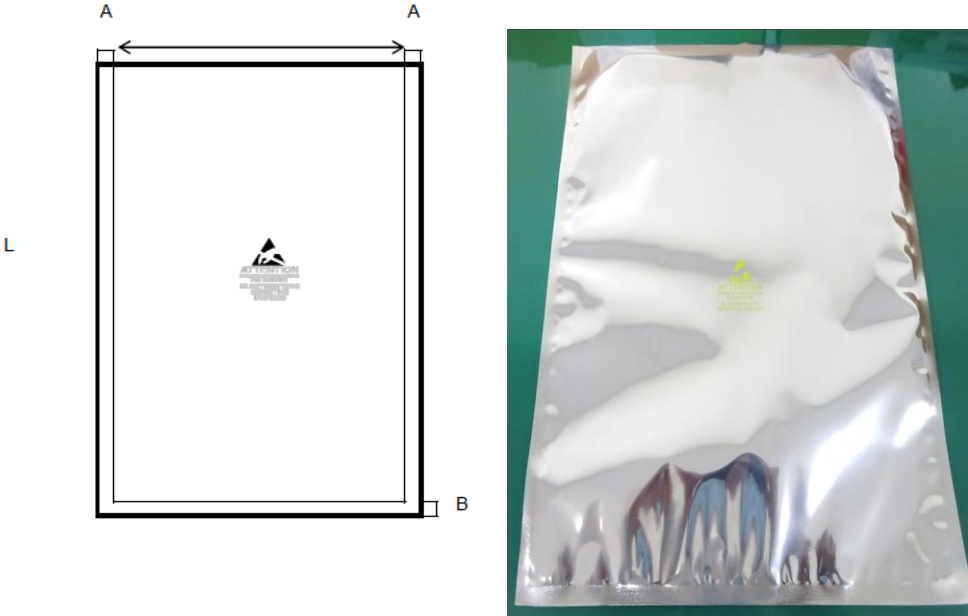
Inner box
Dimension W x L x H (cm)
37x35.3x7.8

MPHL



Inner box
Dimension W x L x H (cm)
37x35.1x5.3

PRE AND POST CHANGE SUMMARY – Tray Bag (24L VQFN)

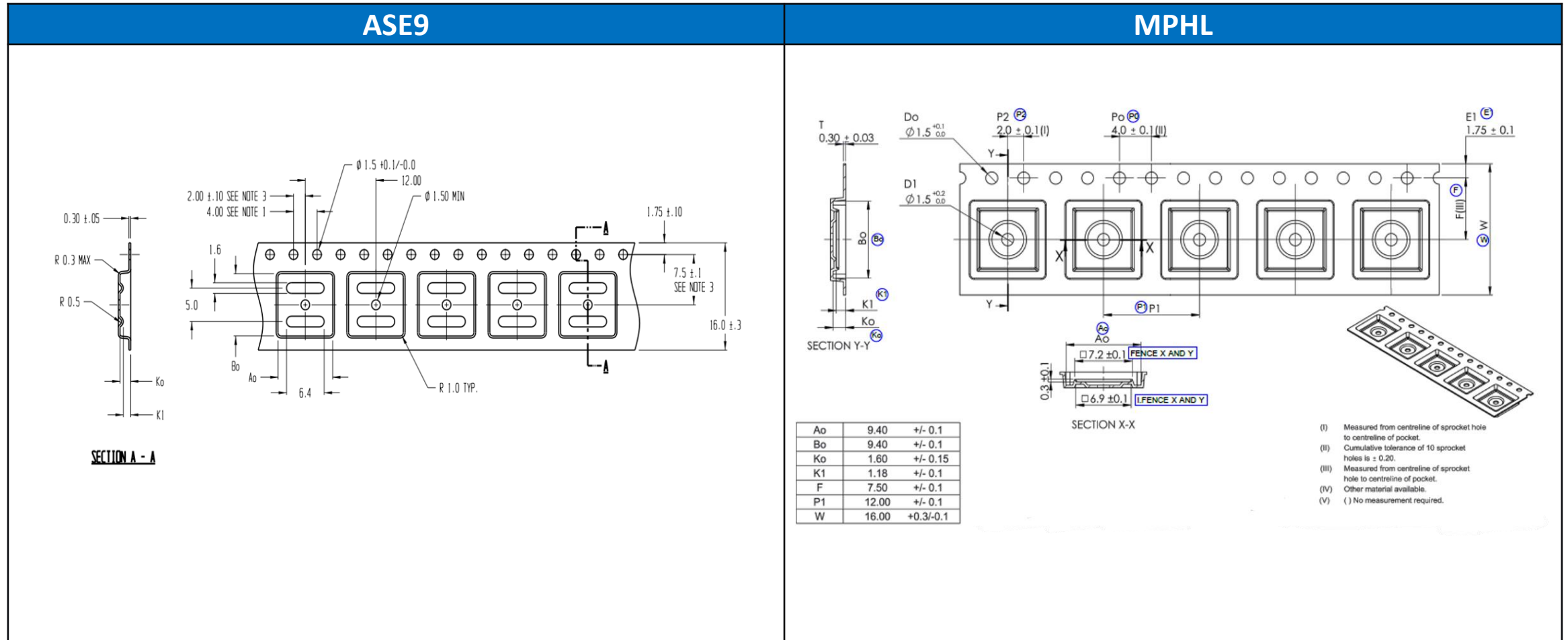
ASE9	MPHL
 Technical drawing of ASE9 bag showing dimensions: Length 500+/-5mm, Width 240+/-5mm (with 220+/-5mm inner width and 10mm side margins), and Thickness 0.1mm. Labels include 'Opening' and 'SEAL'. A photograph of the dark green bag is shown to the right. Notes: Material : VMPET//LLDPE Thickness : 0.1+/-0.1 mm	 Technical drawing of MPHL bag showing dimensions: Length L, Width A, and a small dimension B. A photograph of the white bag with a yellow label is shown to the right.

Plant	Moisture Sensitivity Level	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 1	Static Shielding Bag	500+5/-5	240+5/-5	0.1
MPHL	MSL- 1	Static Shielding Bag	482+/-5	228+/-5	0.0787

PRE AND POST CHANGE SUMMARY – Tray Packing Method MSL-1 (24L VQFN)

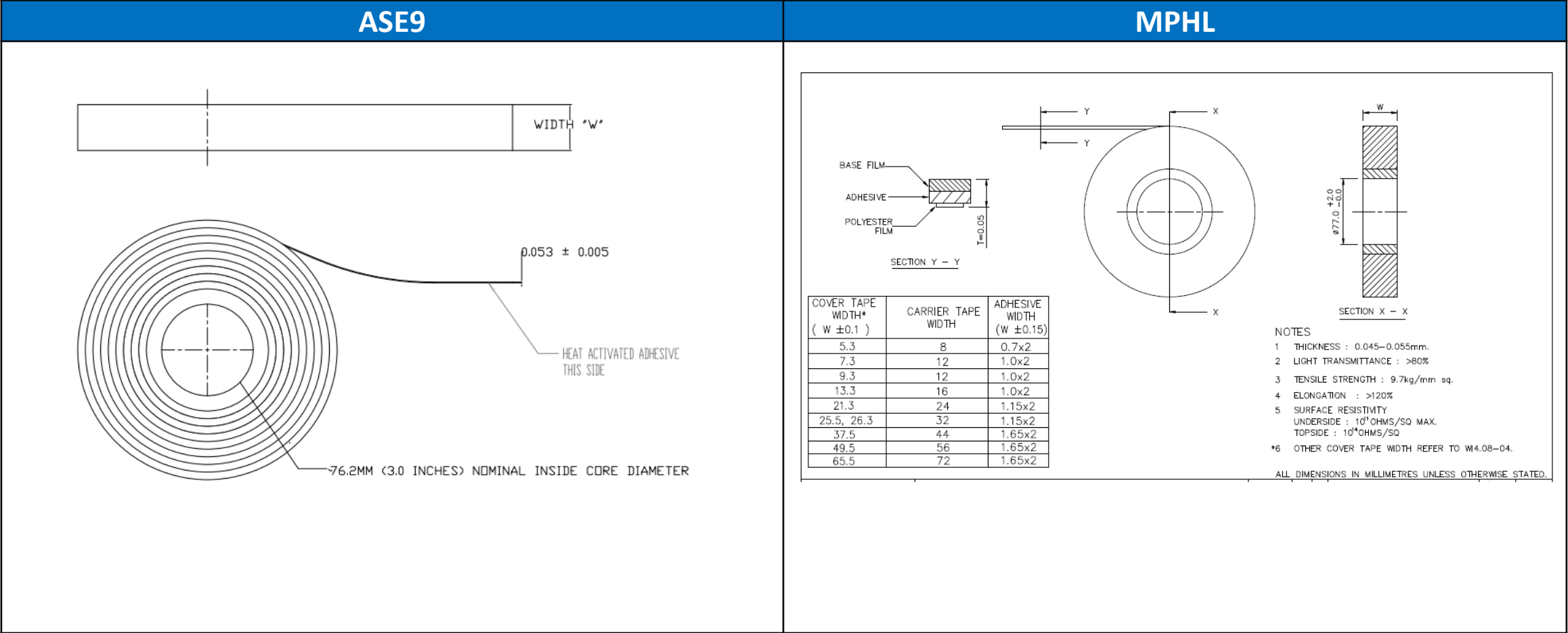
ASE9	MPHL								
 SSB Label ESD warning label Use Cardboard to fill space for partial box Inner box Bubble Wrap Scotch tape ASE 2D label Label <table><tr><td>Inner box</td></tr><tr><td>Dimension</td></tr><tr><td>W x L x H (cm)</td></tr><tr><td>16.2x37.1x8.8</td></tr></table>	Inner box	Dimension	W x L x H (cm)	16.2x37.1x8.8	 Strapping Tray Label SSB Bubble Sheet Inner Box (M02-012) Label <table><tr><td>Inner box</td></tr><tr><td>Dimension</td></tr><tr><td>W x L x H (cm)</td></tr><tr><td>16.2x37.1x8.8</td></tr></table>	Inner box	Dimension	W x L x H (cm)	16.2x37.1x8.8
Inner box									
Dimension									
W x L x H (cm)									
16.2x37.1x8.8									
Inner box									
Dimension									
W x L x H (cm)									
16.2x37.1x8.8									

PRE AND POST CHANGE SUMMARY – Carrier Tape (48L TQFP)



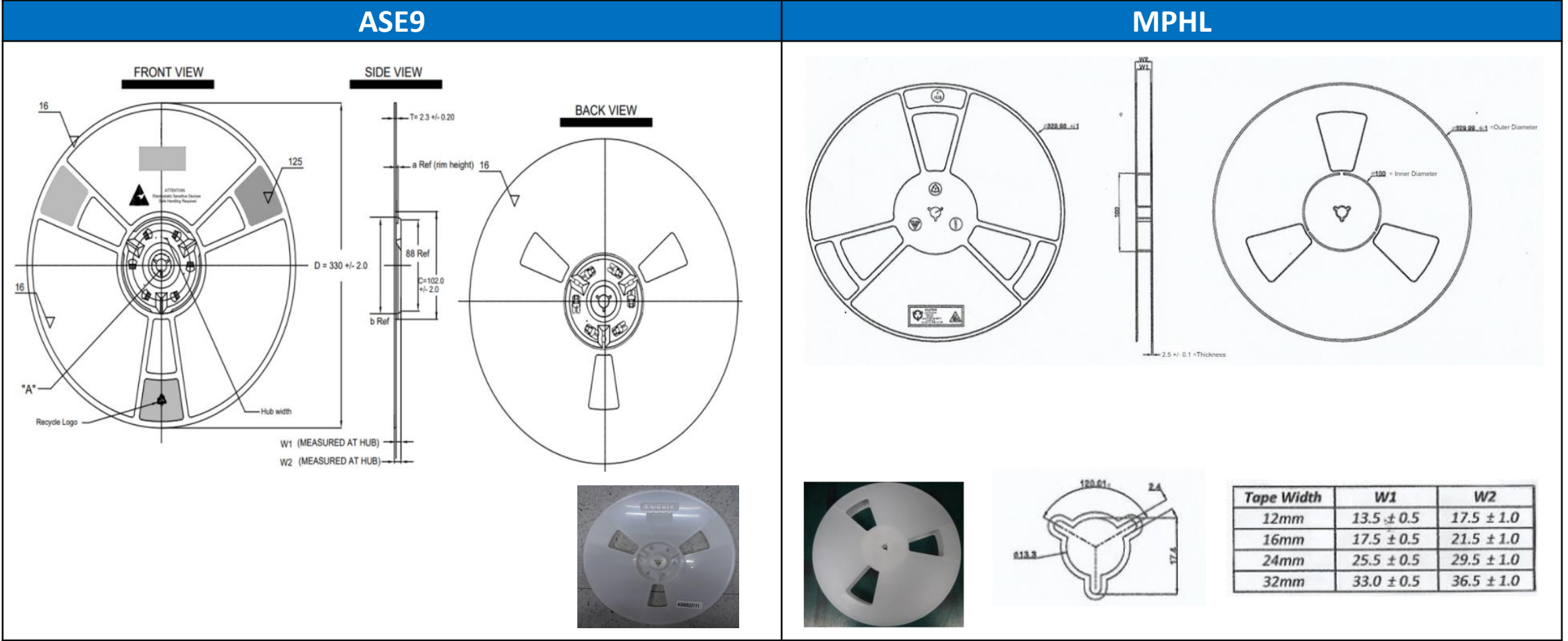
Plant	W (mm)	P (mm)	A0 (mm)	B0 (mm)	K0 (mm)	K1 (mm)	Thickness (mm)
ASE9	16.00+0.3/-0.3	12.00±0.1	9.30±0.1	9.30±0.1	1.80±0.1	1.20±0.1	0.30±0.05
MPHL	16.00 ±0.1	12.00±0.1	9.40±0.1	9.40±0.1	1.60±0.1	1.18±0.1	0.30±0.03

PRE AND POST CHANGE SUMMARY – Cover Tape (48L TQFP)



Plant	Width W (mm)	Thickness T (mm)	Color	Sealing Methodology
ASE9	13.3 ± 0.1	0.053 ± 0.005	Clear	Heat sealing
MPHL	13.3 ± 0.1	0.05 ± 0.005	Clear	Pressure sealing

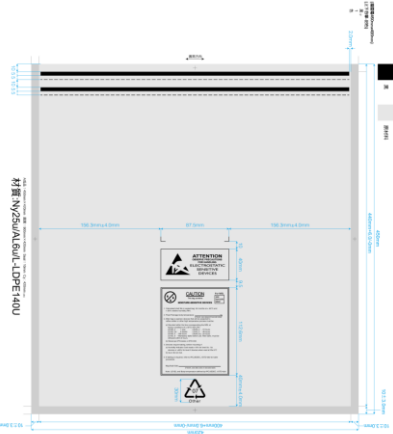
PRE AND POST CHANGE SUMMARY – Reel (48L TQFP)



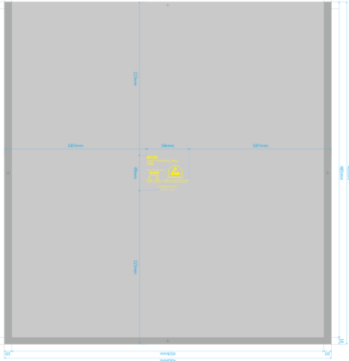
Plant	Reel Diameter (mm)	Reel Hub Size (mm)	Reel Width Max (mm)	Color
ASE9	330 ±2	102 ±2	22.2	White
MPHL	330 ±2	100 ±2.0	21.5+1.0/-0	White

PRE AND POST CHANGE SUMMARY – T/R Bag (48L TQFP)

ASE9

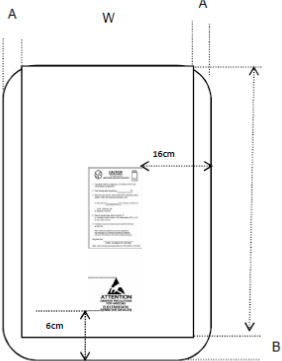


Moisture Barrier Bag

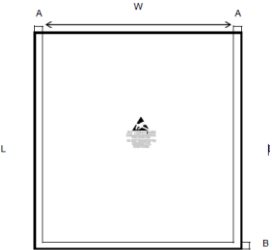


Static Shielding Bag

MPHL



Moisture Barrier Bag



Static Shielding Bag

Plant	Bag type	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 1	Static Shielding Bag	495 +5/-5	430 +5/-5	0.07
	MSL- 3	Moisture Barrier Bag	450 +6/-0	420 +6/-0	0.18
MPHL	MSL-1	Static Shielding Bag	432±5mm	406±5mm	0.07
	MSL-3	Moisture Barrier Bag	432±5mm	406±5mm	0.15

© 2026 Microchip Technology Inc. and its subsidiaries



PRE AND POST CHANGE SUMMARY – T/R Desiccant (48L TQFP)

ASE9	MPHL
 Desiccant each unit is 66 g	 OR Desiccant each unit is 33g

PRE AND POST CHANGE SUMMARY – T/R Humidity Indicator Card (HIC) (48L TQFP)

ASE9	MPHL
HUMIDITY INDICATOR Complies with IPC/JEDEC J-STD-033 LEVEL 2 PARTS Bake parts if 60% is NOT brown 60%  LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is pale-green 10%  5%  HUMISCOPE® ITEM NO.: AH311H COBALT DICHLORIDE FREE Initial Use : Do not put this card into a bag if 60% is pale-green. ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free	HUMIDITY INDICATOR Complies with IPC/JEDEC J-STD-033 LEVEL 2 PARTS Bake parts if 60% is NOT brown 60%  LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is azure 10%  5%  COBALT FREE Initial use: Do not put this card into a bag if 60% is azure. HIC-0560-CF-BA3 www.amelcoosystems.com OR HUMIDITY INDICATOR Complies with IPC/JEDEC J-STD-033 LEVEL 2 PARTS Bake parts if 60% is NOT brown 60%  LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is pale-green 10%  5%  BROWN-DRY AZURE-WET COBALT FREE HUMIDITY INDICATOR CARD JAPANESE METAL COMPANY COMPLIES WITH IPC/JEDEC J-STD-033 M98 5 4 3 ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free

PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-1 Non-Dry Pack (48L TQFP)

ASE9

label

ESD label

SSB

Inner box

label

Cardboard

Bubble Wrap

label

ASE 2D label

Scotch tape

Inner box
Dimension W x L x H (cm)
37x35.1x5.3

MPHL

1

2

3

REEL WIDTH:
16mm: M02-015
>=24mm: M02-016

Box Insert
(PN: 22200188)

4

5

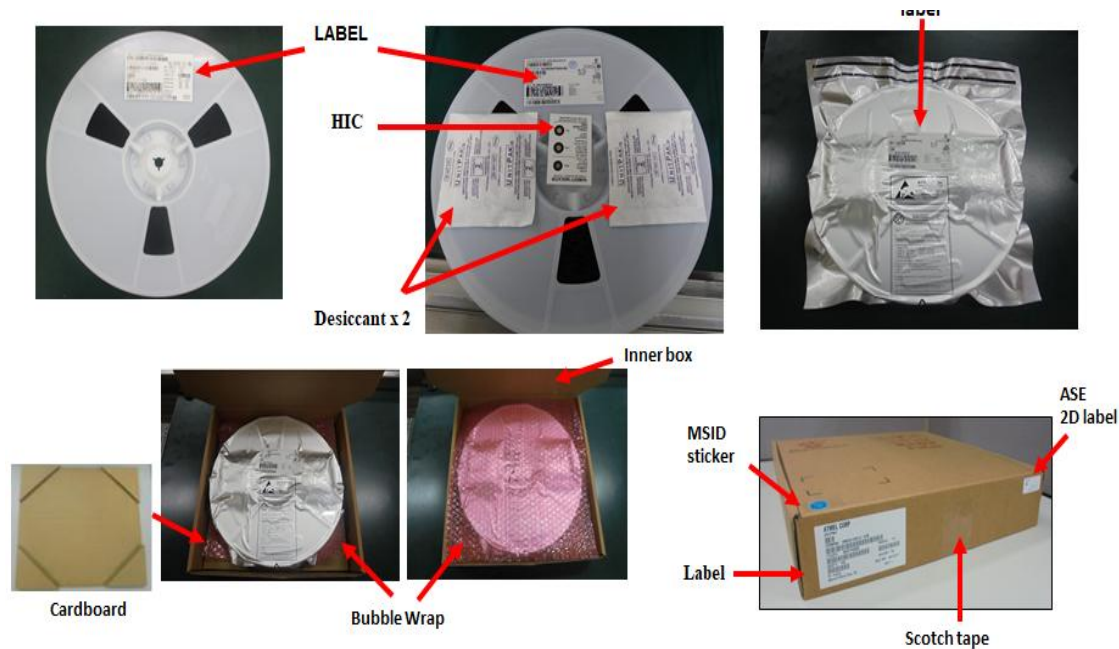
6

Inner box
Dimension W x L x H (cm)
37x35.1x5.3

© 2026 Microchip Technology Inc. and its subsidiaries

PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-3 Dry Pack (48L TQFP)

ASE9

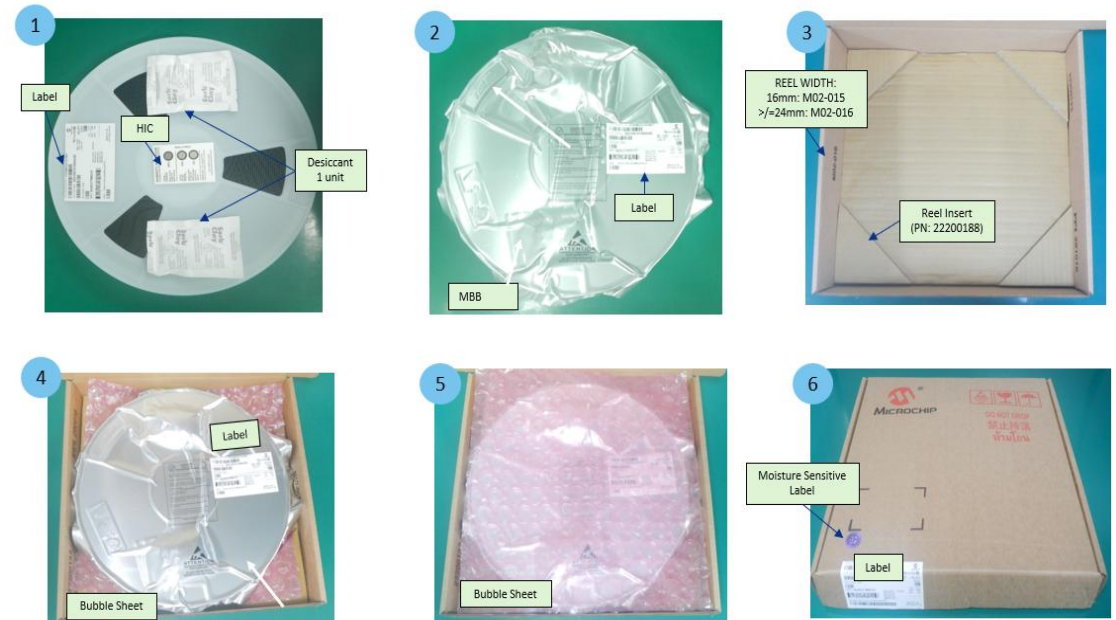


Inner box

Dimension
W x L x H (cm)

37x35.3x7.8

MPHL



Inner box

Dimension
W x L x H (cm)

37x35.1x5.3

PRE AND POST CHANGE SUMMARY – Cover Tape (64L UFBGA)

ASE9

COVER TAPE WIDTH "W"

Overall "Roll" diameter

Thickness
0.052 ± 0.005 mm

Adhesive side

INSIDE CORE DIAMETER
Ø 76.6 ± 1.0 mm

OUTSIDE CORE DIAMETER
Ø 92.7 ± 1.0 mm

NOTE:

- Length (M): -yyy(y) +3/-0 M, where yyy(y)=Length
- Overall (Roll) Diameter:
 - For 300 meter length roll = 168 ± 10 mm
 - For 500 meter length roll = 203 ± 10 mm
 - For 600 meter length roll = 218 ± 10 mm
- Core width dimension refer to below table
- Please refer to tech bulletins for related properties of HUZ cover tape

Part Number	Width (mm) (± 0.1 mm)	Length (M)
HUZ0053(-yyy/-yyyy)	5.3	300, 500, 600...etc.
HUZ0054(-yyy/-yyyy)	5.4	
HUZ0055(-yyy/-yyyy)	5.5	
HUZ0093(-yyy/-yyyy)	9.3	
HUZ0133(-yyy/-yyyy)	13.3	
HUZ0213(-yyy/-yyyy)	21.3	
HUZ0255(-yyy/-yyyy)	25.5	
HUZ0375(-yyy/-yyyy)	37.5	
HUZ0495(-yyy/-yyyy)	49.5	
HUZ0655(-yyy/-yyyy)	65.5	
HUZ0815(-yyy/-yyyy)	81.5	

PART NO.	WIDTH "W"
HUZxxxx-yyy or HUZxxxx-yyyy	xxxx=width type (i.e. 0093=9.30 mm, 0655=65.5 mm)
-yyy=Length (i.e. -300=300 M, -1000=1000 M)	

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)
5.3	5.4 ± 0.1
5.4	
5.5	
9.3	9.3 ± 0.1
13.3	13.3 ± 0.1

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)
21.3	21.3 ± 0.1
25.5	25.5 ± 0.1
37.5	37.5 ± 0.1
49.5	49.5 ± 0.1
65.5	65.5 ± 0.1
81.5	81.5 ± 0.1

MPHL

BASE FILM

ADHESIVE

POLYESTER FILM

T=0.05

SECTION Y - Y

SECTION X - X

W

+2.0
-0.0
Ø77.0

COVER TAPE WIDTH* (W ± 0.1)	CARRIER TAPE WIDTH	ADHESIVE WIDTH (W ± 0.15)
5.3	8	0.7x2
7.3	12	1.0x2
9.3	12	1.0x2
13.3	16	1.0x2
21.3	24	1.15x2
25.5, 26.3	32	1.15x2
37.5	44	1.65x2
49.5	56	1.65x2
65.5	72	1.65x2

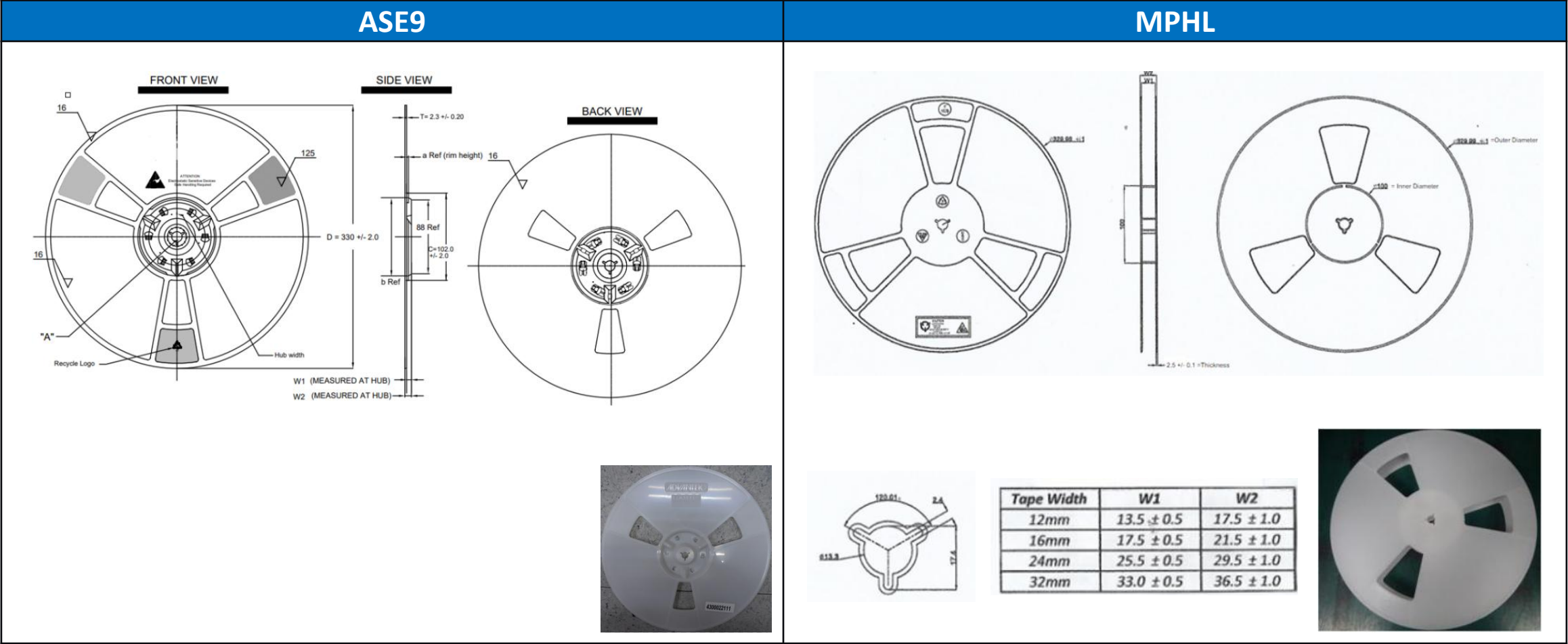
NOTES

- THICKNESS : 0.045–0.055mm.
- LIGHT TRANSMITTANCE : >80%
- TENSILE STRENGTH : 9.7kg/mm sq.
- ELONGATION : >120%
- SURFACE RESISTIVITY
UNDERSIDE : 10¹ OHMS/SQ MAX.
TOPSIDE : 10⁴ OHMS/SQ
- *6 OTHER COVER TAPE WIDTH REFER TO WI4.08–04.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

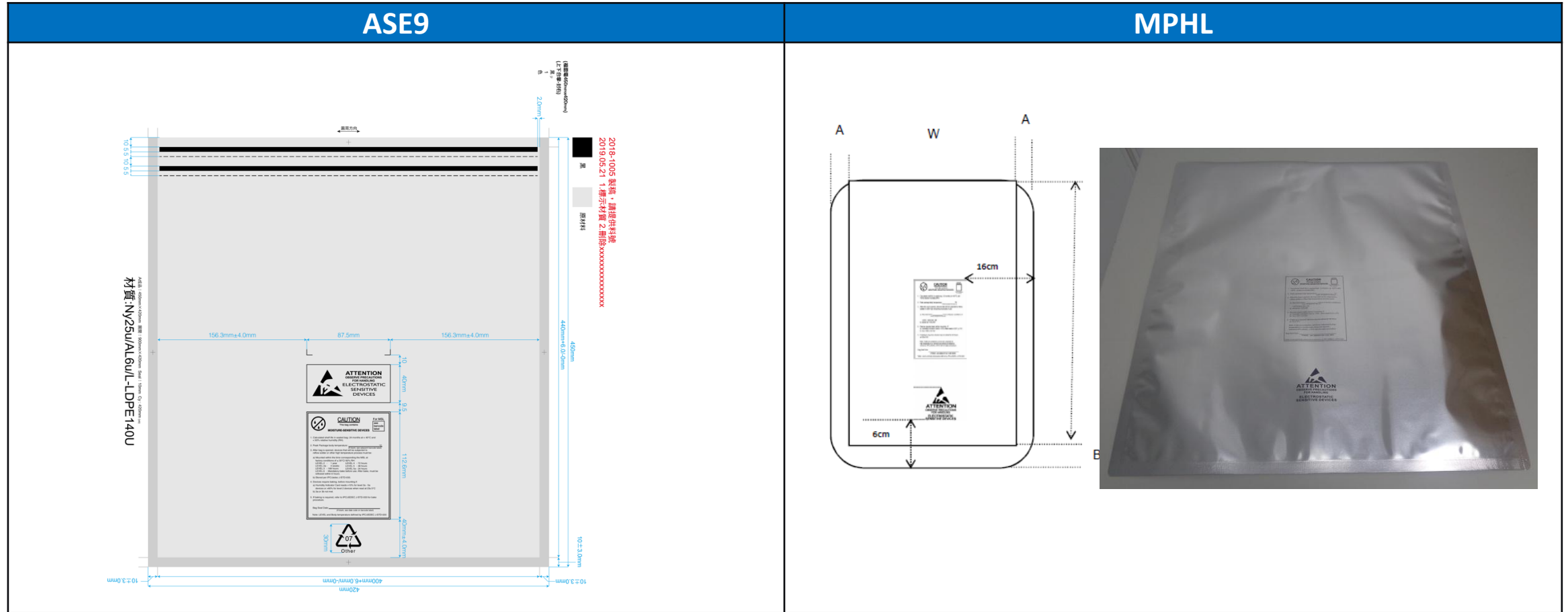
Plant	Width W (mm)	Thickness T (mm)	Color	Sealing Methodology
ASE9	9.3 ± 0.1	0.052 ± 0.005	Clear	Heat sealing
MPHL	9.3 ± 0.1	0.05 ± 0.005	Clear	Pressure sealing

PRE AND POST CHANGE SUMMARY – Reel (64L UFBGA)



Plant	Reel Diameter (mm)	Reel Hub Size (mm)	Reel Width Max (mm)	Color
ASE9	330 ±2	102.0 ±2	22.2	White
MPHL	330 ±2	100 ±2.0	21.5+1.0/-0	White

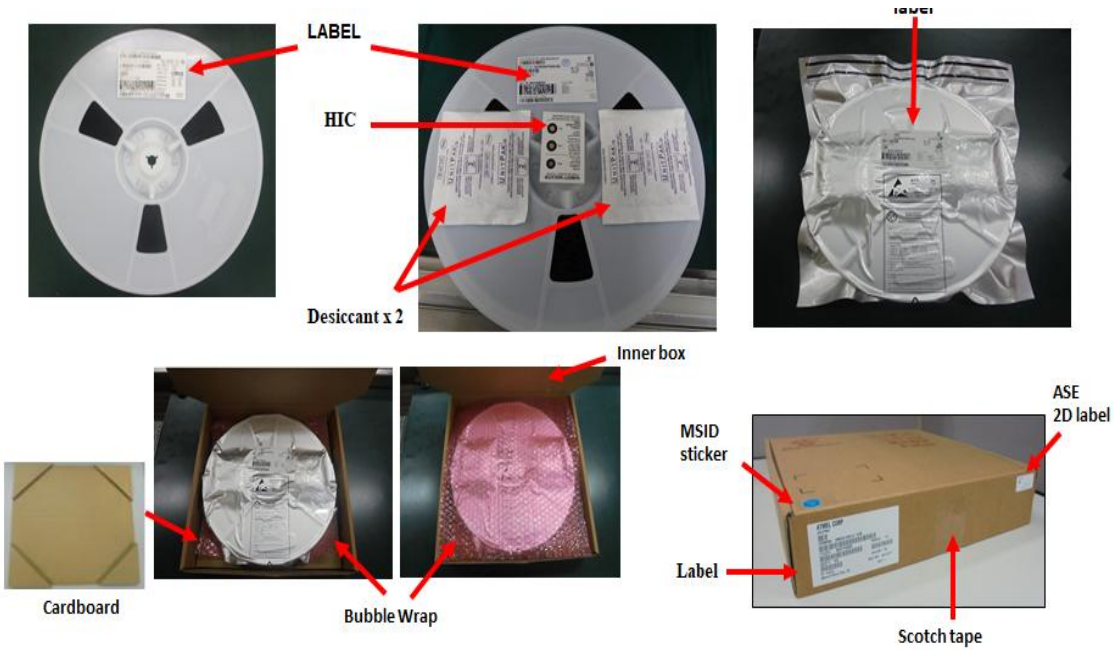
PRE AND POST CHANGE SUMMARY – T/R Bag (64L UFBGA)



Plant	Bag type	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 3	Moisture Barrier Bag	450 +6/-0	420 +6/-0	0.18
MPHL	MSL- 3	Moisture Barrier Bag	432±5mm	406±5mm	0.15

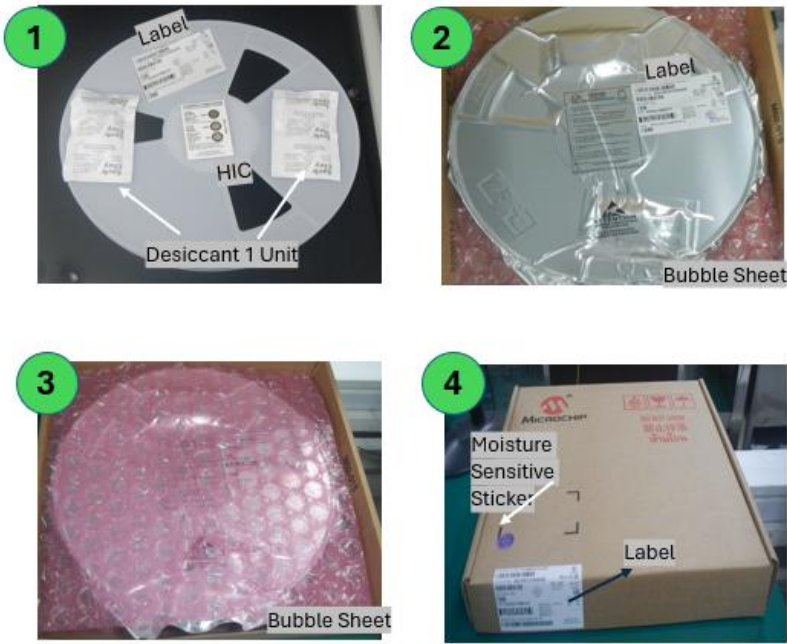
PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-3 (64L UFBGA)

ASE9



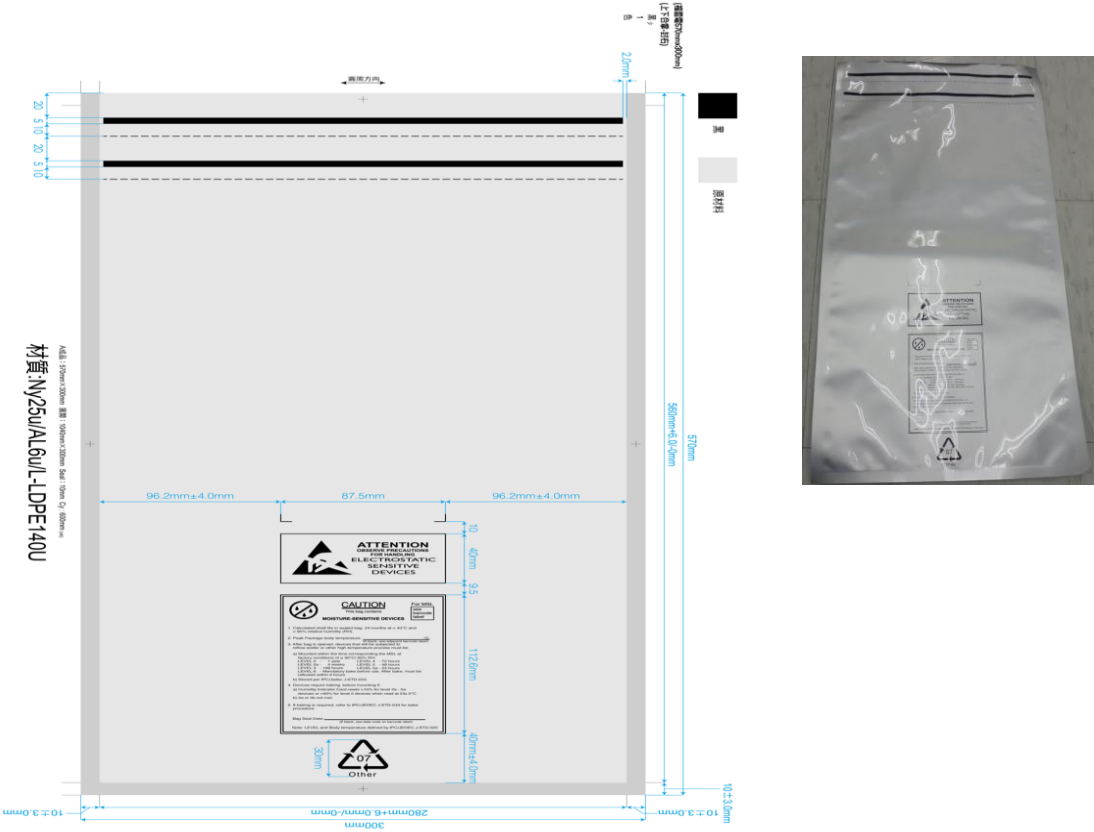
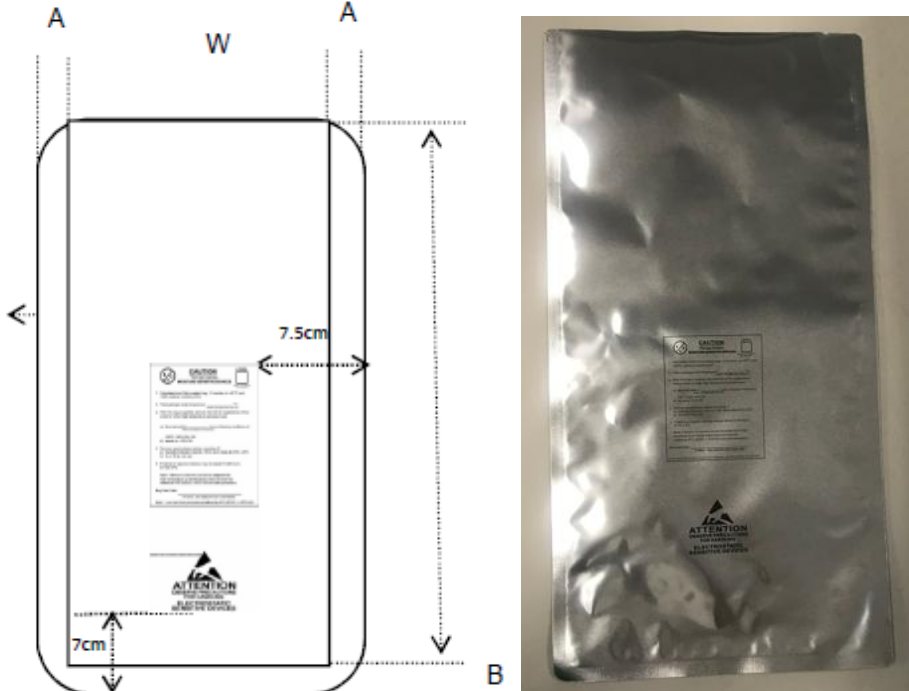
Inner box
Dimension
W x L x H (cm)
37x35.3x7.8

MPHL



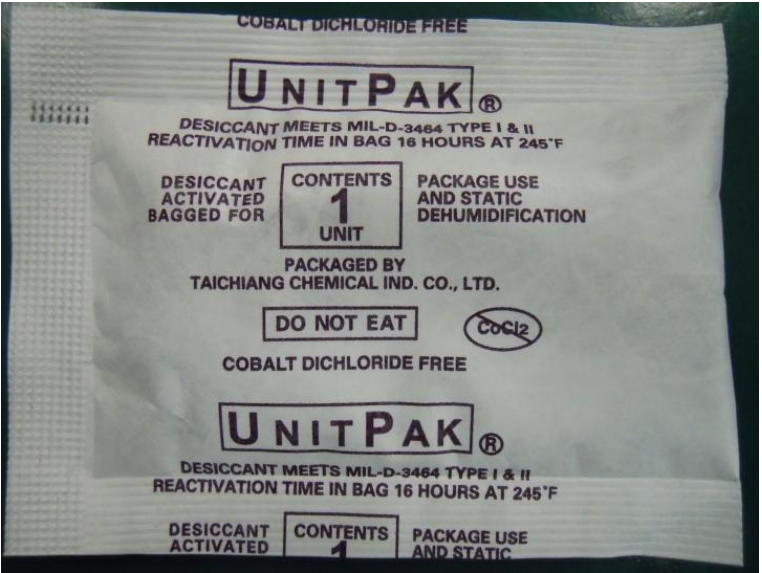
Inner box
Dimension
W x L x H (cm)
37x35.1x5.3

PRE AND POST CHANGE SUMMARY – Tray Bag (64L UFBGA)

ASE9			MPHL		
					
Plant	Moisture Sensitivity Level	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 3	Moisture Barrier Bag	570 +6/-0	300 +6/-0	0.18
MPHL	MSL- 3	Moisture Barrier Bag	482±5mm	228±5mm	0.15+/-10%

PRE AND POST CHANGE SUMMARY – Tray Desiccant (64L UFBGA)

ASE9



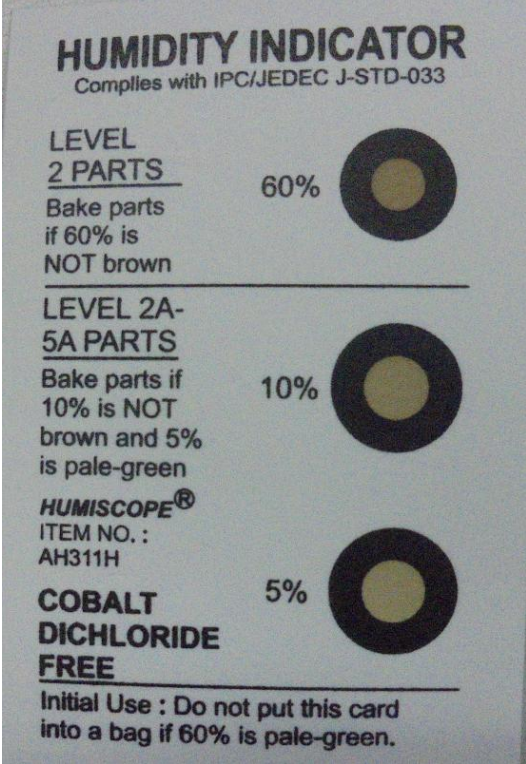
Desiccant each unit is 33 g

MPHL



Desiccant each unit is 33g

PRE AND POST CHANGE SUMMARY – Tray Humidity Indicator Card (HIC) (64L UFBGA)

ASE9	MPHL
 ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free	 OR  ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free

PRE AND POST CHANGE SUMMARY – Tray Packing Method MSL-3 (64L UFBGA)

ASE9

HIC

desiccant x 2

MBB

Label

Inner box

Bubble Wrap

Use Cardboard to fill space for partial box

MSID sticker

Scotch tape

ASE 2D label

Label

Inner box
Dimension W x L x H (cm)
16.2x37.1x8.8

MPHL

Pin 1 Orientation / Tray Bundling

1. Pin 1 Orientation – near tray chamfer

2. Tray Bundling
> 10 full trays + 1 empty tray cover
> PP Strapping: 3 crosswise & 1 lengthwise

3. Moisture Barrier Bag Labels

Open Side

Desiccant (1.0 unit)

HIC (Humidity Indicator Card)

Desiccant (1.0 unit)

Intermediate Barcode Label

MSL (Caution) Label

ESD Label (2x2)

Inner Box Packing

4. Wrap bag with bubble pack

Bubble Sheet

5. Tray Box Packing

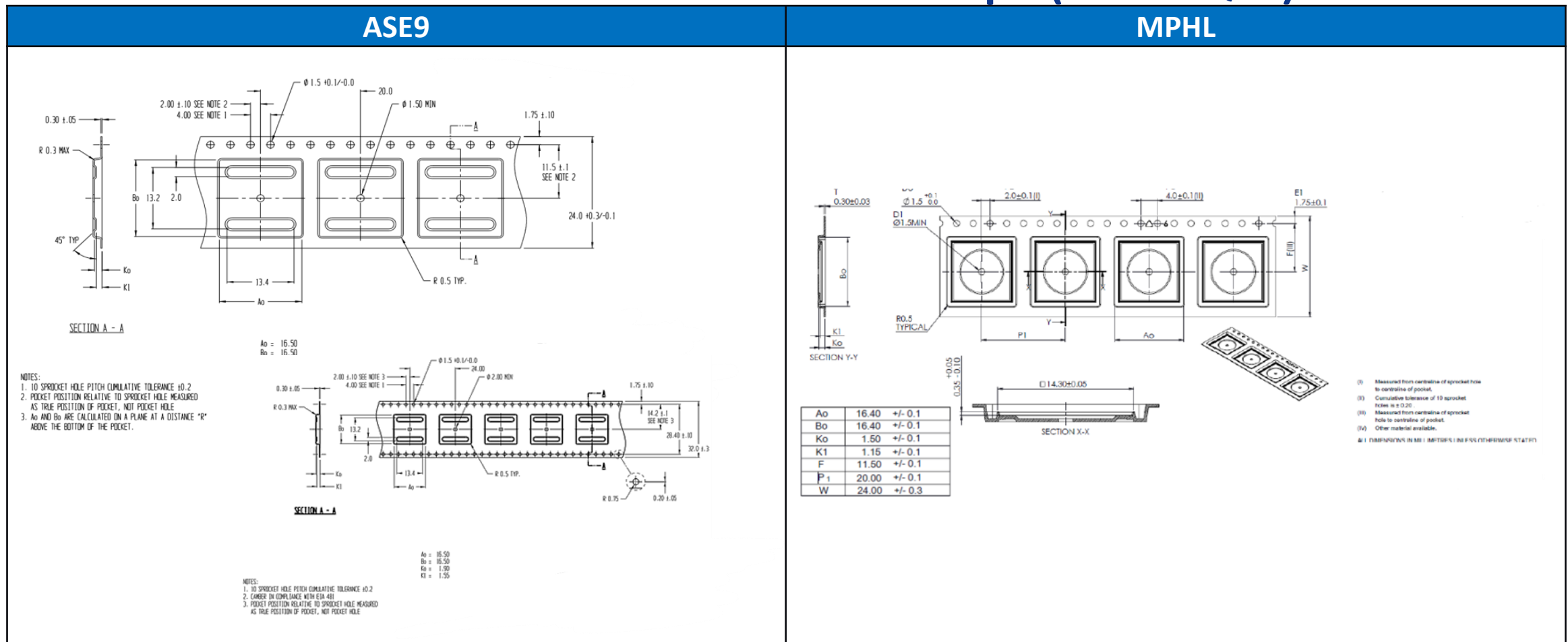
Open Side of Box

Intermediate Label

Inner Box Tray: 16.2x37.1x8.8 cm

Inner box
Dimension W x L x H (cm)
16.2x37.1x8.8

PRE AND POST CHANGE SUMMARY – Carrier Tape (100L TQFP)



Plant	W (mm)	P (mm)	A0 (mm)	B0 (mm)	K0 (mm)	K1 (mm)	Thickness (mm)
ASE9	24.00+0.3/-0.1	20.00±0.1	16.50±0.1	16.50±0.1	1.55±0.1	1.20±0.1	0.30±0.05
	32.00±0.3	24.00±0.1	16.50±0.1	16.50±0.1	1.90±0.1	1.55±0.1	0.30±0.05
MPHL	24.00±0.3	20.00±0.1	16.40±0.1	16.40±0.1	1.50±0.1	1.15±0.1	0.30±0.03

PRE AND POST CHANGE SUMMARY – Cover Tape (100L TQFP)

ASE9

MPHL

Diagram illustrating the dimensions and structure of the ASE9 cover tape roll. The roll is shown with a central core and an outer layer of tape. The overall roll diameter is indicated. The thickness of the tape is specified as 0.052 ± 0.005 mm. The adhesive side is shown. The inside core diameter is $\varnothing 76.6 \pm 1.0$ mm, and the outside core diameter is $\varnothing 92.7 \pm 1.0$ mm. The cover tape width is labeled as "W".

NOTE:

- Length (M): -yyy(y) +3/-0 M, where yyy(y)=Length
- Overall (Roll) Diameter:
 - For 300 meter length roll = 168 ± 10 mm
 - For 500 meter length roll = 203 ± 10 mm
 - For 600 meter length roll = 218 ± 10 mm
- Core width dimension refer to below table
- Please refer to tech bulletins for related properties of HUZ cover tape

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)	
5.3		
5.4	5.4	± 0.1
5.5		
9.3	9.3	± 0.1
13.3	13.3	± 0.1

Cover Tape Width (mm)	Core Width Spec (mm) (Plastic)	
21.3	21.3	± 0.1
25.5	25.5	± 0.1
37.5	37.5	± 0.1
49.5	49.5	± 0.1
65.5	65.5	± 0.1
81.5	81.5	± 0.1

Diagram illustrating the dimensions and structure of the MPHL cover tape roll. The roll is shown with a central core and an outer layer of tape. The thickness of the tape is specified as $T=0.05$ mm. The adhesive side is shown. The inside core diameter is $\varnothing 77.0 \pm 0.0$ mm, and the outside core diameter is $\varnothing 92.0 \pm 0.0$ mm. The cover tape width is labeled as "W".

COVER TAPE WIDTH* (W ± 0.1)	CARRIER TAPE WIDTH	ADHESIVE WIDTH (W ± 0.15)
5.3	8	0.7x2
7.3	12	1.0x2
9.3	12	1.0x2
13.3	16	1.0x2
21.3	24	1.15x2
25.5, 26.3	32	1.15x2
37.5	44	1.65x2
49.5	56	1.65x2
65.5	72	1.65x2

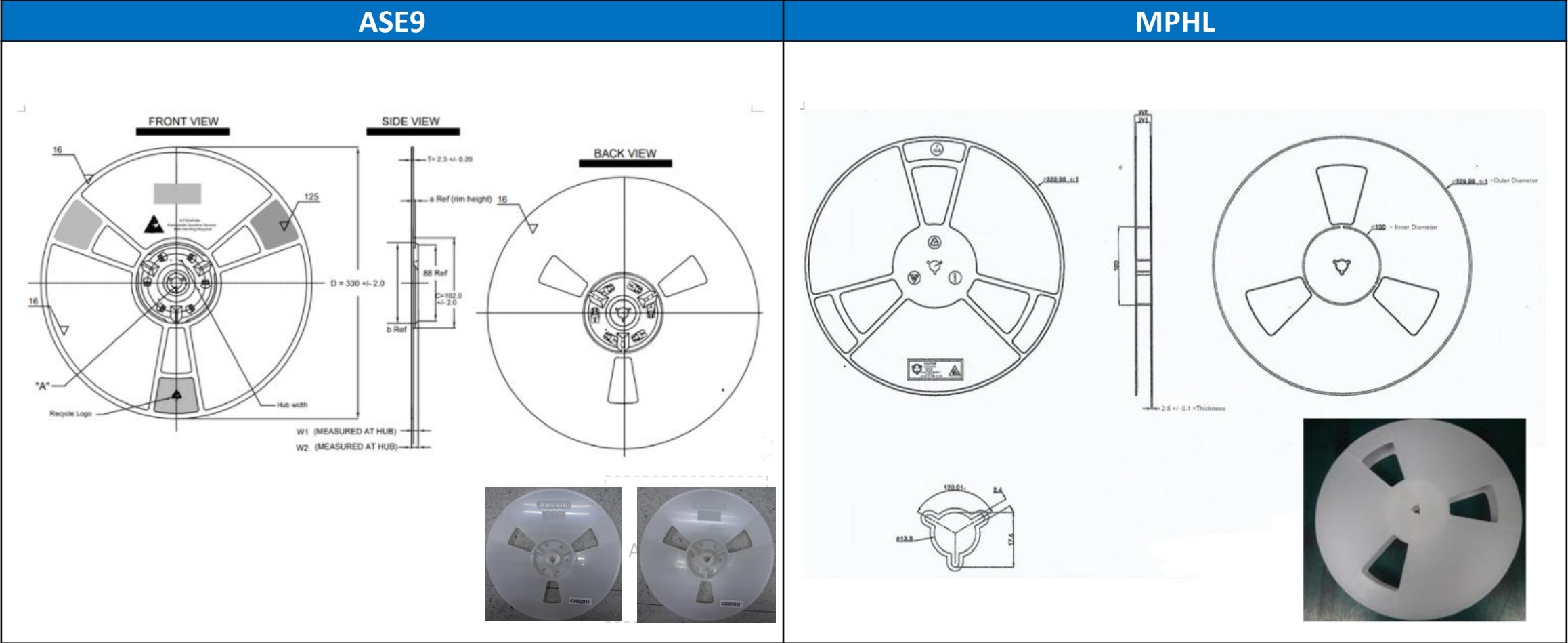
NOTES

- THICKNESS : 0.045–0.055mm.
- LIGHT TRANSMITTANCE : >80%
- TENSILE STRENGTH : 9.7kg/mm sq.
- ELONGATION : >120%
- SURFACE RESISTIVITY
UNDERSIDE : 10^9 OHMS/SQ MAX.
TOPSIDE : 10^4 OHMS/SQ
- *6 OTHER COVER TAPE WIDTH REFER TO W4.08–04.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

Plant	Width W (mm)	Thickness T (mm)	Color	Sealing Methodology
ASE9	21.3 ± 0.1	0.052 ± 0.005	Clear	Heat sealing
	25.5 ± 0.1	0.052 ± 0.005	Clear	Heat sealing
MPHL	21.3 ± 0.1	0.05 ± 0.005	Clear	Pressure sealing

PRE AND POST CHANGE SUMMARY – Reel (100L TQFP)



Plant	Reel Diameter (mm)	Reel Hub Size (mm)	Reel Width Max (mm)	Color
ASE9	330 ±2	102.0 ±2	22.2	WHITE
	330 ±2	102.0 ±2	38.2	WHITE
MPHL	330 ±2	100 ±2.0	29.5±1.0	White

PRE AND POST CHANGE SUMMARY – T/R Bag (100L TQFP)

[illegible]

Plant	Bag type	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 1	Moisture Barrier Bag	450 +6/-0	420 +6/-0	0.18
	MSL- 3	Moisture Barrier Bag	450 +6/-0	420 +6/-0	0.18
MPHL	MSL-1	Static Shielding Bag	432±5mm	406±5mm	0.07
	MSL-3	Moisture Barrier Bag	432±5mm	406±5mm	0.15

PRE AND POST CHANGE SUMMARY – T/R Desiccant (100L TQFP)

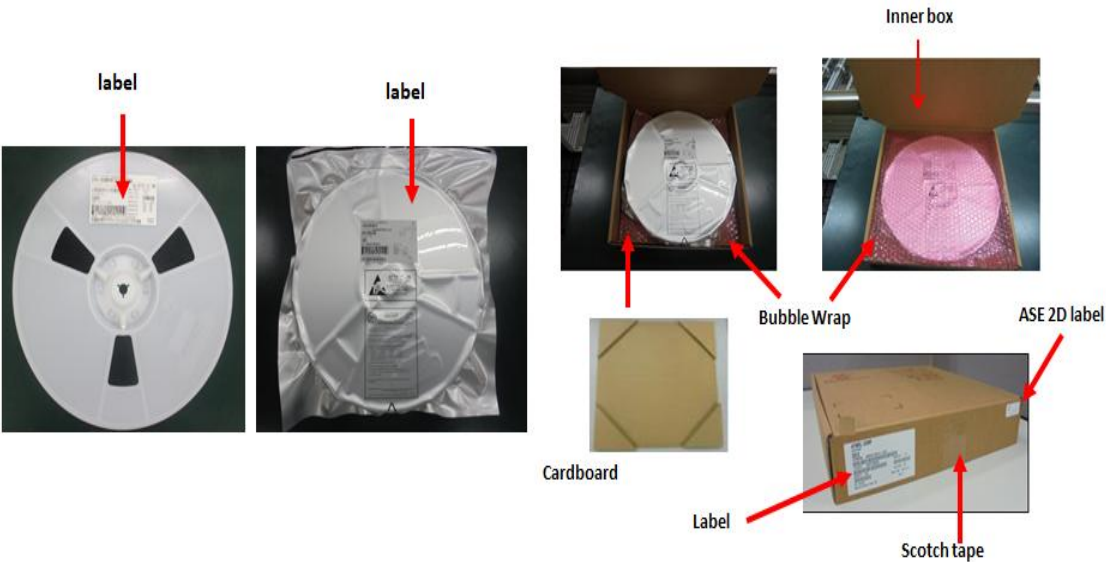
ASE9	MPHL
 Desiccant each unit is 66 g	 OR Desiccant each unit is 33g

PRE AND POST CHANGE SUMMARY – T/R Humidity Indicator Card (HIC) (100L TQFP)

ASE9	MPHL
▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free	▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free

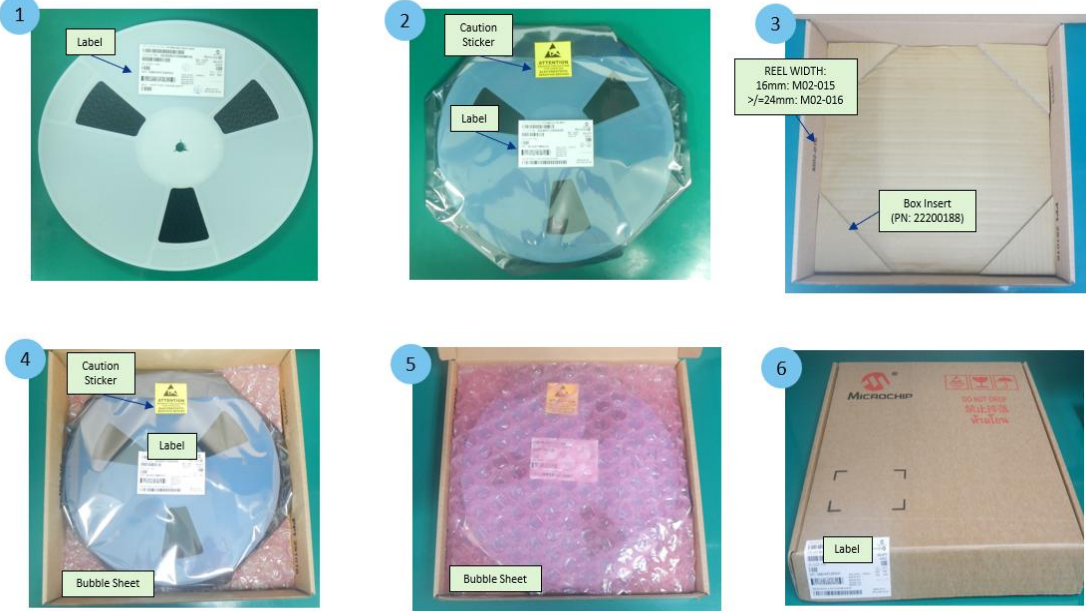
PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-1 (100L TQFP)

ASE9



Inner box
Dimension W x L x H (cm)
37x35.3x7.8

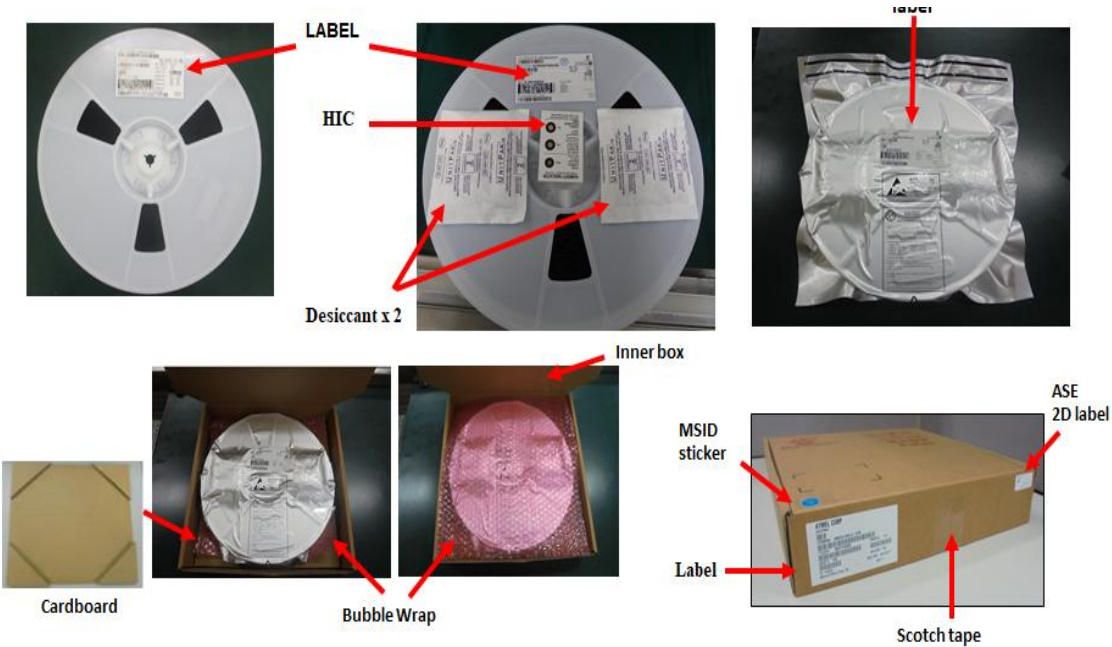
MPHL



Inner box
Dimension W x L x H (cm)
37x35.1x5.3

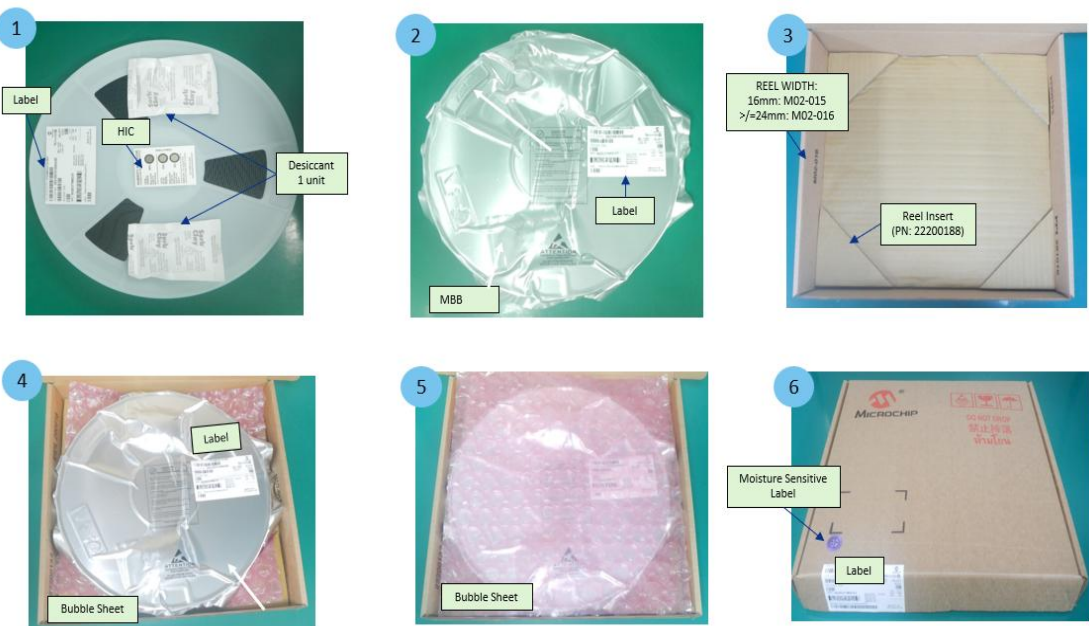
PRE AND POST CHANGE SUMMARY – T/R Packing Method MSL-3 (100L TQFP)

ASE9



Inner box
Dimension
W x L x H (cm)
37x35.3x7.8

MPHL



Inner box
Dimension
W x L x H (cm)
37x35.1x5.3

PRE AND POST CHANGE SUMMARY – Tray Bag (100L TQFP)

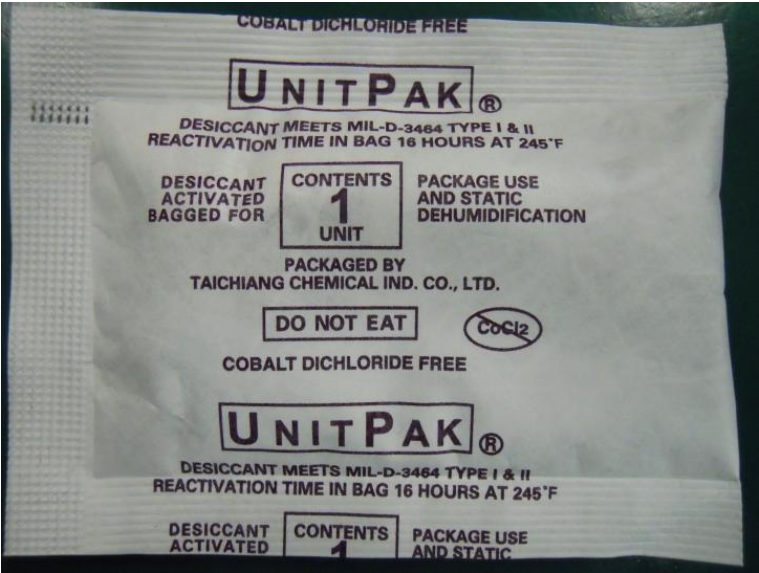
ASE9

Notes:
Material : VMPET/LLDPE
Thickness : 0.1+/-0.1 mm

MPHL

Plant	Moisture Sensitivity Level	Bag type	Length (mm)	Width (mm)	Thickness (mm)
ASE9	MSL- 1	Static Shielding Bag	500+5/-5	240+5/-5	0.1
	MSL- 3	Moisture Barrier Bag	570 +6/-0	300 +6/-0	0.18
MPHL	MSL- 1	Static Shielding Bag	482±5	228±5	0.0787
	MSL- 3	Moisture Barrier Bag	482±5	228±5	0.15

PRE AND POST CHANGE SUMMARY – Tray Desiccant (100L TQFP)

ASE9	MPHL
A white rectangular desiccant bag with black text. At the top, it says 'COBALT DICHLORIDE FREE'. Below that is the 'UNITPAK' logo. The text continues: 'DESICCANT MEETS MIL-D-3464 TYPE I & II', 'REACTIVATION TIME IN BAG 16 HOURS AT 245°F'. In the center, there's a box labeled 'CONTENTS 1 UNIT' and 'PACKAGE USE AND STATIC DEHUMIDIFICATION'. Below this, it says 'PACKAGED BY TAICHIANG CHEMICAL IND. CO., LTD.' and 'DO NOT EAT' with a 'CoCl2' symbol. At the bottom, it repeats 'COBALT DICHLORIDE FREE', the 'UNITPAK' logo, and the same MIL-D-3464 and reactivation information. The bottom left corner says 'DESICCANT ACTIVATED'. Desiccant each unit is 33 g	Two white rectangular desiccant bags are shown side-by-side. The left bag is labeled 'SOLUPAK' and the right bag is labeled 'Sorb Clay'. Both bags have similar text: 'DESICCANT MEETS MIL-D-3464 TYPE I & II', 'REACTIVATION TIME IN BAG 16 HOURS AT 245°F', 'DO NOT EAT', and 'AMERCO DESICCANTS INC. WWW.AMERCODESICCANTS.COM'. The word 'OR' is printed between the two bags. Desiccant each unit is 33g

PRE AND POST CHANGE SUMMARY – Tray Humidity Indicator Card (HIC) (100L TQFP)

ASE9	MPHL
HUMIDITY INDICATOR Complies with IPC/JEDEC J-STD-033 LEVEL 2 PARTS Bake parts if 60% is NOT brown 60%  LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is pale-green 10%  5%  HUMISCOPE® ITEM NO. : AH311H COBALT DICHLORIDE FREE Initial Use : Do not put this card into a bag if 60% is pale-green. ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free	HUMIDITY INDICATOR Complies with IPC/JEDEC J-STD-033 LEVEL 2 PARTS Bake parts if 60% is NOT brown 60%  LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is azure 10%  5%  COBALT FREE Initial use: Do not put this card into a bag if 60% is azure. HIC-0560-CF-BA3 www.amelcoosystems.com OR  5% 10% 60% LEVEL 2A-5A PARTS Bake parts if 10% is NOT brown and 5% is pale-green COBALT FREE HUMIDITY INDICATOR CARD JAPANESE METAL COMPANY COMPLIES WITH IPC/JEDEC J-STD-033 M98 5 4 3 ▪ 3 Dots (5%, 10%, 60%) ▪ Cobalt Free

PRE AND POST CHANGE SUMMARY – Tray Packing Method Non-Dry Pack (MSL-1) (100L TQFP)

ASE9	MPHL								
 SSB Label ESD warning label  Inner box Bubble Wrap  Use Cardboard to fill space for partial box  Scotch tape ASE 2D label Label <table><tr><th>Inner box</th></tr><tr><th>Dimension</th></tr><tr><th>W x L x H (cm)</th></tr><tr><td>16.2x37.1x8.8</td></tr></table>	Inner box	Dimension	W x L x H (cm)	16.2x37.1x8.8	 Strapping Tray  Label SSB Bubble Sheet  Label Inner Box (M02-012) <table><tr><th>Inner box</th></tr><tr><th>Dimension</th></tr><tr><th>W x L x H (cm)</th></tr><tr><td>16.2x37.1x8.8</td></tr></table>	Inner box	Dimension	W x L x H (cm)	16.2x37.1x8.8
Inner box									
Dimension									
W x L x H (cm)									
16.2x37.1x8.8									
Inner box									
Dimension									
W x L x H (cm)									
16.2x37.1x8.8									

PRE AND POST CHANGE SUMMARY – Tray Packing Method Dry Pack (MSL-3) (100L TQFP)

ASE9



Inner box
Dimension W x L x H (cm)
16.2x37.1x8.8

MPHL

Pin 1 Orientation / Tray Bundling	Inner Box Packing
1. Pin 1 Orientation – near tray chamfer 2. Tray Bundling > 10 full trays + 1 empty tray cover > PP Strapping: 3 crosswise & 1 lengthwise  3. Moisture Barrier Bag Labels  Labels on the bag include: Desiccant (1.0 unit), HIC (Humidity Indicator Card), Desiccant (1.0 unit), Intermediate Barcode Label, MSL (Caution) Label, and ESD Label (2x2). The bag is shown with its 'Open Side'.	4. Wrap bag with bubble pack  Bubble Sheet 5. Tray Box Packing  Labels on the box include: 'Open Side of Box' and 'Intermediate Label'. The dimensions are noted as: Inner Box Tray: 16.2x37.1x8.8 cm

Inner box
Dimension W x L x H (cm)
16.2x37.1x8.8