



Integrated Device Technology, Inc.
6024 Silver Creek Valley Road, San Jose, CA - 95138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **TB1711-03** DATE: **December 7, 2017**
 Product Affected: **WLCSP-40, 52, 54**
 (Refer to Attachment II for affected part#)
 Date Effective: **March 7, 2018**

MEANS OF DISTINGUISHING CHANGED DEVICES:
 Product Mark Alert label pasted on Reel, Pizza
 Back Mark box and Carton box on shipment
 Date Code using new cover tape
 Other

Contact: IDT PCN DESK
 E-mail: pcndesk@idt.com

Attachment: Yes No
 Samples: N/A

DESCRIPTION AND PURPOSE OF CHANGE:

- Die Technology
- Wafer Fabrication Process
- Assembly Process
- Equipment
- Material
- Testing
- Manufacturing Site
- Data Sheet
- Other - Packaging

This notification is to advise our customers that IDT will convert from adhesive/pressure sealing type cover tape 3M 2668 to Epak heat sealing type cover tape eH52-9.30-300-YB1. The new cover tape will eliminate the risk of cover tape sticks on the SMT equipment feeder. This change is made as part of quality improvement.

Attachment I - Additional information on new cover tape
 Attachment II - Affected part list
 Attachment III - New cover tape technical data sheet

RELIABILITY/QUALIFICATION SUMMARY:

New cover tape passed internal qualification requirements.

CUSTOMER ACKNOWLEDGMENT OF RECEIPT:

IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.

IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: _____ ***Approval for shipments prior to effective date.***

Name/Date: _____ E-Mail Address: _____

Title: _____ Phone# /Fax# : _____

CUSTOMER COMMENTS: _____

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: _____ DATE: _____



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ATTACHMENT I - PCN #: TB1711-03

PCN Type: Packaging

Data Sheet Change: No

Detail of Change: This notification is to advise our customers that IDT will convert from adhesive/ pressure sealing type cover tape 3M 2668 to Epak heat sealing type cover tape eH52-9.30-300-YB1. The new cover tape will eliminate the risk of cover tape sticks on the SMT equipment feeder. This change is made as part of quality improvement.

The new cover tape has passed the internal qualification requirements. Refer to Table 1 for the qualification results.

Customers may expect to receive shipments with new cover tape no sooner than 90 days from the date of this notification. Product with old cover tape and the new cover tape will be shipped during the transition period until the old cover tape inventory has been depleted. And products shipped during the transition period using new cover tape will have a special label pasted onto each reel, pizza box and outer carton.

Qualification Results:

Table 1: Internal Qualification Results

Check Item	Requirement	E-pak eH52 (Heat Seal Type)	Result
Sealing Quality	No damage & delamination	No abnormality	Pass
Peeling Quality	No damage & delamination	No abnormality	Pass
Peel Strength Test	Heat Seal Type : 35 ~ 90g	Heat Seal Type : 35 ~ 90g Min : 36.7g / Max : 50.0g	Pass
Bending & Twist Test	No damage & delamination	No abnormality	Pass
ESD Check	E-pak : $1 \times 10^4 \sim 1 \times 10^{10}$ ohms	Within $1 \times 10^4 \sim 1 \times 10^{10}$ ohms	Pass

Qual vehicle: WLCSP-54



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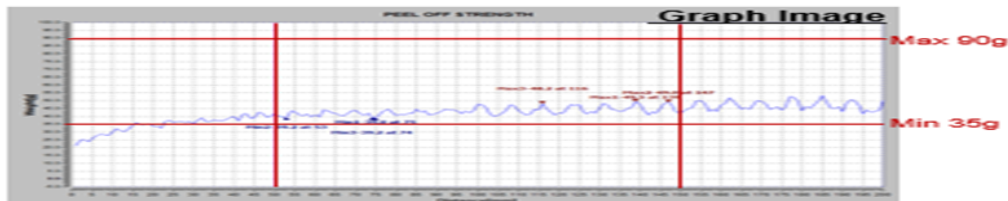
Sealing & Peeling Quality : Pass

Item	E-pak eH52 (Heat Seal Type)	Result
Sealing Image		Pass
		
Peeling Image		Pass
		

Peel Strength Test : Pass

- ✓ Result(gram) Spec
- Heat Seal Type : 35 ~ 90g

Sample	E-pak eH52 (Heat Seal Type)			Pass/Fail
	Min	Max	Range (Max-Min)	
1	39.0	49.5	10.5	Pass
2	39.2	49.0	9.8	Pass
3	39.2	48.2	9	Pass
4	38.6	47.7	9.1	Pass
5	38.6	46.2	7.6	Pass
6	37.6	45.9	8.3	Pass
7	36.7	48.5	11.8	Pass
8	36.9	45.1	8.2	Pass
9	37.2	44.9	7.7	Pass
10	38.4	49.7	11.3	Pass
Average	38.14	47.47	9.33	Pass





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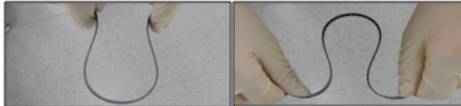
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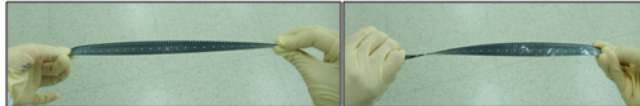
Bending & Twist Test : Pass

✓ Based on the visual inspection Image, new cover tape does not delaminate from the carrier tape.

※Test Procedure : Twist and bend the cover tape at 10 times like below (S/S : 5samples)



[Bending Test]



[Twist Test]

✓ Visual Inspection Image

Item	E-pak_eH52 (Heat Seal Type)
Bending & Twist Image	
Result	Pass(0/10)

Result

Item	Description	Measuring Instrument	Spec.	1	2	3	4	5
S.R	Surface Resistivity (Ohms/sq)	SRM-110	$1.0 \times 10^5 \sim 1.0 \times 10^{11}$	1.0×10^{10}	1.0×10^{10}	1.0×10^9	1.0×10^9	1.0×10^{10}
	Surface Resistance (Ohms)	PRS-801	$1.0 \times 10^4 \sim 1.0 \times 10^{10}$	4.8×10^9	1.1×10^9	3.5×10^9	5.6×10^9	6.1×10^9
RESULTS				ACC	ACC	ACC	ACC	ACC
The measure condition require: $23 \pm 2^\circ\text{C}$ $60 \pm 5\%$								

- ✓ Vendor : EPAK
- ✓ Cover tape : eH52-9.30-300-YB1
- ✓ Criteria : $1 \times 10^4 \sim 1 \times 10^{10}$ ohms
- ✓ Result : Passed



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ATTACHMENT II - PCN #: TB1711-03

Affected Part Numbers

Part Number	Part Number	Part Number	Part Number
P9220-0AHG18	P9221-2AHG18	P9221-RAHG18	P9222-1AZG18
P9220B-0AHG18	P9221-4AHG18	P9221-RP1AHG18	P9223-1AHG18
P9220-BAHG18	P9221-6AHG18	P9221S-0AHG18	P9223-DAHG18
P9220-RAHG18	P9221-9AHG18	P9221S-2AHG18	P9225-R0AHG18
P9220S-0AHG18	P9221-R0AHG18	P9221S-4AHG18	P9270-0AZG18
P9221-0AHG18	P9221-R1AHG18	P9222-0AZG18	P9320S-1AHG18



e.PAK COVER TAPE TECHNICAL DATA SHEET

Material Code: YB1

Description: YB1 is transparent polyester film and coated with antistatic heat activated type adhesives. Available in variety of widths to accommodate any application.

Composition: Polyester film with antistatic heat activated type adhesive

<u>MECHANICAL</u>	<u>ASTM</u>	<u>AVERAGE VALUE</u>
Material thickness	JIS Z 0237 1991	$0.052 \pm 0.005\text{mm}$
Tensile Strength		$> 1.7\text{Kg}/10\text{mm}$
Elongation		$> 75\%$

ELECTRICAL

Surface Resistivity	D-257	$1 \times 10^4 \sim 1 \times 10^{10}$ ohms
The measure condition require:	$23 \pm 2^\circ\text{C}$	$60 \pm 5\%$

TRANSMISSIBLE

Luminous Transmittance	D-1003	$89.7 \pm 5\%$
Haze	D-1003	$25 \pm 5\%$

● Values presented are typical laboratory data.