



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

### PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1205-01**            Date: June 11, 2012  
Product Affected: SSOP-28  
  (Green)  
  
Date Effective: September 11, 2012

MEANS OF DISTINGUISHING CHANGED DEVICES:  
 Product Mark            Lot # will have "MM" or "MS" prefix for Carsem  
 Back Mark                 Malaysia and suffix "Y" to denote Copper bonding  
 Date Code                 wire  
 Other

Contact: Bimla Paul  
Title: Product Quality Assurance            Attachment:  Yes             No  
Phone #: (408) 574-6419  
Fax #: (408) 284-8362                                 Samples: Samples are available now.  
E-mail: [Bimla.Paul@idt.com](mailto:Bimla.Paul@idt.com)

**DESCRIPTION AND PURPOSE OF CHANGE:**

- |  |   |
|--|---|
| <input type="checkbox"/> Die Technology                | This notification is to advise our customers of the following:<br><br>1. To add Cu wire as qualified wire bond material at currently qualified subcons ATP and PTU<br>2. To add Carsem, Malaysia as an alternate assembly location for Au and Cu bond wire<br><br>Please refer to Attachment 1 for the qualification summary and material set details.<br>Please refer to Attachment 2 for affected part# list. |
| <input type="checkbox"/> Wafer Fabrication Process     |   |
| <input type="checkbox"/> Assembly Process              |   |
| <input type="checkbox"/> Equipment                     |   |
| <input checked="" type="checkbox"/> Material           |   |
| <input type="checkbox"/> Testing                       |   |
| <input checked="" type="checkbox"/> Manufacturing Site |   |

**RELIABILITY/QUALIFICATION SUMMARY:**

Qualification has been successfully completed. There is no change in MSL rating.

**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: \_\_\_\_\_



## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT 1 - PCN # : A1205-01

**PCN Type:** Alternate Assembly Location & Gold Wire to Copper Wire

**Data Sheet Change:** N/A

**Detail Of Change:**

This notification is to advise our customers of the following:

1. To add Cu wire as qualified wire bond material at currently qualified subcons ATP and PTU
2. To add Carsem, Malaysia as an alternate assembly location for Au and Cu bond wire

The material set details of the current Assembly location of this package is shown in the tables below. The die attach, mold compound and bonding wire used at Carsem Malaysia are qualified IDT materials. There is no change from the existing qualified lead frame material and lead finish for this alternate assembly site.

SSOP-28 - Qualified Material Sets, by Assembly Subcontractor

Material Set / Assembly	ATP - Amkor, Philippines	PTU - Unisem Batam, Indonesia	Carsem, Malaysia
Die Attach	Ablestik 8290	CRM1076NS	Henkel QMI519
Bonding Wire	Gold, Copper	Gold, Copper	Gold, Copper
Mold Compound	EME G600	EME G600	CEL8240



## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT 1 - PCN # : A1205-01

#### Qualification Information and Qualification Data:

**Affected Packages:** SSOP-28 (Green)

**Assembly Material:** The affected package type is using the respective subcon standard materials as shown on page 1 of this attachment. Qualification testing was completed on the worse case package.

**Qual Plan & Results:** Tests are in accordance with JEDEC47 recommended tests

#### (i) Cu Wire Qualification Data: Carsem Malaysia

**Qualification Vehicle: IDT Part# 90E22PYGI (SSOP-28)**

Test Description	Test Method	Lot Code / Wire Type		
		Lot 1	Lot 2	Lot 3
		Rej / SS	Rej / SS	Rej / SS
<sup>1</sup> HAST - biased (130 °C/85% RH, 96 Hrs)	JESD22-A110	0 / 25	0 / 25	0 / 25
<sup>1</sup> Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0 / 77	0 / 77	0 / 77
High Temperature Storage Test (150°C, 1000 hours)	JESD22-A103	0 / 77	0 / 77	0 / 77
Ball Shear Test	JESD22-B116	0 / 5	0 / 5	0 / 5
Bond Pull Test	MIL-STD-883, M 2011	0 / 5	0 / 5	0 / 5
X-ray Examination	MIL-STD-883, M 2015	0 / 45	0 / 45	0 / 45

Notes: 1. HAST and Temperature Cycle were subjected to Preconditioning per JESD22-A113 for MSL 1.



**PRODUCT/PROCESS CHANGE NOTICE (PCN)**

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**Qualification Information and Qualification Data:**

**(ii) Cu Wire Qualification Data: ATP**

**Qualification Vehicle: IDT Part# 9LPRS419DFLF (SSOP-56)**

Test Description	Test Method	Lot Code / Wire Type		
		Lot 1	Lot 2	Lot 3
		Rej / SS	Rej / SS	Rej / SS
<sup>1</sup> HAST - biased (130 °C/85% RH, 96 Hrs)	JESD22-A110	0 / 45	0 / 45	0 / 45
<sup>1</sup> Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0 / 45	0 / 45	0 / 45
High Temperature Storage Test (150°C, 1000 hours)	JESD22-A103	0 / 77	0 / 77	0 / 77
Ball Shear Test	JESD22-B116	0 / 5	0 / 5	0 / 5
Bond Pull Test	MIL-STD-883, M 2011	0 / 5	0 / 5	0 / 5
X-ray Examination	MIL-STD-883, M 2015	0 / 45	0 / 45	0 / 45

Notes: 1. HAST and Temperature Cycle were subjected to Preconditioning per JESD22-A113 for MSL 1.

**(iii) Cu Wire Qualification Data: PTU**

**Qualification Vehicle: IDT Part# 9LP505-2HZ (SSOP-56)**

Test Description	Test Method	Lot Code / Wire Type		
		Lot 1	Lot 2	Lot 3
		Rej / SS	Rej / SS	Rej / SS
<sup>1</sup> HAST - biased (130 °C/85% RH, 96 Hrs)	JESD22-A110	0 / 45	0 / 45	0 / 45
<sup>1</sup> Temperature Cycling (-55°C to 125°C, 700 cycles)	JESD22-A104	0 / 45	0 / 45	0 / 45
High Temperature Storage Test (150°C, 1000 hours)	JESD22-A103	0 / 77	0 / 77	0 / 77
Ball Shear Test	JESD22-B116	0 / 5	0 / 5	0 / 5
Bond Pull Test	MIL-STD-883, M 2011	0 / 5	0 / 5	0 / 5
X-ray Examination	MIL-STD-883, M 2015	0 / 45	0 / 45	0 / 45

Notes: 1. HAST and Temperature Cycle were subjected to Preconditioning per JESD22-A113 for MSL 1.

**Product Electrical Characterization:**

Product electrical characterization has been successfully completed on the representative product in the family and copper wire performance was comparable to gold wire performance.



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT 2 - PCN # : A1205-01

#### Affected Part Number

Part Number	Part Number	Part Number	Part Number
90E21PYGI	90E22PYGI8	90E24PYGI	SWF2L23APYGI8
90E21PYGI8	90E23PYGI	90E24PYGI8	
90E22PYGI	90E23PYGI8	SWF2L23APYGI	