



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: <b>A-0603-02</b>	DATE: <b>21-Mar-2006</b>	MEANS OF DISTINGUISHING CHANGED DEVICES:	
Product Affected: VFQFP-N packages (See attached affected part # list)		<input type="checkbox"/> Product Mark	Lot # will have:
		<input checked="" type="checkbox"/> Back Mark	"M" prefix for Carsem-Malaysia
		<input type="checkbox"/> Date Code	"N" prefix for Carsem-China
Date Effective: <b>19-Jun-2006</b>		<input type="checkbox"/> Other	

Contact: Geoffrey Cortes	Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Title: Product Quality Assurance	
Phone #: (408) 284-8321	
Fax #: (408) 284-1450	Samples: Please contact your local sales representative for sample request & availability.
E-mail: <a href="mailto:Geoffrey.Cortes@idt.com">Geoffrey.Cortes@idt.com</a>	

**DESCRIPTION AND PURPOSE OF CHANGE:**

<input type="checkbox"/> Die Technology <input type="checkbox"/> Wafer Fabrication Process <input type="checkbox"/> Assembly Process <input type="checkbox"/> Equipment <input type="checkbox"/> Material <input type="checkbox"/> Testing <input checked="" type="checkbox"/> Manufacturing Site <input type="checkbox"/> Data Sheet <input type="checkbox"/> Other	<p>This notification is to advise our customers that IDT has qualified CARSEM-Malaysia and CARSEM-China as alternate assembly facilities for VFQFP-N standard and green packages. There is no change to the moisture performance of the package as a result of this change.</p> <p>Please see attached for the qualification data and affected part number list.</p>
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**RELIABILITY/QUALIFICATION SUMMARY:**

There is no expected change to the product quality or reliability performance.

**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: _____	<input type="checkbox"/> <i>Approval for shipments prior to effective date.</i>
Name/Date: _____	E-Mail Address: _____
Title: _____	Phone# /Fax# : _____

**CUSTOMER COMMENTS:**

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**IDT ACKNOWLEDGMENT OF RECEIPT:**

RECD. BY: \_\_\_\_\_ DATE: \_\_\_\_\_



## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN # : A-0603-02

**PCN Type:** Manufacturing Site - Alternate Assembly Location  
**Data Sheet Change:** None  
 No change in moisture sensitivity level (MSL)

**Detail Of Change:**

This notification is to advise our customers that IDT has qualified CARSEM-Malaysia and CARSEM-China as alternate assembly facilities for VFQFP-N standard and green packages using assembly material set as listed in Table 1.

There is no change in the moisture sensitivity level (MSL) as a result of this change.

Attachment I outlines the qualification data  
 Attachment II shows the affected part number list

Table 1

Description	Existing	Add
Assembly Location	ASAT-Hong Kong, ASAT-China	CARSEM-Malaysia, CARSEM-China
Assembly Material	Ablestik 2200 (DA), HA6 1.0mil Au (Wire), EME-G770 (MC), Copper leadframe, Sn/Pb plating (standard package) and matte 100% Sn plating (green package)	QMI519 (DA), GMG-S 1.0mil Au (Wire), EME-G770 (MC), Copper leadframe, Sn/Pb plating (standard package) and matte 100% Sn plating (green package)

**Sample Availability:**

Samples are already available for customer evaluations, but may not be available for all affected devices.

Please contact your local IDT sales representative for your sample request and availability.



## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN # : A-0603-02

#### A) CARSEM-Malaysia

##### Qualification Test Results:

Test Vehicles: **56L 8x8 mm VFQFP-N (total of 3 assembly lots)**

Test Description	Test Method	Sample Size / # of Fails	Test Results (SS/Rej)
* Temperature Cycling (Cond C, 1000 cycles)	JESD22-A104-B	45/0	45/0
* Autoclave (121°C, Saturated Steam, 168 hours)	JESD22-A102-C	45/0	45/0
High Temperature Stabilization Bake (150 °C, 1000 hours)	JESD22-A103-C	77/0	77/0

**Notes:** \* Test requires moisture pre-conditioning sequence per JESD22-A113C.

Test Vehicles: **56L 8x8 mm VFQFP-N (total of 3 assembly lots)**

Test Description	Test Method	Sample Size / # of Fails	Test Results (SS/Rej)
Moisture Sensitivity Classification, L3	J-STD-020B	90/0	90/0
Internal Visual Inspection	MIL-STD-883, M2010	5/0	5/0
External Visual Inspection	JESD22-B101	25/0	25/0
X-ray Examination	MIL-STD-883, M2015	45/0	25/0
Bond Pull Test	MIL-STD-883, M2011	5/0	5/0
Resistance To Solvents	JESD22-B107C	3/0	3/0
Solderability Test	JESD22-B102D	5/0	5/0
Bake & Ball Shear Strength	JESD22-B116	5/0	5/0
Physical Dimensions	JESD22-B100-B	5/0	5/0
Die Shear Strength	MIL-STD-883, M2019	5/0	5/0

##### Tin Whisker Evaluation Test Results

Test Vehicles: **48L 7x7 mm VFQFP-N**

Test Description	Test Condition	Test Duration	Spec Limits	Test Results (SS/Rej)
Storage Test	25°C/30% - 80% RH	0, 1000, 2000 hours	40µm max.	9/0
Aging	60°C / 90% RH	0, 1000, 2000 hours	40µm max.	9/0
Temperature Cycling	-55°C to +85°C	0, 500 cycles	40µm max.	9/0



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

**ATTACHMENT I - PCN # : A-0603-02**

**B) CARSEM-China**

Qualification Test Results:

Test Vehicles: **48L 7x7 mm VFQFP-N (total of 3 assembly lots)**

Test Description	Test Method	Sample Size / # of Fails	Test Results (SS/Rej)
* Temperature Cycling (Cond C, 1000 cycles)	JESD22-A104-B	45/0	45/0
* Autoclave (121°C, Saturated Steam, 168 hours)	JESD22-A102-C	45/0	45/0
High Temperature Stabilization Bake (150 °C, 1000 hours)	JESD22-A103-C	77/0	77/0

**Notes:** \* Test requires moisture pre-conditioning sequence per JESD22-A113C.

Test Vehicles: **48L 7x7 mm VFQFP-N (total of 3 assembly lots)**

Test Description	Test Method	Sample Size / # of Fails	Test Results (SS/Rej)
Moisture Sensitivity Classification, L3	J-STD-020B	90/0	90/0
Internal Visual Inspection	MIL-STD-883, M2010	5/0	5/0
External Visual Inspection	JESD22-B101	25/0	25/0
X-ray Examination	MIL-STD-883, M2015	45/0	25/0
Bond Pull Test	MIL-STD-883, M2011	5/0	5/0
Resistance To Solvents	JESD22-B107C	3/0	3/0
Solderability Test	JESD22-B102D	5/0	5/0
Bake & Ball Shear Strength	JESD22-B116	5/0	5/0
Physical Dimensions	JESD22-B100-B	5/0	5/0
Die Shear Strength	MIL-STD-883, M2019	5/0	5/0

Tin Whisker Evaluation Test Results

Test Vehicles: **48L 7x7 mm VFQFP-N**

Test Description	Test Condition	Test Duration	Spec Limits	Test Results (SS/Rej)
Storage Test	25°C/30% - 80% RH	0, 1000, 2000 hours	40µm max.	9/0
Aging	60°C / 90% RH	0, 1000, 2000 hours	40µm max.	9/0
Temperature Cycling	-55°C to +85°C	0, 500 cycles	40µm max.	9/0



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT II - PCN #: A-0603-02

#### Affected Part Number

IDT Part Number	IDT Part Number	IDT Part Number	IDT Part Number
IDT5T2010NLGI	IDT5T93GL06NLI	IDT5T9890NLGI	IDTCSPT857CNLG
IDT5T2010NLI	IDT5T93GL10NLGI	IDT5T9890NLI	IDTCSPT857DNLG
IDT5T2110NLGI	IDT5T93GL10NLI	IDT5T9891NLGI	IDTCSPU877ANLG
IDT5T2110NLI	IDT5T93GL16NLGI	IDT5T9891NLI	IDTCSPU877DNLG
IDT5T929-10NLGI	IDT5T93GL16NLI	IDT5V2305NRI	IDTCV145NLG
IDT5T929-10NLI	IDT5T940-10NLGI	IDT5V2310NRI	IDTCV150NLG
IDT5T929-30NLGI	IDT5T940-10NLI	IDT5V9885KNLGI	IDTCV153NLG
IDT5T929-30NLI	IDT5T940-30NLI	IDT5V9885NLGI	IDTCV155NLG
IDT5T9306NLI	IDT5T9820NLGI	IDT74SSTV16859NLG	IDTCV164NLG
IDT5T9310NLI	IDT5T9820NLI	IDT74SSTVF16859NLG	IDTCV168NLG
IDT5T9316NLI	IDT5T9821NLGI	IDT74SSTVN16859CNLG	IDTCV169NLG
IDT5T93GL06NLGI	IDT5T9821NLI	IDT74SSTVN16859NLG	IDTCV171NLG