Integrated Device Technology, Inc.
2975 Stender Way, Santa Clara, CA - 95054

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **SR-0408-02** DATE: 8/18/2004
Product Affected: TSOP28 (PZ28) package

Date Effective: 11/17/2004

MEANS OF DISTINGUISHING CHANGED DEVICES:
- ☐ Product Mark
- ☒ Back Mark — Lot Number will have "R" prefix
- ☐ Date Code
- ☐ Other

Contact: Geoffrey Cortes
Title: Manager, Corporate Quality & Reliability
Phone #: (408) 492-8321
Fax #: (408) 727-2328
E-mail: Geoffrey.Cortes@idt.com

Attachment: ☒ Yes ☐ No

Samples: See attachment

DESCRIPTION AND PURPOSE OF CHANGE:
- ☐ Die Technology
- ☐ Wafer Fabrication Process
- ☐ Assembly Process
- ☐ Equipment
- ☒ Material
- ☐ Testing
- ☒ Manufacturing Site
- ☐ Data Sheet
- ☐ Other

To qualify ASE-Taiwan as an alternate assembly facility for TSOP (PZ28) package and addition of new die attach material Sumitomo CRM-1076DS. This notification is to advise our customer of qualification and addition of new assembly material and alternate assembly facility. Please see attachment for qualification data and additional details.

RELIABILITY/QUALIFICATION SUMMARY:

Please see attached reliability qualification data.

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: ______________

Integrated Device Technology, Inc.
2975 Stender Way, Santa Clara, CA - 95054

PRODUCT/PROCESS CHANGE NOTICE (PCN)

ATTACHMENT - PCN #: SR-0408-02

PCN Type: Manufacturing Site and Assembly Material change.

Data Sheet Change: There is no change in Moisture Sensitive Level.

Detail Of Change: To qualify ASE-Taiwan as an alternate assembly facility for TSOP (PZ28) package and addition of new die attach material Sumitomo CRM-1076DS. The successful completion of this qualification will improve IDT's support of current and future production needs for TSOP (PZ28) package. There is no change in Moisture Sensitive Level (MSL). Products will be shipped at the existing MSL and each shipment is labeled with the correct MSL. Please refer to the label on each shipment for MSL information.

Description	Manufacturing Site	
	Existing	Add
Assembly Location	ChipPac - Shanghai	ASE-Taiwan
Assembly Material	Ablestik - 3230 Copper leadframe	Sumitomo CRM -1076DS Alloy 42 leadframe

The affected part #s are:

IDT71256SA12PZ	IDT71256SA20PZI	IDT71V256SA12PZ
IDT71256SA12PZI	IDT71256SA25PZ	IDT71V256SA12PZI
IDT71256SA15PZ	IDT71256SA25PZI	IDT71V256SA15PZ
IDT71256SA15PZI	IDT71V256SA10PZ	IDT71V256SA15PZI
IDT71256SA20PZ	IDT71V256SA10PZI	IDT71V256SA20PZI

Note: For T & R (shipping method) "8" is added to the p/n and for industrial grade "I" is added to the part number.

Samples are not built ahead of the change and are limited to selective devices. Please contact your local field sales representative for sample availability and additional information.

Integrated Device Technology, Inc.
2975 Stender Way, Santa Clara, CA - 95054

PRODUCT/PROCESS CHANGE NOTICE (PCN)

ATTACHMENT - PCN #: SR-0408-02

Qualification Plan #: P04-02-06

Test Vehicle: IDT71V256

Qualification Test Plan and Results:

Test Description	Test Method	Sample Size / # of Fails	Test Results
* High Accelerated Stress Test (Biased, 130 °C/85% RH, 100 Hrs)	JESD22-A110-B	45/0	45/0
* Temperature Cycling (-65 °C to 150 °C, 500 cycle)	JESD22-A104-B	45/0	45/0
* Auto Clave (121 °C, 2 ATM, 168 Hrs)	JESD22-A102-C	45/0	45/0
Life Test (125 °C, 1000 Hrs)	JESD22-A108-B	77/0	77/0
Moisture Sensitivity Classification	J-STD-020B	90/0	90/0
Internal Visual Inspection	MIL-STD-883 Method - 2010	5/0	5/0
External Visual Inspection	JESD22-B101	25/0	25/0
X-ray Examination	MIL-STD-883 Method - 2015	45/0	45/0
Bond Pull Test	MIL-STD-883 Method - 2011	5/0	5/0
Lead Integrity Test	JESD22-B105C	3/0	3/0
Adhesion of Lead Finish	MIL-STD-883 Method - 2025	3/0	3/0
Resistance to Solvents	JESD22-B107	3/0	3/0
Solderability Test	JESD22-B102-C J-STD-002	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 Method - 2019	5/0	5/0

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

Electrical Conductive Die Attach Paste

"SUMIRESIN EXCEL" CRM-1076DS

Characteristics

Good Adhesion, Low Stress and High Reliability
Better Dispensability Silver Paste with Oven Cure

Properties

item		unit	CRM-1076DS	Test Method
Appearance		-	Silver Color	
Specific Gravity		-	3.5	
Viscosity		PS (Pa·s)	200 (20.0)	E-type Viscometer
Thixotropic Index*1		-	3.2	E-type Viscometer
Tack Free Time		hr	24	SB Method
Ag content		wt%	75	
Ionics *2	Na	ppm	2	Ion Chromatography
	Cl	ppm	12	Ion Chromatography
Volume Resistivity		Ω-cm	$4x10^{-4}$	SB Method
Die Shear Strength (2x2mm)	RT	gf/2x2mm (N/2x2mm)	2000<	Tension Gauge
	@250C	gf/2x2mm (N/2x2mm)	2500	Tension Gauge
	@350C	gf/2x2mm (N/2x2mm)	1400	Tension Gauge
Elastic Modulus		kgf/mm^2 (MPa)	500 (4900)	Tensile Test
Room Temperature		kgf/mm^2 (MPa)	1000 (9900)	DMS
@250 C		kgf/mm^2 (MPa)	55 (550)	DMS
Tg		C	110	TMA
CTE	α_1	ppm	30	TMA
	α_2	ppm	70	TMA
Wt Loss	@ 175C	%	1.4	TGA
	After Cure	%	1.63	TGA
Moisture Absorption *3		%	0.2	SB Method
Thermal Conductivity		W/m·K	1.5	Laser-Flash Method

＊1 Viscosity ratio of 0.5rpm/2.5rpm (by E-Type Viscometer)
＊2 PCT 125C,20hrs
＊3 85C、85RH%、72hrs
(Typical Value)

Application

Dispense, Line-draw, Screen Printing, Stamping

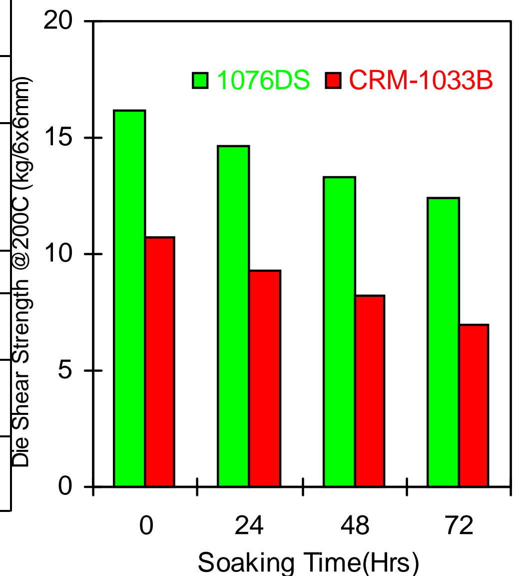
Typical Cure Condition

20min/175C in Oven
60min/120C in Oven

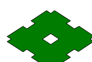
Storage Condition

- Shelf Life : **6 Months**
  Store below **-15C**
- Thawing Condition : **1hr/RT**
  (5 or 10cc Syringe)
- Pot Life@25C : **48hrs**
  Use Up Within 48hrs
  After Thawing

Adhesion after Moisture



Moisture Condition : 85C 85%RH



SUMITOMO BAKELITE CO.,LTD.

prepared in Oct. 2000