



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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: A-0602-03 Product Affected: Products built in 256L, 17 mm CABGA. Refer to attached list for the affected part numbers. Date Effective: 6-Jun-2006	DATE: 8-Mar-2006	MEANS OF DISTINGUISHING CHANGED DEVICES: <input type="checkbox"/> Product Mark Assembly lot marked on the <input type="checkbox"/> Back Mark device provides traceability to <input type="checkbox"/> Date Code the mold compound type <input checked="" type="checkbox"/> Other
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Contact: Geoffrey Cortes Title: Product Quality Phone #: (408) 284-8321 Fax #: (408) 284-1450 E-mail: Geoffrey.Cortes@idt.com	Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Samples: See attachment
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DESCRIPTION AND PURPOSE OF CHANGE:

<input type="checkbox"/> Die Technology	
<input type="checkbox"/> Wafer Fabrication Process	
<input type="checkbox"/> Assembly Process	Integrated Device Technology, Inc. (IDT) has successfully completed the qualification of Shinetsu KMC3580 mold compound .The addition of the new compound will provide an alternate source supply for an environmentally friendly (green) mold compound. There is no change to the moisture performance for this package family as a result of this change.
<input type="checkbox"/> Equipment	
<input checked="" type="checkbox"/> Material	
<input type="checkbox"/> Testing	
<input type="checkbox"/> Manufacturing Site	
<input type="checkbox"/> Data Sheet	Please see attachment for qualification data and affected part number list.
<input type="checkbox"/> Other	

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

CUSTOMER COMMENTS: _____

IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: _____ DATE: _____



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ATTACHMENT - PCN #: A-0602-03

PCN Type: Assembly Material Change

Data Sheet Change: None

Detail Of Change: Integrated Device Technology, Inc. (IDT) is pleased to announce the completion of the qualification of a new mold compound for CABGA products. The successful qualification of Shinetsu KMC3580 mold compound provides an alternate source supply for an environmentally friendly (green) mold compound. The die attached material will remain the same. The successful completion of this qualification has improved IDT's support in providing a continuous supply of products capable of meeting the Pb-Free reflow temperatures using an environmentally friendly mold compound. There is no change to the Moisture Sensitive Level (MSL) and performance for this package family as a result of this change. Customer should not be adversely impacted by this change.

Assembly Material: See table below.

Description	Affected Package Types	Material	
		Existing	Add
Mold Compound Material	256L, 17 mm CABGA	Sumitomo EME-G770 series	Shinetsu KMC3580 series

Please see attachment for affected part #s (Appendix - 1).

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



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Qualification Plan #: P05-12-02

Test Vehicle: 70V659Z (256L, 17mm CABGA)

Qualification Test Plan and Results:

Test Description	Test Method (Latest specs in effect)	Sample Size / # of Fails	Test Results
* Temperature Cycling (-65 °C to 150 °C, 500 cycle)	JESD22-A104	45/0	45/0
* Highly Accelerated Stress Test, HAST (130 °C / 85% RH, 100 Hrs)	JESD22-A102	45/0	45/0
High Temperature Stotage, HTS (150 °C, 1000 Hrs)	JESD22-A108	77/0	77/0
Moisture Sensitivity Classification, L3	J-STD-020	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
Resistance To Solvents	JESD22-B107	3/0	3/0
Bake & Ball Shear Strength	JESD22-B116	5/0	5/0
Physical Dimensions	JESD22-B100	5/0	5/0

Note: * Test require moisture pre-conditioning sequence per JESD22-A113C.



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Appendix - 1

Affected Part Number

IDT75N43102S50BC
IDT75N43102S50BCG
IDT75N43102S50BCGI
IDT75N43102S50BCI
IDT75N43102S62BC
IDT75N43102S62BCG

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

SUMITOMO BAKELITE SUMIKON[®]

EME-G770

MULTI-AROMATIC RESIN
Br/Sb FREE
FOR Pb FREE PKG
LOW WARPAGE

EME-G770

TYPICAL PROPERTIES:

<u>ITEM</u>	<u>TEST METHOD</u>	<u>UNIT</u>	<u>VALUES</u>
SPIRAL FLOW	SB-U-03-003	cm	110
GEL TIME (at 175°C)	SB-U-03-005	sec	32
THERMAL EXPANSION α_1	SB-U-02-002	$\times 10^{-5} 1/^\circ\text{C}$	0.8
THERMAL EXPANSION α_2	SB-U-02-002	$\times 10^{-5} 1/^\circ\text{C}$	3.7
T _g	SB-U-02-002	°C	130
THERMAL CONDUCTIVITY	SB-U-02-004	W/m •°C	96×10^{-2}
FLEXURAL STRENGTH	SB-U-01-001	N/mm ²	
(at 25°C)			170
(at 240°C)			17
FLEXURAL MODULUS	SB-U-01-002	$\times 10^2 \text{ N/mm}^2$	
(at 25°C)			260
(at 240°C)			6.0
SPECIFIC GRAVITY	SB-U-03-018	-----	2.01
VOLUME RESISTIVITY	SB-U-00-004	$\Omega \cdot \text{cm}$	1×10^{12}
(at 150°C)			
UL FLAME CLASS	SB-U-03-003	UL-94	V-0
WATER ABSORPTION	SB-U-03-002	% weight gain	0.15
(boiling, 24 h)			
EXTRACTED Na ⁺	SB-U-04-043	ppm	1
EXTRACTED Cl ⁻	SB-U-04-043	ppm	5

TYPICAL, NOT GUARANTEED PROPERTIES

MOLDING AND POST MOLD CURE CONDITIONS:

	<u>STANDARD</u>	<u>RANGE</u>
TRANSFER PRESSURE	$80 \times 10^5 \text{ Pa}$	$70-120 \times 10^5 \text{ Pa}$
MOLD TEMPERATURE	180°C	175-185°C
CURE TIME (C or A)#	A/90 sec	70-120 sec
POST-MOLD CURE TEMP	175°C	170-180°C
POST-MOLD CURE TIME	6 h	4-8 h

#Conventional or Auto

rev. Feb. '03

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SUMITOMO BAKELITE CO., LTD.

Tennoz Parkside Building, 5-8 Higashi-Shinagawa, 2-Chome Shinagawa-ku, Tokyo 140, Japan.

Typical properties of KMC-3580L

Grade		KMC3580
Feature		Low viscosity type
Filler Content		88wt%
Top cut size		75um
Epoxy		MAR
Hardener		MAR
Latent catalyst		-
Spiral flow(175C)	cm	100
Melt viscosity(175C)	Pa.s	9
Gelation time(175C)	sec	18
Hot hardness(175C/90x)		60
Specific density		2.01
Flexular strength	N/mm2	160
Flexular modulus	N/mm2	23,500
Tg	C	125
CCTE1(35-65C)	ppm	9
CTE2(190-240C)	ppm	40