

PRODUCT/PROCESS CHANGE NOTICE (PCN)

| PCN #: G-0110-06 REV.1 DATE Product Affected: All applicable plastic pac (except BGA) families Date Effective: 3/15/2002 | | MEANS OF D Product Ma Back Mark Date Code Other | ISTINGUISHING CHANGED DEVICES: rk Alpha suffix "F" in assembly lot number | |
|---|--|---|--|--|
| Contact:Geoffrey CortesTitle:Manager, Corporate Quality & ReliaPhone #:(408) 492-8321Fax #:(408) 727-2328E-mail:Geoffrey.Cortes@idt.com | bility | Attachment:: Samples: | Yes No Sumitomo material datasheet Contact the local IDT sales representative | |
| Assembly Process mat Equipment mat Material fam | will be qualifying erials from Sumito erials as qualified lies. 7.1 This PCN is re | omo. Once qualif materials for all | 7351LP and EME-S351LP mold compound ied, IDT will add these mold compound applicable plastic package (except BGA) all applicable plastic package (except BGA) | |
| RELIABILITY/QUALIFICATION SUMMARY: Qualification testing will verify that there is no change to the product reliability. Qualification data is available upon request. | | | | |
| 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: | Dh | Mail Address: one# /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 #: G-0110-06 REV.1

- **PCN Type:** Mold compound materials, Sumitomo EME-7351LP and EME-S351LP.
- Data Sheet Change: No

Detail Of Change: This change will be implemented on all applicable plastic package (except BGA) families.

| Description | From | То |
|---------------|--|--------------------------------------|
| Mold Compound | Shinetsu KMC 182-9 KMC 184 KMC184VA | Sumitomo EME-7351LP EME-S351LP |
| | Sumitomo 6300 Sumitomo 7320 series | |

Conversion schedule (Estimated):

Please contact your local field sales representative for sample availability and production shipments.



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Qualification Plan: Following reliability tests will be performed per package family Qualification data is available upon request.

| | Test Methods | Sample size /# Fails |
|--|--------------------------|-------------------------|
| Highly Accelerated Stress Test (HAST) (100 Hrs, @130°C/85%RH,Static Bias) | EIA/JESD22-A110 | 45/0 |
| Temperature Cycling, (-65°C to +150°C, 500 cyc) | MIL-STD-883, Method 1010 | 45/0 |
| Life Test, (+125°C, 1000 hrs) | MIL-STD-883, Method 1005 | 77/0 |
| Hi Temp Bake, (+150°C, 1000 hrs) | MIL-STD-883, Method 1008 | 77/0 |
| Auto Clave (SPP), (168Hrs, @ 2ATM, 121°C) | EIA/JESD22-A102 | 45/0 |
| Package Moisture Characterization (Note 1) | JEDEC J-STD-20 | 22/0 |
| Internal Visual Inspection | MIL-STD-883, Method 2010 | 5/0 |
| External Visual Inspection | MIL-STD-883, Method 2009 | 25/0 |
| S.A.T. | JEDEC J-STD-035 | 10/0 |
| X-ray Examination | Per IDT specification | 45/0 |
| Bond Pull Test | MIL-STD-883, Method 2011 | 5/0 |
| Solderability Test | MIL-STD-883, Method 2003 | 5/0 |
| Bake & Ball Shear Test | EIA/JESD22-B116 | 5/0 |
| Physical Dimension | MIL-STD-883, Method 2016 | 5/0 |
| Lead Integrity Test | MIL-STD-883, Method 2004 | 3/0 |
| Resistance to Solvents | MIL-STD-883, Method 2015 | 3/0 |

Note 1: Moisture Characterization will confirm that there is no change to the Moisture Sensitivity Level.

SUMITOMO BAKELITE SUMIKON[®]

EME-7351LP

BI-PHENYL RESIN JEDEC LEVEL 1 LOW CTE LONG SPIRAL FLOW

EME-7351LP

TYPICAL PROPERTIES:

| ITEM | TEST METHOD | <u>UNIT</u> | VALUES |
|---------------------------|-------------|-------------------------|-----------------------------|
| SPIRAL FLOW | SB-U-03-003 | cm | 100 |
| GEL TIME (at 175°C) | SB-U-03-005 | sec | 25 |
| THERMAL EXPANSION ∝1 | SB-U-02-002 | X 10 ⁻⁵ 1/°C | 1.0 |
| THERMAL EXPANSION ∝2 | SB-U-02-002 | X 10 ⁻⁵ 1/°C | 4.2 |
| Tg | SB-U-02-002 | °C | 135 |
| THERMAL CONDUCTIVITY | SB-U-02-004 | W/m ∙°C | 75 x 10 ⁻² |
| FLEXURAL STRENGTH | SB-U-01-001 | N/mm^2 | |
| (at 25°C) | | | 200 |
| (at 240°C) | | | 22 |
| FLEXURAL MODULUS | SB-U-01-002 | $X 10^2 \text{ N/mm}^2$ | |
| (at 25°c) | | | 230 |
| (at 240°C) | | | 7.5 |
| SPECIFIC GRAVITY | SB-U-03-018 | | 1.97 |
| VOLUME RESISTIVITY | SB-U-00-004 | Ω - cm | $1 \ge 10^{13}$ |
| (at 150°c) | | | |
| UL FLAME CLASS | SB-U-03-003 | UL-94 | V-0 |
| WATER ABSORPTION | SB-U-03-002 | % weight gain | 0.17 |
| (boiling, 24 h) | | | |
| EXTRACTED Na ⁺ | SB-U-04-043 | ppm | 1 |
| EXTRACTED CI | SB-U-04-043 | ppm | 10 |
| | | TYPICAL, NOT G | UARANTEED PROPERTIES |

MOLDING AND POST MOLD CURE CONDITIONS:

| | STANDARD | <u>RANGE</u> |
|-----------------------|------------------------|----------------------------|
| TRANSFER PRESSURE | 85 x10 ⁶ Pa | 70-120 x10 ⁶ Pa |
| MOLD TEMPERATURE | 175°C | 165-180°C |
| CURE TIME (C or A)# | A/70 sec | 60-120 sec |
| POST-MOLD CURE TEMP | 175°C | 170-180°C |
| POST-MOLD CURE TIME | 6 h | 4-10h |
| #Conventional or Auto | | |

rev. Nov.'00

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

SUMITOMO BAKELITE SUMIKON[®]

EME-S351LP

BI-PHENYL RESIN JEDEC LEVEL 1 LOW CTE LOW ALPHA RAY

EME-S351LP

TYPICAL PROPERTIES:

| ITEM | TEST METHOD | <u>UNIT</u> | VALUES |
|-------------------------------|-------------|-------------------------|-----------------------|
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| THERMAL EXPANSION ∝1 | SB-U-02-002 | X 10 ⁻⁵ 1/°C | 1.0 |
| THERMAL EXPANSION $\propto 2$ | SB-U-02-002 | X 10 ⁻⁵ 1/°C | 4.2 |
| Tg | SB-U-02-002 | °C | 135 |
| THERMAL CONDUCTIVITY | SB-U-02-004 | W/m ∙°C | 75 x 10 ⁻² |
| FLEXURAL STRENGTH | SB-U-01-001 | N/mm^2 | |
| (at 25°C) | | | 200 |
| (at 240°C) | | | 22 |
| FLEXURAL MODULUS | SB-U-01-002 | $X 10^2 \text{ N/mm}^2$ | |
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| WATER ABSORPTION | SB-U-03-002 | % weight gain | 0.17 |
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