



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

PCN #: **A-0312-02**      DATE: 12/5/2003  
 Product Affected: SSOP package family  
                             (see attachment for affected part #s).  
  
 Date Effective: 3/5/2004

MEANS OF DISTINGUISHING CHANGED DEVICES:  
 Product Mark  
 Back Mark      Lot Number will have "N1" suffix  
 Date Code  
 Other

Contact: Geoffrey Cortes  
 Title: Manager, Corporate Quality & Reliability      Attachment:       Yes       No  
 Phone #: (408) 492-8321  
 Fax #: (408) 727-2328      Samples: See attachment  
 E-mail: [Geoffrey.Cortes@idt.com](mailto:Geoffrey.Cortes@idt.com)

**DESCRIPTION AND PURPOSE OF CHANGE:**

- Die Technology
- Wafer Fabrication Process
- Assembly Process
- Equipment
- Material      IDT has qualified the SSOP (Shrink Small Outline Package) package family using a new die attach material Ablestik 8290. This notification is to advise our customer of qualification and addition of new assembly material. The new die attach material can meet 260°C peak reflow temperature requirements. Please see attachment for qualification data and additional details.
- Testing
- Manufacturing Site
- Data Sheet
- 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: \_\_\_\_\_       ***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 - PCN #: A-0312-02

**PCN Type:** Assembly Material Change

**Data Sheet Change:** None

**Detail Of Change:** A new die attach material has been qualified for SSOP (Shrink Small Outline Package) package family. The successful completion of this qualification has improved IDT's support of current and future production needs for components that meet 260°C peak reflow temperature. 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 for MSL information.

Description	Material	
	Existing	Add
Die Attach Material	Ablestik 8390, Ablestik 84-1LMISR4	Ablestik 8290

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 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 #: A-0312-02

**Qualification Plan #:** P02-11-09

**Test Vehicle:** IDTQS5LV919

**Qualification Test Plan and Results:**

Test Description	Test Method	Test Results IDTQS5LV919 (SS / # of Fails)
* High Accelerated Stress Test (Biased, 130 °C/85% RH, 100 Hrs)	JESD22-A110-B	45/0
* Temperature Cycling (-65 °C to 150 °C, 500 cycle)	JESD22-A104-B	45/0
* Auto Clave (121 °C, 2 ATM, 168 Hrs)	JESD22-A102-C	45/0
High Temp Bake (1000 Hrs @ 150 °C)	JESD22-A103-B	77/0
Moisture Sensitivity Classification	J-STD-020B	90/0
Internal Visual Inspection	MIL-STD-883, M2010	5/0
External Visual Inspection	JESD22-B101	25/0
X-ray Examination	MIL-STD-883, M2015	45/0
Bond Pull Test	MIL-STD-883, M2011	5/0
Resistance to Solvents	JESD22-B107	3/0
Solderability Test	JESD22-B102-C J-STD-002	5/0
Bake & Ball Shear Strength	JESD22-B116	5/0
Physical Dimensions	JESD22-B100-B	5/0
Die Shear Strength	MIL-STD-883, M2019	5/0

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



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT - PCN #: A-0312-02

Appendix - 1

IDT29FCT2052ATQ	IDT49FCT806PY	IDT74CBTLV16245PV	IDT74FCT162240CTPV	IDT74FCT162823CTPV
IDT29FCT2052BTQ	IDT5993A-2Q	IDT74CBTLV16292PV	IDT74FCT162244ATPV	IDT74FCT162827ATPV
IDT29FCT2052CTQ	IDT5993A-5QI	IDT74CBTLV16800PV	IDT74FCT162244CTPV	IDT74FCT162827CTPV
IDT29FCT520ATPY	IDT5993A-7QI	IDT74CBTLV3125Q	IDT74FCT162244ETPV	IDT74FCT162841ATPV
IDT29FCT520ATQ	IDT5V925QI	IDT74CBTLV3126Q	IDT74FCT162245ATPV	IDT74FCT162841CTPV
IDT29FCT520BTPY	IDT5V993A-2Q	IDT74CBTLV3244PY	IDT74FCT162245CTPV	IDT74FCT162952ATPV
IDT29FCT520BTQ	IDT5V993A-5QI	IDT74CBTLV3244Q	IDT74FCT162260ATPV	IDT74FCT162952CTPV
IDT29FCT520CTPY	IDT5V993A-7QI	IDT74CBTLV3245PY	IDT74FCT162260CTPV	IDT74FCT162952ETPV
IDT29FCT520CTQ	IDT72V8980PV	IDT74CBTLV3245Q	IDT74FCT162260ETPV	IDT74FCT162H244ATPV
IDT29FCT52ATPY	IDT72V8985PV	IDT74CBTLV3251PY	IDT74FCT162344ATPV	IDT74FCT162H244CTPV
IDT29FCT52ATQ	IDT74ALVC04PY	IDT74CBTLV3251Q	IDT74FCT162344CTPV	IDT74FCT162H245ATPV
IDT29FCT52BTPY	IDT74ALVC08PY	IDT74CBTLV3253PY	IDT74FCT162344ETPV	IDT74FCT162H245CTPV
IDT29FCT52BTQ	IDT74ALVC125PY	IDT74CBTLV3253Q	IDT74FCT162373ATPV	IDT74FCT162H272ATPV
IDT29FCT52CTPY	IDT74ALVC162244PV	IDT74CBTLV3257PY	IDT74FCT162373CTPV	IDT74FCT162H272CTPV
IDT29FCT52CTQ	IDT74ALVC162245PV	IDT74CBTLV3257Q	IDT74FCT162373ETPV	IDT74FCT162H501ATPV
IDT29FCT52DTPY	IDT74ALVC16244APV	IDT74CBTLV3383PY	IDT74FCT162374ATPV	IDT74FCT162H501CTPV
IDT29FCT52DTQ	IDT74ALVC16245PV	IDT74CBTLV3383Q	IDT74FCT162374CTPV	IDT74FCT162H952ATPV
IDT49FCT20805PYI	IDT74ALVC162836PV	IDT74CBTLV3384PY	IDT74FCT162374ETPV	IDT74FCT162H952CTPV
IDT49FCT20805QI	IDT74ALVC164245PV	IDT74CBTLV3384Q	IDT74FCT16240ATPV	IDT74FCT162H952ETPV
IDT49FCT3805APY	IDT74ALVC244PY	IDT74CBTLV3861PY	IDT74FCT16240CTPV	IDT74FCT163244APV
IDT49FCT3805APYI	IDT74ALVC244Q	IDT74CBTLV3861Q	IDT74FCT16240ETPV	IDT74FCT163244CPV
IDT49FCT3805AQ	IDT74ALVCH162244PV	IDT74CBTLV3862PY	IDT74FCT16244ATPV	IDT74FCT163245APV
IDT49FCT3805AQI	IDT74ALVCH162245PV	IDT74CBTLV3862Q	IDT74FCT16244CTPV	IDT74FCT163245CPV
IDT49FCT3805DPYI	IDT74ALVCH162373PV	IDT74CBTLV6800PY	IDT74FCT16245ATPV	IDT74FCT163344APV
IDT49FCT3805DQI	IDT74ALVCH162374PV	IDT74CBTLV6800Q	IDT74FCT16245CTPV	IDT74FCT163344CPV
IDT49FCT3805EPYI	IDT74ALVCH16244PV	IDT74CBTLVR16292PV	IDT74FCT16245ETPV	IDT74FCT163373APV
IDT49FCT3805EQI	IDT74ALVCH16245PV	IDT74CBTLVR3384PY	IDT74FCT162500ATPV	IDT74FCT163373CPV
IDT49FCT3805PY	IDT74ALVCH16260PV	IDT74CBTLVR3384Q	IDT74FCT162500CTPV	IDT74FCT163374APV
IDT49FCT3805PYI	IDT74ALVCH16270PV	IDT74CBTLVR3861PY	IDT74FCT162501ATPV	IDT74FCT163374CPV
IDT49FCT3805Q	IDT74ALVCH16276PV	IDT74CBTLVR3861Q	IDT74FCT162501CTPV	IDT74FCT163501APV
IDT49FCT3805QI	IDT74ALVCH16373PV	IDT74CBTLVR3862PY	IDT74FCT162511ATPV	IDT74FCT163501CPV
IDT49FCT805APY	IDT74ALVCH16374PV	IDT74CBTLVR3862Q	IDT74FCT162511CTPV	IDT74FCT163543APV
IDT49FCT805APYI	IDT74ALVCH16501PV	IDT74FCT138ATQ	IDT74FCT162543ATPV	IDT74FCT163543CPV
IDT49FCT805BTPY	IDT74ALVCH16601PV	IDT74FCT138CTQ	IDT74FCT162543CTPV	IDT74FCT163646APV
IDT49FCT805BTQ	IDT74ALVCH16646PV	IDT74FCT139ATQ	IDT74FCT16260ATPV	IDT74FCT163646CPV
IDT49FCT805CTPY	IDT74ALVCH16721PV	IDT74FCT139CTQ	IDT74FCT16260CTPV	IDT74FCT16373ATPV
IDT49FCT805CTQ	IDT74ALVCH16903PV	IDT74FCT151ATQ	IDT74FCT16260ETPV	IDT74FCT16373CTPV
IDT49FCT805PY	IDT74ALVCH16952PV	IDT74FCT151CTQ	IDT74FCT162646ATPV	IDT74FCT16374ATPV
IDT49FCT805PYI	IDT74ALVCHR162245PV	IDT74FCT157ATQ	IDT74FCT162646CTPV	IDT74FCT16374CTPV
IDT49FCT806APY	IDT74ALVCHR162269APV	IDT74FCT157CTQ	IDT74FCT162652ATPV	IDT74FCT16374ETPV
IDT49FCT806BTPY	IDT74CBTLV16210PV	IDT74FCT157DTQ	IDT74FCT162652CTPV	IDT74FCT163827APV
IDT49FCT806BTQ	IDT74CBTLV16211PV	IDT74FCT161ATQ	IDT74FCT162701ATPV	IDT74FCT163827CPV
IDT49FCT806CTPY	IDT74CBTLV16212PV	IDT74FCT161CTQ	IDT74FCT162701TPV	IDT74FCT163952APV
IDT49FCT806CTQ	IDT74CBTLV16214PV	IDT74FCT162240ATPV	IDT74FCT162823ATPV	IDT74FCT163952CPV

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



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT - PCN #: A-0312-02

Appendix - 1

IDT74FCT163ATQ	IDT74FCT240ATQ	IDT74FCT3574AQ	IDT74FCT541CTPY	IDT74FCT827CTPY
IDT74FCT163CTQ	IDT74FCT240CTPY	IDT74FCT3574Q	IDT74FCT541CTQ	IDT74FCT827CTQ
IDT74FCT164245TPV	IDT74FCT240CTQ	IDT74FCT373ATPY	IDT74FCT543ATPY	IDT74FCT841ATPY
IDT74FCT16500ATPV	IDT74FCT244ATPY	IDT74FCT373ATQ	IDT74FCT543ATQ	IDT74FCT841ATQ
IDT74FCT16500CTPV	IDT74FCT244ATQ	IDT74FCT373CTPY	IDT74FCT543CTPY	IDT74FCT841CTPY
IDT74FCT16501ATPV	IDT74FCT244CTPY	IDT74FCT373CTQ	IDT74FCT543CTQ	IDT74FCT841CTQ
IDT74FCT16501CTPV	IDT74FCT244CTQ	IDT74FCT374ATPY	IDT74FCT543DTPY	IDT74FCT88915TT100PY
IDT74FCT16543ATPV	IDT74FCT245ATPY	IDT74FCT374ATQ	IDT74FCT543DTQ	IDT74FCT88915TT133PY
IDT74FCT16543CTPV	IDT74FCT245ATQ	IDT74FCT374CTPY	IDT74FCT573ATPY	IDT74FCT88915TT55PY
IDT74FCT16543ETPV	IDT74FCT245CTPY	IDT74FCT374CTQ	IDT74FCT573ATQ	IDT74FCT88915TT70PY
IDT74FCT166244ATPV	IDT74FCT245CTQ	IDT74FCT377ATQ	IDT74FCT573CTPY	IDT74FST163209PV
IDT74FCT166244CTPV	IDT74FCT2541ATQ	IDT74FCT377CTQ	IDT74FCT573CTQ	IDT74FST163212PV
IDT74FCT166245ATPV	IDT74FCT2541CTQ	IDT74FCT377DTQ	IDT74FCT574ATPY	IDT74FST163214PV
IDT74FCT166245TPV	IDT74FCT2543ATQ	IDT74FCT3807APY	IDT74FCT574ATQ	IDT74FST163232PV
IDT74FCT16646ATPV	IDT74FCT2543CTQ	IDT74FCT3807APYI	IDT74FCT574CTPY	IDT74FST163233PV
IDT74FCT16646CTPV	IDT74FCT2573ATQ	IDT74FCT3807AQ	IDT74FCT574CTQ	IDT74FST163244PV
IDT74FCT16646ETPV	IDT74FCT2573CTQ	IDT74FCT3807AQI	IDT74FCT646ATPY	IDT74FST163245PV
IDT74FCT16652ATPV	IDT74FCT2574ATQ	IDT74FCT3807DPYI	IDT74FCT646ATQ	IDT74FST32XL384PV
IDT74FCT16652CTPV	IDT74FCT2574CTQ	IDT74FCT3807DQI	IDT74FCT646CTPY	IDT74FST6800Q
IDT74FCT16823ATPV	IDT74FCT257ATQ	IDT74FCT3807EPYI	IDT74FCT646CTQ	IDT74GTLP16612PV
IDT74FCT16823CTPV	IDT74FCT257CTQ	IDT74FCT3807EQI	IDT74FCT652ATQ	IDT74LVC07APY
IDT74FCT16823ETPV	IDT74FCT257DTQ	IDT74FCT3807PY	IDT74FCT652CTQ	IDT74LVC08APY
IDT74FCT16827ATPV	IDT74FCT2646ATQ	IDT74FCT3807PYI	IDT74FCT807BTPY	IDT74LVC11APY
IDT74FCT16827CTPV	IDT74FCT2646CTQ	IDT74FCT3807Q	IDT74FCT807BTPYI	IDT74LVC125APY
IDT74FCT16841ATPV	IDT74FCT2652ATQ	IDT74FCT3807QI	IDT74FCT807BTQ	IDT74LVC138APY
IDT74FCT16841CTPV	IDT74FCT2652CTQ	IDT74FCT3811PYI	IDT74FCT807BTQI	IDT74LVC138AQ
IDT74FCT16952ATPV	IDT74FCT273ATPY	IDT74FCT3827AQ	IDT74FCT807CTPY	IDT74LVC157APY
IDT74FCT16952CTPV	IDT74FCT273ATQ	IDT74FCT3827BQ	IDT74FCT807CTPYI	IDT74LVC157AQ
IDT74FCT16952ETPV	IDT74FCT273CTPY	IDT74FCT388915T100PY	IDT74FCT807CTQ	IDT74LVC161APY
IDT74FCT20807PYI	IDT74FCT273CTQ	IDT74FCT388915T133PY	IDT74FCT807CTQI	IDT74LVC161AQ
IDT74FCT20807QI	IDT74FCT2827ATQ	IDT74FCT388915T150PY	IDT74FCT810BTPY	IDT74LVC162244APV
IDT74FCT2240ATQ	IDT74FCT2827CTQ	IDT74FCT388915T70PY	IDT74FCT810BTQ	IDT74LVC162245APV
IDT74FCT2240CTQ	IDT74FCT299ATQ	IDT74FCT521ATPY	IDT74FCT810CTPY	IDT74LVC162374APV
IDT74FCT2244ATQ	IDT74FCT299CTQ	IDT74FCT521ATQ	IDT74FCT810CTQ	IDT74LVC16244APV
IDT74FCT2244CTQ	IDT74FCT3244APY	IDT74FCT521CTPY	IDT74FCT821ATPY	IDT74LVC16245APV
IDT74FCT2245ATQ	IDT74FCT3244AQ	IDT74FCT521CTQ	IDT74FCT821ATQ	IDT74LVC16344APV
IDT74FCT2245CTQ	IDT74FCT3244PY	IDT74FCT534ATQ	IDT74FCT821CTPY	IDT74LVC16373APV
IDT74FCT2257ATQ	IDT74FCT3244Q	IDT74FCT534CTQ	IDT74FCT821CTQ	IDT74LVC16374APV
IDT74FCT2257CTQ	IDT74FCT3245APY	IDT74FCT540ATPY	IDT74FCT823ATPY	IDT74LVC16501APV
IDT74FCT2373ATQ	IDT74FCT3245AQ	IDT74FCT540ATQ	IDT74FCT823ATQ	IDT74LVC16601APV
IDT74FCT2373CTQ	IDT74FCT3245PY	IDT74FCT540CTPY	IDT74FCT823CTPY	IDT74LVC16646APV
IDT74FCT2374ATQ	IDT74FCT3245Q	IDT74FCT540CTQ	IDT74FCT823CTQ	IDT74LVC16823APV
IDT74FCT2374CTQ	IDT74FCT3573AQ	IDT74FCT541ATPY	IDT74FCT827ATPY	IDT74LVC16827APV
IDT74FCT240ATPY	IDT74FCT3573Q	IDT74FCT541ATQ	IDT74FCT827ATQ	IDT74LVC16952APV

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



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT - PCN #: A-0312-02

Appendix - 1

IDT74LVC2244APY	IDT74LVCH16373APV	IDTQS32X245Q2	IDTQS3VH16245PV	IDTQS74FCT2240CTQ
IDT74LVC2244AQ	IDT74LVCH16374APV	IDTQS32X2861Q1	IDTQS3VH16800PV	IDTQS74FCT2240TQ
IDT74LVC2245APY	IDT74LVCH16501APV	IDTQS32X383Q1	IDTQS3VH16861PV	IDTQS74FCT2244ATQ
IDT74LVC2245AQ	IDT74LVCH16543APV	IDTQS32X384Q1	IDTQS3VH16862PV	IDTQS74FCT2244CTQ
IDT74LVC244APY	IDT74LVCH16601APV	IDTQS32X861Q1	IDTQS3VH2245Q	IDTQS74FCT2244TQ
IDT74LVC244AQ	IDT74LVCH16646APV	IDTQS32XL383Q1	IDTQS3VH244Q	IDTQS74FCT2245ATQ
IDT74LVC245APY	IDT74LVCH16652APV	IDTQS32XL384Q1	IDTQS3VH245Q	IDTQS74FCT2245CTQ
IDT74LVC245AQ	IDT74LVCH16827APV	IDTQS32XR245Q2	IDTQS3VH251Q	IDTQS74FCT2245TQ
IDT74LVC257APY	IDT74LVCH2244AQ	IDTQS32XR861Q1	IDTQS3VH253Q	IDTQS74FCT2257ATQ
IDT74LVC257AQ	IDT74LVCH2245AQ	IDTQS32XR862Q1	IDTQS3VH257Q	IDTQS74FCT2257CTQ
IDT74LVC273APY	IDT74LVCH244APY	IDTQS32XV245Q2	IDTQS3VH2861Q	IDTQS74FCT2257TQ
IDT74LVC273AQ	IDT74LVCH244AQ	IDTQS32XVH2245Q2	IDTQS3VH2862Q	IDTQS74FCT251ATQ
IDT74LVC32APY	IDT74LVCH245APY	IDTQS32XVH245Q2	IDTQS3VH383Q	IDTQS74FCT253ATQ
IDT74LVC373APY	IDT74LVCH245AQ	IDTQS32XVH384Q1	IDTQS3VH384Q	IDTQS74FCT2541ATQ
IDT74LVC373AQ	IDT74LVCHR162245APV	IDTQS3383Q	IDTQS3VH800Q	IDTQS74FCT2541CTQ
IDT74LVC374APY	IDT74LVCHR16501APV	IDTQS3384Q	IDTQS3VH861Q	IDTQS74FCT2541TQ
IDT74LVC374AQ	IDT74LVCR162245APV	IDTQS3388Q	IDTQS3VH862Q	IDTQS74FCT2573ATQ
IDT74LVC377APY	IDT74LVCR2245APY	IDTQS3389Q	IDTQS4A101Q	IDTQS74FCT2573TQ
IDT74LVC377AQ	IDT74LVCR2245AQ	IDTQS3390Q	IDTQS4A105Q	IDTQS74FCT2574ATQ
IDT74LVC4245APY	IDT82V3001APV	IDTQS33X253Q1	IDTQS4A110Q	IDTQS74FCT2574CTQ
IDT74LVC4245AQ	IDT82V3001PV	IDTQS33X257Q1	IDTQS4A201Q	IDTQS74FCT2574TQ
IDT74LVC541APY	IDT82V3002APV	IDTQS34X2245Q3	IDTQS4A205Q	IDTQS74FCT2821ATQ
IDT74LVC541AQ	IDT82V3002PV	IDTQS34X245Q3	IDTQS4A210Q	IDTQS74FCT2821BTQ
IDT74LVC573APY	IDT82V3011PV	IDTQS34X383Q3	IDTQS4A215Q1	IDTQS74FCT2821CTQ
IDT74LVC573AQ	IDT82V3012PV	IDTQS34XR245Q3	IDTQS5917T-100TQ	IDTQS74FCT2823ATQ
IDT74LVC574APY	IDT82V3155PV	IDTQS34XV245Q3	IDTQS5917T-132TQ	IDTQS74FCT2823BTQ
IDT74LVC574AQ	IDTQS3125Q	IDTQS34XVH2245Q3	IDTQS5917T-70TQ	IDTQS74FCT2827ATQ
IDT74LVC74APY	IDTQS3126Q	IDTQS34XVH245Q3	IDTQS5930-50TQ	IDTQS74FCT2827BTQ
IDT74LVC823APY	IDTQS316211PV	IDTQS3800Q	IDTQS5930-66TQ	IDTQS74FCT2827CTQ
IDT74LVC823AQ	IDTQS316212PV	IDTQS3861Q	IDTQS5LV919-100Q	IDTQS74FCT2828ATQ
IDT74LVC827APY	IDTQS316233PV	IDTQS3L383Q	IDTQS5LV919-133Q	IDTQS74FCT2828BTQ
IDT74LVC827AQ	IDTQS316245PV	IDTQS3L384Q	IDTQS5LV919-160Q	IDTQS74FCT2841ATQ
IDT74LVCC3245APY	IDTQS32245Q	IDTQS3R245Q	IDTQS5LV919-55Q	IDTQS74FCT2841BTQ
IDT74LVCC3245AQ	IDTQS32257Q	IDTQS3R384Q	IDTQS5LV919-70Q	IDTQS74FCT2841CTQ
IDT74LVCC4245APY	IDTQS32384Q	IDTQS3R861Q	IDTQS5LV931-50Q	
IDT74LVCC4245AQ	IDTQS32390Q	IDTQS3R862Q	IDTQS5LV931-66Q	
IDT74LVCH162244APV	IDTQS3244Q	IDTQS3V245Q	IDTQS5LV931-80Q	
IDT74LVCH162245APV	IDTQS3245Q	IDTQS3VH125Q	IDTQS74FCT153ATQ	
IDT74LVCH162373APV	IDTQS3251Q	IDTQS3VH126Q	IDTQS74FCT153CTQ	
IDT74LVCH162374APV	IDTQS3253Q	IDTQS3VH16210PV	IDTQS74FCT158ATQ	
IDT74LVCH16244APV	IDTQS3257Q	IDTQS3VH16211PV	IDTQS74FCT158CTQ	
IDT74LVCH16245APV	IDTQS32861Q	IDTQS3VH16212PV	IDTQS74FCT2157ATQ	
IDT74LVCH16260APV	IDTQS32X2245Q2	IDTQS3VH16233PV	IDTQS74FCT2157CTQ	
IDT74LVCH16276APV	IDTQS32X2384Q1	IDTQS3VH16244PV	IDTQS74FCT2240ATQ	

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

# ABLEBOND® 8290

## MEDIUM STRESS DIE ATTACH ADHESIVE

### DESCRIPTION

Ablebond® 8290 medium stress die attach adhesive is designed for high reliability leadframe packaging applications. This

electrically conductive adhesive offers improved JEDEC performance and can be used in a variety of package sizes.

### FEATURES

- Low stress
- Improved JEDEC performance
- Use for a variety of die sizes

TYPICAL UNCURED PROPERTIES		TEST DESCRIPTION	TEST METHOD
Filler Type	Silver	Brookfield CP-51 @ 5 rpm Viscosity @ 0.5 rpm/Viscosity @ 5 rpm 25% increase in viscosity @ RT	PT-42 PT-61 PT-59 PT-13
Viscosity @ 25°C	9,000 cP		
Thixotropic Index	5.9		
Work Life @ 25°C	24 hours		
Estimated Storage Life @ -40°C	1 year		
CURE PROCESS DATA			
Weight Loss on Cure	2.5%	10mm x 10mm Si die on glass slide	PT-80
Recommended Cure Condition	Ramp 30 minutes to 175°C and hold 15 minutes		
Alternate Cure Condition <sup>1</sup>	Ramp 30 minutes to 175°C and hold 60 minutes		
<sup>1</sup> Alternate cure recommended for larer die sizes for void minimization.			

Typical properties are not intended to be used as specification limits. If you need to write a specification, ask for our Standard Release Specification.

PHYSIOCHEMICAL PROPERTIES - POST CURE			TEST DESCRIPTION	TEST METHOD
Ionic Chloride	16 ppm	Teflon flask 5 gm sample 20-40 mesh 50 gm DI water 100°C for 24 hours TMA penetration mode TMA expansion mode	CT-13	
Sodium	12 ppm			
Potassium	1 ppm			
Glass Transition Temperature	38°C			
Coefficient of Thermal Expansion		Dynamic mechanical thermal analysis using <0.5mm thick sample	MT-14 MT-9	
Below Tg	81 ppm/°C			
Above Tg	181 ppm/°C			
Dynamic Tensile Modulus		Dynamic vapor sorption after 85°C/85% RH exposure	MT-12	
@ 25°C	3100 MPa (440 Kpsi)			
@ 150°C	140 MPa (20 Kpsi)			
	@ 250°C	120 MPa (17 Kpsi)		
Moisture Absorption @ Saturation	0.71%		PT-65	
THERMAL ELECTRICAL PROPERTIES - POST CURE				
Thermal Conductivity	1.6 W/mK	Laser Flash	PT-96	
Volume Resistivity	0.008 ohm-cm	4-point probe	PT-46	
MECHANICAL PROPERTIES - POST CURE				
Die Shear Strength @ 25°C	15 kg <sub>f</sub> /die	2x2mm Si die Ag/Cu LF (80 x 80 mil)	MT-4	
Chip Warpage vs. Post Cure Thermal Process		12.7 x 12.7 x 0.38 mm Si die (500 x 500 x 15mil) on 0.2mm thick leadframe	MT-15	
<u>Post Cure</u>	+ <u>Post Mold Bake</u> (4 hours @ 175°C)			
18 μm	32 μm			

Typical properties are not intended to be used as specification limits. If you need to write a specification, ask for our Standard Release Specification.

## APPLICATION GUIDELINES

### SHIPMENT

This Ablestik product is packed and shipped in dry ice at -80°C. Inside every dry ice shipment of Ablestik's products is a small packet containing the ABLECUBE. This is a small blue cube which retains its shape at -40°C. If the ABLECUBE is exposed to temperatures higher than -40°C, the cube will melt.

Please check the state of the ABLECUBE to ensure the integrity of the shipment. If the ABLECUBE has melted upon Receiving Inspection, place the entire shipment in a -40°C freezer and contact your Ablestik Customer Service or Sales Representative.

### UNPACKING

Transfer the syringes from the dry ice to a -40°C freezer without ANY delays. Freeze-thaw voids will form in the syringes if the syringes are repeatedly thawed and refrozen.

### STORAGE

This Ablestik product must be stored at -40°C. The shelf life of the material is only valid when the material has been stored at the specified storage condition. Incorrect storage conditions will degrade the performance of the material in both handling (e.g. dispensing or screen printing) and final cured properties.



# ABLEBOND® 8290

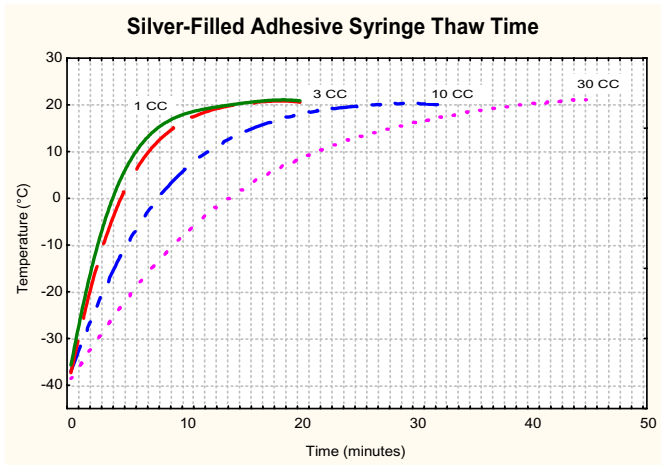
## MEDIUM STRESS DIE ATTACH ADHESIVE

### THAWING

Allow the container to reach room temperature before use. After removing from the freezer, set the syringes to stand vertically while thawing. Refer to Syringe Thaw Time chart below for the thaw time recommendation.

**DO NOT** open the container before contents reach ambient temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.

**DO NOT** re-freeze. Once thawed to room temperature, the adhesive should not be refrozen.



### ADHESIVE APPLICATION

Thawed adhesive should be immediately placed on dispense equipment for use. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive. Adhesive must be completely used within the product's recommended worklife of 24 hours. Silver-resin separation may occur if the adhesive is left out at ambient beyond the recommended worklife.

Apply enough adhesive to achieve a 25-50  $\mu\text{m}$  (1-2 mil) wet bondline thickness, dispensed with approximately 25% - 50% filleting on all sides of the die. Alternate dispense amounts may be used depending on the application requirements. Star or cross-shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern. Contact Ablestik Technical Service Department for detailed recommendation on adhesive application, including dispensing.

### CURE

Ablebond 8290 adhesive can be cured in conventional box ovens per the recommended cure condition. Refer to the Cure Process Data section of the Technical Data Sheet for the recommended cure cycles.

### AVAILABILITY

Ablebond adhesives are packaged in syringes or jars per customer specification. Available package sizes range from 1cc to 30cc and 1 ounce to 1 pound. For details, refer to the Ablestik Standard Package Data Set or contact your Customer Service representative.

**CAUTION** This product may cause skin irritation in sensitive persons. Avoid skin contact. If contact does occur, wash area immediately with soap and water. Please refer to Material Safety Data Sheet (OSHA) for more details.

NATIONAL STARCH MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, CONCERNING THE SUITABILITY OF THESE MATERIALS FOR USE IN IMPLANTATION IN THE HUMAN BODY OR FOR ANY OTHER USE. These materials are not designed or manufactured for use in implantation in the human body. National Starch has not performed clinical testing of these materials for implantation. National Starch has neither sought, nor received, approval from the FDA for the use of these materials in implantation in the human body.



20021 Susana Road, Rancho Dominguez, CA 90221  
(310) 764-4600 Fax 310-764-2545 CUSTOMER SERVICE FAX 310-764-1783  
[www.ablestik.com](http://www.ablestik.com)

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be accurate, but the manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising from the use of the product. No statement or recommendation not based on tests we believe to be accurate, but the manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising from the use of the product. Before using, effect unless in an agreement signed by express or implied. Seller and manufacturer's user shall determine the suitability of the product officers of seller and manufacturer.