



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

<b>PCN #:</b> A0910-02 <b>DATE:</b> 15-Apr-2010 <b>Product Affected:</b> <b>Cerdip 300 mil, Cerdip 600 mil</b> <b>Cerpack, Sidebraz 300 mil</b>  <b>Date Effective:</b> 15-Jul-2010	<b>MEANS OF DISTINGUISHING CHANGED DEVICES:</b> <input type="checkbox"/> Product Mark                      Assembly lot marked on the <input type="checkbox"/> Back Mark                            device provides traceability to the <input type="checkbox"/> Date Code                                material used <input checked="" type="checkbox"/> Other
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<b>Contact:</b> PS Tow <b>Title:</b> Director, Corporate Quality & Reliability <b>Phone #:</b> (408) 284-8206 <b>Fax #:</b> (408) 284-1450 <b>E-mail:</b> <a href="mailto:PStow@idt.com">PStow@idt.com</a>	<b>Attachment:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <b>Samples:</b> N/A
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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 <input type="checkbox"/> Equipment <input checked="" type="checkbox"/> Material <input type="checkbox"/> Testing <input type="checkbox"/> Manufacturing Site <input type="checkbox"/> Data Sheet <input type="checkbox"/> Other - Packaging	<p>This notification is to advise our customers that Integrated Device Technology is changing the ceramic glass material from KC700 to KC800 for Cerdip 300 mil, Cerdip 600 mil, Cerpack and Sidebraz 300 mil packages after successful qualification.</p> <p>Attachment I details the qualification results for this change. Attachment II shows the affected list of part numbers. Attachment III shows the additional material information.</p>
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**RELIABILITY/QUALIFICATION SUMMARY:**

There is no impact with regards to the package performance or reliability.

**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: \_\_\_\_\_



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN #: A0910-02

**PCN Type:** Assembly Material Change

**Data Sheet Change:** None

**Detail of Change:** This notification is to advise our customers that Integrated Device Technology is changing the ceramic glass material from KC700 to KC800 for Cerdip 300 mil, Cerdip 600 mil, Cerpack and Sidebrazed 300 mil packages after successful qualification.

Description	From	To
Ceramic Glass	KC700	KC800



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN #: A0910-02

**Qualification Plan #:** H10-01-01

**Test Vehicle:** Package Cerdip 600 mil & 300 mil, device 7164L4 ( 3 lots )

**Qualification Test Plan and Result:**

Description	Method	Result (# of Reject / SS)		
		Cerdip 600 mil	Cerdip 600 mil	Cerdip 300 mil
Solder Heat Test	JEDEC Mtd A112	0/15	0/15	0/15
External Visual Inspection	Mil-Std-883, M2009 JESD22-B101	0/25	0/25	0/25
Thermal Shock (-65 degree C to 150 degree C @ 15 cycle +)	Mil-Std-883, M1011	0/34	0/34	0/34
Temperature Cycle (-65 degree C to 150 degree C @ 100 cycle +)	Mil-Std-883, M1010	0/34	0/34	0/34
Moisture Resistance (90%RH, -10/25/65 degree C @ 10 cycle +)	Mil-Std-883, M1004	0/34	0/34	0/34
Fine / Gross Leak Test	Mil-Std-883, M1014	0/34	0/34	0/34
External Visual Inspection	Mil-Std-883, M1004/M1011	0/34	0/34	0/34
Mechanical Shock (Cond. B, 1500 G Peak, 0.5msec pulse duration +)	Mil-Std-883, M2002	0/33	0/33	0/33
Variable Freq. Vibration (Cond. A, at peal acceleration of 20g +)	Mil-Std-883, M2007	0/33	0/33	0/33
Constant Acceleration (Cond. D-For Pkg >=5 gms or inner sealede cavity >=2 inches)	Mil-Std-883, M2001	0/33	0/33	0/33
Fine / Gross Leak Test	Mil-Std-883, M1014	0/33	0/33	0/33
External Visual Inspection	Mil-Std-883, M1004/M1011	0/33	0/33	0/33
Internal Vapor Content	Mil-Std-883, M1018	0/3	0/3	0/3
Lid Torque	Mil-Std-883, M2024	0/5	0/5	0/5
Temperature Cycle (-65 degree C to 150 degree C @ 1000 cycle +)	Mil-Std-883, M1010	0/34	0/34	0/34
External Visual Inspection	Mil-Std-883, M1004/M1011	0/34	0/34	0/34
Fine / Gross Leak Test	Mil-Std-883, M1014	0/34	0/34	0/34

*Note: Above data applies to Cerpack & Sidebraze 300 mil*



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT II - PCN #: A0910-02

#### Affected Part Number

IDT Part Number	IDT Part Number	IDT Part Number	IDT Part Number
49FCT805BTDB	5962-3829410MXA	5962-8866206XA	5962-9222205MRA
49FCT805CTDB	5962-3829410MZA	5962-8866905YA	5962-9223801MRA
49FCT806BTDB	5962-3829411MXA	5962-8866906YA	5962-9223802MRA
54FCT162244ATEB	5962-3829411MZA	5962-8874001LA	5962-9223803MRA
54FCT162244CTEB	5962-3829412MXA	5962-8874002LA	5962-9225701MXA
54FCT162244TEB	5962-3829412MZA	5962-8952301EA	5962-9225702MXA
54FCT162245ATEB	5962-3829413MXA	5962-8952304EA	5962-9225703MXA
54FCT162245CTEB	5962-3829413MZA	5962-8952305EA	5962-9225801MXA
54FCT162245TEB	5962-3829414MXA	5962-8952306EA	5962-9225802MXA
54FCT16244ATEB	5962-3829414MZA	5962-8952307EA	5962-9225803MXA
54FCT16244CTEB	5962-3829415MXA	5962-8952308EA	5962-9227101MXA
54FCT16244TEB	5962-3829415MZA	5962-8953605XA	5962-9227102MXA
54FCT16245ATEB	5962-3829416MXA	5962-8953605YA	5962-9227103MXA
54FCT16245CTEB	5962-3829416MZA	5962-8953606XA	5962-9227201MXA
54FCT16245TEB	5962-3829417MXA	5962-8953606YA	5962-9227202MXA
54FCT240ATDB	5962-3829417MZA	5962-8956705XA	5962-9227203MXA
54FCT240CTDB	5962-8552512XA	5962-8956806UA	5962-9317702MXA
54FCT240TDB	5962-8753101TA	5962-8956806XA	5962-9317703MXA
54FCT244ATDB	5962-8753101XA	5962-8956807UA	5962-9576101MRA
54FCT244CTDB	5962-8753102TA	5962-8956807XA	5962-9576102MRA
54FCT244TDB	5962-8753102XA	5962-8966606XA	5962-9576201MRA
54FCT245ATDB	5962-8753103TA	5962-8969001LA	6116LA120DB
54FCT245CTDB	5962-8753103XA	5962-8969002LA	6116LA120TDB
54FCT245TDB	5962-8855201UA	5962-8986303YA	6116LA150DB
54FCT373ATDB	5962-8855201XA	5962-8986305YA	6116LA150TDB
54FCT373CTDB	5962-8855202UA	5962-9167703MXA	6116LA20TDB
54FCT373TDB	5962-8855202XA	5962-9167703MYA	6116LA25DB
54FCT374ATDB	5962-8855203UA	5962-9220301MRA	6116LA25TDB
54FCT374CTDB	5962-8855203XA	5962-9220302MRA	6116LA35DB
54FCT374TDB	5962-8855204UA	5962-9220303MRA	6116LA35TDB
54FCT573ATDB	5962-8855204XA	5962-9221301MRA	6116LA45DB
54FCT573CTDB	5962-8855206UA	5962-9221303MRA	6116LA45TDB
54FCT573TDB	5962-8855206XA	5962-9221305MRA	6116LA55DB
54FCT574ATDB	5962-8866201NA	5962-9221401MRA	6116LA55TDB
54FCT574CTDB	5962-8866201XA	5962-9221403MRA	6116LA70DB
54FCT574TDB	5962-8866202NA	5962-9221405MRA	6116LA70TDB
5962-3829406MXA	5962-8866202XA	5962-9221701MRA	6116LA90DB
5962-3829406MZA	5962-8866203NA	5962-9221702MRA	6116LA90TDB
5962-3829407MXA	5962-8866203XA	5962-9221703MRA	6116SA120DB
5962-3829407MZA	5962-8866204NA	5962-9221802MRA	6116SA120TDB
5962-3829408MXA	5962-8866204XA	5962-9221804MRA	6116SA150DB
5962-3829408MZA	5962-8866205NA	5962-9221806MRA	6116SA150TDB
5962-3829409MXA	5962-8866205XA	5962-9222201MRA	6116SA20DB
5962-3829409MZA	5962-8866206NA	5962-9222203MRA	6116SA20TDB



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IDT Part Number	IDT Part Number	IDT Part Number	IDT Part Number
6116SA25TDB	71256S45DB	7164S55DB	7205L30DB
6116SA35TDB	71256S45TDB	7164S55TDB	7205L30TDB
6116SA45DB	71256S55DB	7164S70DB	7206L20DB
6116SA45TDB	71256S55TDB	7164S70TDB	7206L30DB
6116SA55DB	71256S70DB	7164S85DB	7207L20DB
6116SA55TDB	71256S70TDB	7164S85TDB	7207L30DB
6116SA70DB	71256S85DB	7200L20TDB	72240L25TCB
6116SA70TDB	71256S85TDB	7200L30TDB	72401L10DB
6116SA90DB	7164L100DB	7201LA20DB	72401L15DB
6116SA90TDB	7164L20DB	7201LA20TDB	72401L25DB
71256L100DB	7164L20TDB	7201LA30DB	72401L35DB
71256L100TDB	7164L25DB	7201LA30TDB	72403L10DB
71256L120DB	7164L25TDB	7201LA50DB	72403L35DB
71256L150DB	7164L35DB	7201LA50TDB	72404L15DB
71256L25DB	7164L35TDB	7201LA80DB	8403608JA
71256L25TDB	7164L45DB	7201LA80TDB	8403608LA
71256L35DB	7164L45TDB	7201SA30TDB	8403609JA
71256L35TDB	7164L55DB	7201SA50TDB	8403609LA
71256L45DB	7164L55TDB	7202LA20DB	8403610JA
71256L45TDB	7164L70DB	7202LA20TDB	8403610LA
71256L55DB	7164L70TDB	7202LA30DB	8403611JA
71256L55TDB	7164L85DB	7202LA30TDB	8403611LA
71256L70DB	7164L85TDB	7203L20DB	8403612JA
71256L70TDB	7164S100DB	7203L20TDB	8403612LA
71256L85DB	7164S20DB	7203L30TDB	8403613JA
71256L85TDB	7164S20TDB	7203L40DB	8403613LA
71256S100DB	7164S25DB	7204L20DB	8403615JA
71256S100TDB	7164S25TDB	7204L20TDB	8403615LA
71256S25DB	7164S35DB	7204L30DB	8403616JA
71256S25TDB	7164S35TDB	7204L30TDB	8403616LA
71256S35DB	7164S45DB	7205L20DB	
71256S35TDB	7164S45TDB	7205L20TDB	



## **Low Temp. Sealing Glass KC-800**

### **Application**

**CER-DIP , CER-QUAD , CERAMIC FRIT LID**

### **Feature**

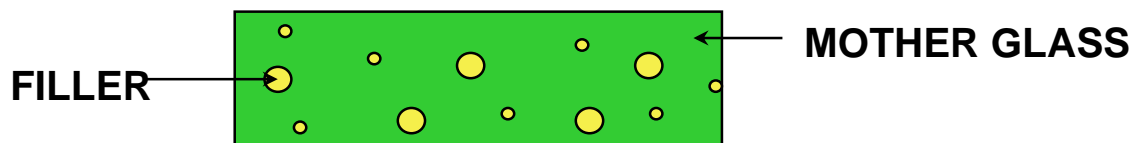
**Low Temp. Sealing : 430deg.C Sealing**

**Hermetic Sealing : High Reliability**



## Sealing Glass Line Up

FRIT GLASS TYPE	KC-320	KC-370	KC-800	KC-700	KC-1M	7583
SEALING TEMP(deg.C)	320	370	430	430	450	480
DIERECTRIC CONSTANT 1MHz,at 25 deg.C	65.0	13.1	12.5	12.5	35.0	18.9
THERMAL EXPANSION COEFFICIENT (ppm/deg.C)	7.4	7.5	6.5	6.8	6.4	7.8
TRANSITION POINT(deg.C)	218	248	313	308	305	323
SOFTENING POINT(deg.C)	275	331	350	342	400	385
DENSITY(g/cm <sup>3</sup> )	7.6	6.0	5.7	5.6	6.9	6.2
VOLUME RESISTIVITY log(ohm.cm) at150 deg.C	6.8	8.5	12.4	11.9	11.9	10.6
ALPHA EMISSION (count/hr.cm <sup>2</sup> )	< 0.5	< 0.5	< 0.5	<0.6	25	45
INSULATION RESISTANCE(ohm)	10 <sup>9</sup>	10 <sup>11</sup>	10 <sup>12</sup>	10 <sup>12</sup>	10 <sup>12</sup>	10 <sup>12</sup>
APLICATION	LID	LID/CERDIP	LID/CERDIP	LID/CERDIP	LID/CERDIP	CERDIP
COMPOSITION						
PbO	56%	46%	62%	61%	61%	61%
PbF2	19%	7%	0%	0%	0%	0%
B2O3	3%	4%	6%	6%	9%	9%
FILLER	PbO.TiO2	ZnO.SiO2 ZrO2.SiO2	ZnO.SiO2 ZrO2.SiO2	SnO2.TiO2 MgOAl2O3SiO2	PbO.TiO2 ZrO2.SiO2	ZrO2.SiO2





## KC-800 Glass : Reliability Data

### Thermal Environment Test

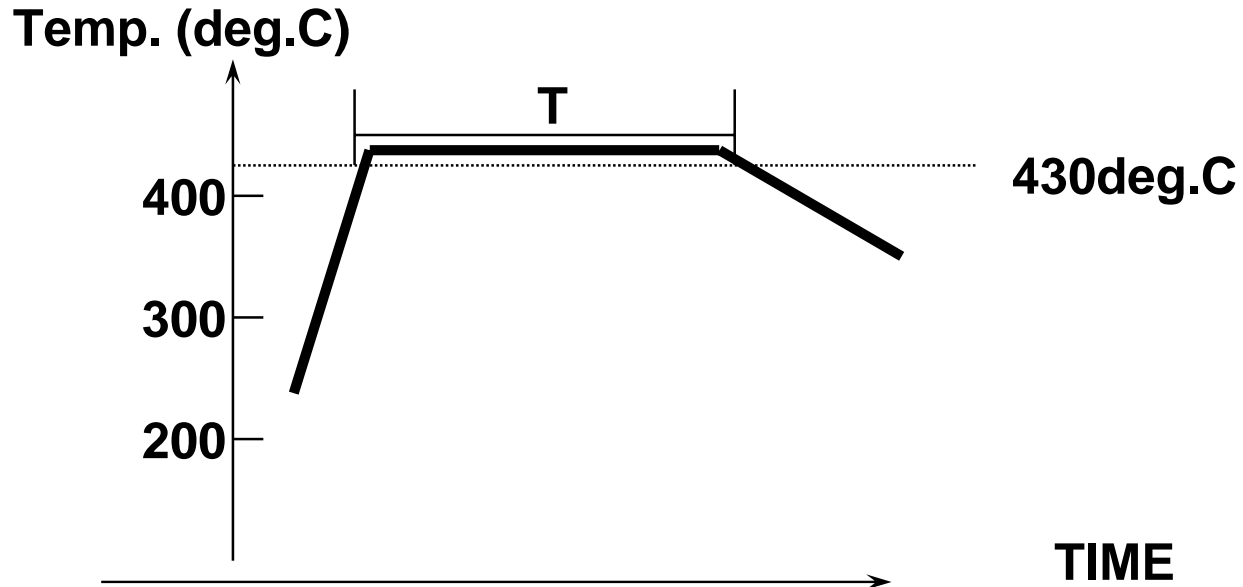
TEST ITEM	KC-800	KC-700
THERMAL SHOCK,0/100deg.C,1000cys.	0/100	0/100
THERMAL SHOCK,-65/150deg.C,1000cys.	0/100	0/100
TEMP.CYCLE,-65/150deg.C,1000cys.	0/100	0/100
HIGH TEMP.HIGH HUMI.,85deg.C,85%,1000hr	0/100	0/100

G/L,F/L (He LEAK: $1 \times 10^{-9}$ Pa.m<sup>3</sup>/sec )

TESTING PACKAGE : 16 LD CER-DIP



## KC-800 Glass Typical Sealing Profile



- Recommended Temp. Rise** : 40-110deg.C/min.
- Recommended Peak Temp.** : 440deg.C
- Recommended Keep Time** : T>10min.(>430deg.C)
- Recommended Cooling Rate** : 20-40deg.C/min.