

KYOCERA DIE ATTACH GLASSES

COMPARATIVE TECHNICAL DATA

Characteristics	DIP-3	DIP-6	DIP-7
Color	White	Black	Black
Transition Point (°C)	305	310	312
Deformation Point (°C)	340	330	331
Softening Point (°C)	370	360	370
Thermal Expansion Coefficient 40-250°C ($\times 10^{-6}/^{\circ}\text{C}$)	6.50	5.8	4.8
Specific Gravity (-)	5.1	7.0	7.15
Dielectric Constant (-) (at 25°C, 1MHz)	12.0	32.4	32.4
Volume Resistivity $\log(\Omega\text{-cm})$ at 150°C	12.0	10.9	11.1
at 250°C	9.5	8.6	9.1
Dielectric Loss Tangent (-) (at 25°C, 1MHz)	0.015	0.012	0.013
Thermal Conductivity (cal/cm, sec. °C) (at 25°C)	0.0026	0.0052	0.0057

ASSEMBLY CONDITIONS FOR DIE BONDING

Seal Glass	KC-402	KC-1 KC-1M	KC-1 KC-1M	7583
Cavity Glass	Dip-6 Dip-7	Dip-6 Dip-7	Dip-3	KC-1 KC-1M
Glass Thickness (mils) in cavity	4-8	4-8	4-8	4-8
Chip Size (mil)	230 sq. max.	230 sq. max.	80 sq. max.	80 sq. max.
<u>Die Attach</u>				
Pre-Heating (°C) 1 minute	300	300	300	300
Heater Block Temp. (°C)	450	450	480	480
Time (sec)	30	30	30	30
Scrubbing (cycle)	2-3	2-3	2-3	2-3
Sealing Temperature (°C)	425-440	450-465	450-465	475-495



KYOCERA RECOMMENDED GLASS THICKNESS

CERDIP GLASS THICKNESS

	<u>BASE</u>	<u>CAP</u>
14/16 LEAD SSI	.008 — .013	.009 — .015
14/16 LEAD MSI	.010 — .016	.010 — .016
16 LEAD LSI	.010 — .016	.010 — .017
18 LEAD CERDIP	.010 — .016	.010 — .017
20 LEAD CERDIP	.010 — .016	.011 — .018
22 LEAD CERDIP	.010 — .016	.011 — .018
24 LEAD CERDIP	.010 — .018	.012 — .018
28 LEAD CERDIP	.012 — .020	.012 — .020
40 LEAD CERDIP	.012 — .020	.013 — .022

DIE ATTACH GLASS THICKNESS

GLASS TYPE (CHIP SIZE)	DIP-3, -6, -7	DIP-6, -7
	UNDER .080 SQ	OVER .080 SQ
CAVITY DEPTH		
.005	.004 — .008	.004 — .008
.010	.004 — .008	.004 — .008
.015	.004 — .008	.004 — .008

(IN INCHES)