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Zeon announces ZEOCOAT® ZC100, an alkaline developable, positive-tone photosensitive insulating dielectric.

Zeon Corporation

Zeon Corporation has developed and now made commercially available a developable, positive-tone photosensitive insulating dielectric*¹ ZEOCOAT® ZC100 based on Zeon's original COP technology. ZC100 is an advanced material that can be cured at a low temperature of 180°C and has high resolution and high insulation reliability*².

As devices such as smartphones become more sophisticated and multifunctional, semiconductor packages and electronic components are required to be miniaturized and highly integrated.

ZC100 is an alkaline developable, positive-tone photosensitive insulating dielectric with excellent resolution, which enables device miniaturization.

Furthermore, it can be cured at low temperature and has high insulation reliability, which improves the yield and reliability of the device.

ZC100 enables next-generation wafer-level packaging*³.

Characteristics

		ZC100		
		Photosensitive Type (Positive)		
Curing Temp.	°C	180	200	230
Physical Properties	Young's Modulus [GPa]	2.7	2.5	2.4
	CTE x-y (< Tg) [ppm / K]	56	54	52
	Curing Shrinkage [%]	4.5	5.3	6.7
	5 % Weight Loss Temp. [°C]	334	342	348
	Tg (TMA) [°C]	192	215	219
Mechanical Properties	Tensile Strength [MPa]	100	100	100
	Elongation [%]	10	12	13
Electrical Properties	Dielectric Constant (@ 10 GHz)	2.8	2.8	2.8
	Dielectric Breakdown Strength [kV / mm]	>300	>300	>300
	Surface Resistivity [Ω]	>8x10 ¹⁵	>8x10 ¹⁵	>8x10 ¹⁵
	Volume Resistivity [Ω·cm]	>3x10 ¹⁶	>3x10 ¹⁶	>3x10 ¹⁶

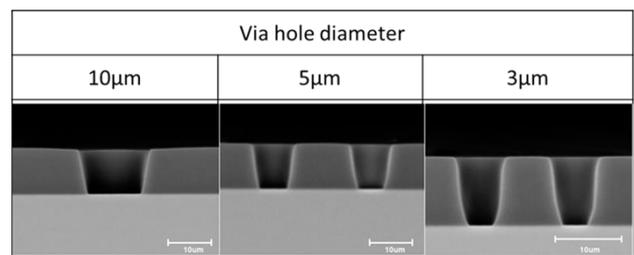


Fig. Resolution of ZC100 at 10 μm thickness cured at 180 °C

Zeon will continue product development that makes full use of our original technology and increases value to our customers.

[Explanation of terms]

*1 alkaline developable, positive-tone photosensitive insulating dielectric

A material that can form an insulating layer with micrometer-order patterns via lithography

*2 high insulation reliability

Characteristic to prevent electrical short circuit of metal wiring material such as copper, even in high temperature and high humidity environment

*3 wafer-level packages

A process technology semiconductor manufacturing.