

# Technical Data Sheet

## PHP-900 IR-6P

**SAN-EI KAGAKU CO., LTD.**  
Electronic Materials Technical Dept.

# Material Properties

November 2007

Item	Data	Notes
Viscosity	35±5 Pa·s	VISCOTESTER VT-04, 25°C
Particle size	Less than 15 microns	JIS K5600-2-5
Density	1.66	JIS K5600-2-4
Shelf life	3 months	Below 10°C
Pot life	7 days	at 25°C
Halogen free	Total Cl: Less than 500 ppm Total Br: Less than 10 ppm	JPCA-ES01-2003
RoHS standard	Passed	Cd, Pb, Hg, Cr6+, PBBs, PBDEs
Cure condition	140°C, 20 minutes (1.6mmt)	Box type oven

This data is the measurement results at our company; the characteristics are not guaranteed

# Thermal Properties

November 2007

Item	Data	Notes
Tg	168°C	TMA, JPCA-BU01-1998
β1	39 ppm	TMA, JPCA-BU01-1998
β2	105 ppm	TMA, JPCA-BU01-1998
Young's modulus	5200 MPa	DMA, 30°C
Tensile strength	28 MPa	JIS K7113, 23°C
Elongation	0.5%	JIS K7113, 23°C
Tensile modulus	7.96 GPa	JIS K7113, 23°C
Poisson's ratio	0.325	JIS K7113, 23°C
Thermal conductivity	0.54 W/mK	Laser flash method

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# Heat Resistance

November 2007

Item	Data	Notes
Solderability	No blister, no crack	260°C, 60sec
Heat cycle	No blister, no crack	260°C, 10sec, 5 cycles
1% weight loss temperature	335°C	TG
Peel strength	6.5 N/cm	Cu plating thickness: 20μm

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# Chemical Properties

November 2007

Item	Data	Notes
Water absorption	0.23%	JIS C6481
Resistance to chemicals		
10% wt Sulfuric acid	No blister, no crack	RT, 60min
10% wt Caustic soda	No blister, no crack	RT, 60min
IPA	No blister, no crack	RT, 60min
Dichloromethane	No blister, no crack	RT, 60min
Acetone	No blister, no crack	RT, 60min
Boiling water	No blister, no crack	100°C, 60min

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# Electrical Properties

November 2007

Item	Data	Notes
Dielectric constant	5.08	JIS C6481 (1MHz)
Dissipation factor	0.0237	JIS C6481 (1MHz)
Surface resistivity	1.9E+16	JIS C6481 (1MHz)
Volume resistivity	4.9E+13	JIS C6481 (1MHz)

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# High Frequency Properties

November 2007

	Dielectric Constant (Dk)	Loss Tangent (Lt)
1 GHz	4.4	0.020
3 GHz	4.4	0.018
5 GHz	4.4	0.020
11.3 GHz	4.5	0.021

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# Outgassing Properties

November 2007

Item	Data	Notes
TML	0.38%	ASTM E595
CVCM	0.062%	ASTM E595
WVR	0.23%	ASTM E595

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