

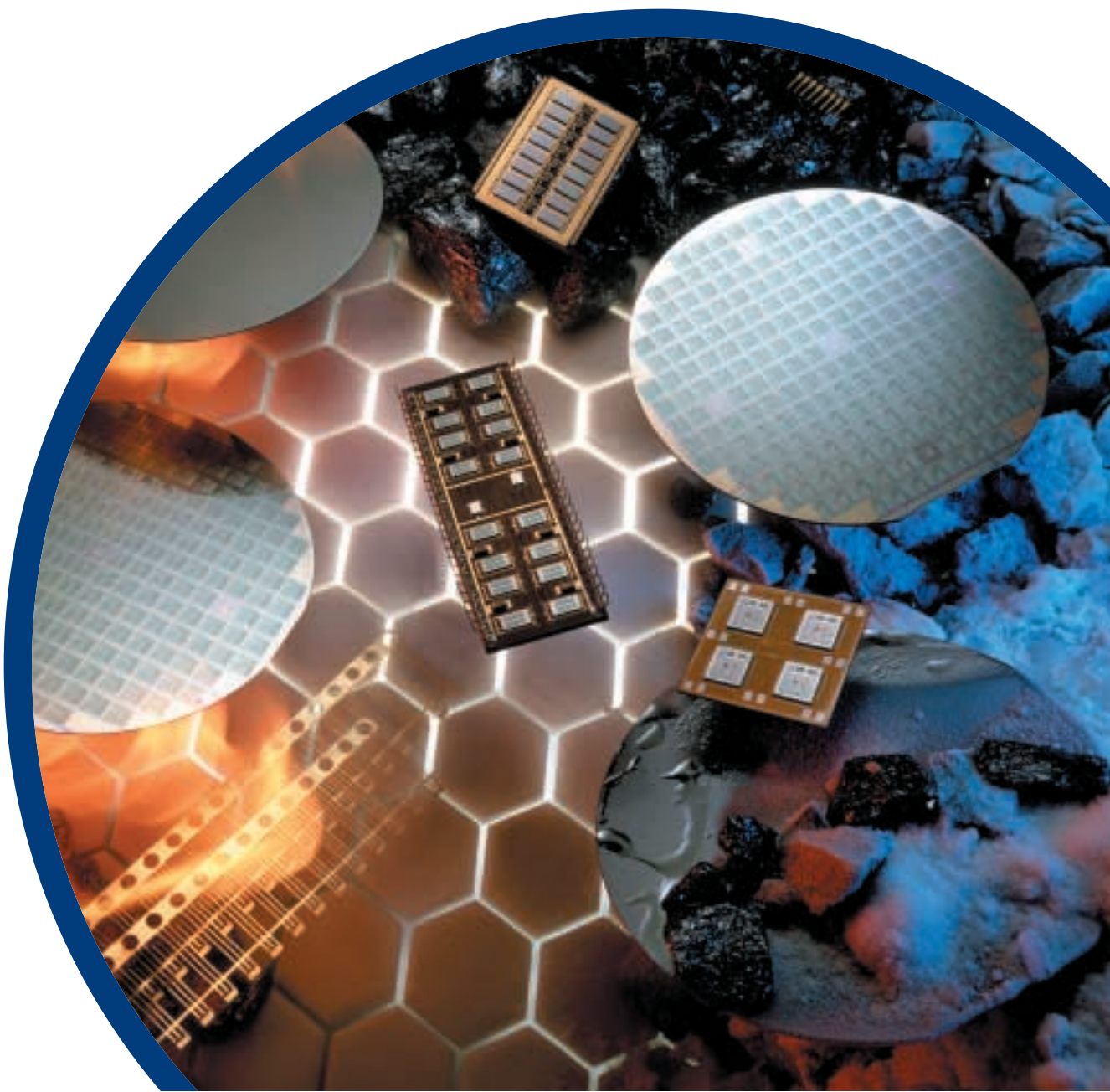
low modulus *adhesion*
purity *low surface energy*

Electronic Materials



Semiconductor Encapsulants

Material Selector Guide



High Performance Resins and Coatings For Electronics Applications



GESilicones-Electronics.com

Our high-purity junction coating resins and die coatings offer a level of performance critical to achieving long-term device integrity and reliability in semiconductor packaging applications.

These unique materials offer the following:

- Excellent die adhesion for moisture protection
- High-ionic purity and alpha particle protection (<2ppm) for use on direct chip contact
- Low modulus to provide stress relief to die and wire bonds
- Extremely low surface energy for efficient flow and coverage of large surface area dies
- Excellent integration and productivity in high volume automated production

GE Silicones

1-Part Heat (Addition) Cure

	TSJ3185 Translucent	TSJ3187 Translucent	TSJ3193H White
Properties	<ul style="list-style-type: none"> • Translucent, general purpose junction coating gel for transistors, photocouplers, LEDs and hybrid ICs 	<ul style="list-style-type: none"> • Translucent, thixotropic junction coating gel for hybrid ICs • Higher viscosity 	<ul style="list-style-type: none"> • White, flowable junction coating rubber used primarily for diode coating
Viscosity, cps	3,000	10,000	7,200
Specific Gravity	1.01	1	1.01
Penetration (gel) / Hardness (rubber)	80 (Penetration)	40 (Penetration)	20 (Hardness)
Dielectric Strength, kV/mm (V/mil)	15 (375)	21 (525)	22 (550)
Dielectric Constant (@ 60 Hz)	2.7	2.8	2.6
Thermal Conductivity, W/mK	0.18	0.18	0.17
Na+, K+, ppm	Less than 2	Less than 2	Less than 2
Packaging	500 g bottle	500 g bottle, 1 qt. can	1 qt. can
Processing			
Cure Time (@ 50% RH)* 150°C (302°F)	1 hour	1 hour	1 hour

2-Part Heat (Addition) Cure

	XE14-B5778 Translucent	XE5844 Translucent	TSJ3175 Black
Properties	<ul style="list-style-type: none"> • Translucent, junction coating rubber for use on LSIs 	<ul style="list-style-type: none"> • Translucent, junction coating rubber for optical fiber coating • Excellent transparency and high refractive index 	<ul style="list-style-type: none"> • Black, thixotropic junction coating gel for use on diodes, transistors, thyristors, and hybrid ICs
Mix Ratio (base to curing agent by weight)	1 : 1	1 : 1	1 : 1
Viscosity, cps	1,700	2,100	10,000
Refractive Index	1.507	1.507	—
Specific Gravity	1.07	1.07	1
Penetration (gel) / Hardness (rubber)	15 (Hardness)	15 (Hardness)	70 (Penetration)
Useful Temperature Range, °C (°F)	-60 to 204 (-75 to 400)	-60 to 204 (-75 to 400)	-60 to 204 (-75 to 400)
Thermal Conductivity, W/mK	0.18	0.18	0.18
Dielectric Strength, kV/mm (V/mil)	20 (500)	—	15 (375)
Dielectric Constant (@ 60 Hz)	2.8	—	2.8
Na+, K+, ppm	Less than 2	Less than 2	Less than 2
Packaging	500 g bottle	500 g bottle	500 g bottle
Processing			
Work (Pot) Life (25°C/77°F)	8 hours	6 hours	12 hours
Cure Time (@ 50% RH)*			
80°C (176°F)	2 hours	—	—
125°C (256°F)	—	—	2 hours
150°C (302°F)	—	30 minutes	—

* The actual cure time is application specific and will depend on such factors as cross-sectional thickness of the applied material, the thermal properties of the overall assembly, oven type and efficiency, and oven loading.

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Silicones at 800.255.8886.

To Find Out More...

GESilicones-Electronics.com

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- Order entry/status
- Pricing/availability
- Samples • MSDS

Company & Product Info

- GESilicones-Electronics.com
- LJ Fulfillment Services
518.436.1085

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- Product recommendations
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- Specification inquiries
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- LJ Fulfillment Services
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NOTE: For many products, GE Silicones may be able to offer a more extensive, application specific warranty. For further information, contact your GE Silicones field representative.

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