



DUPONT™ TEMPRION™ EIF S SERIES

ELECTRICALLY INSULATING FILM

DESCRIPTION

DuPont™ Temprion™ EIF S Series is a flexible laminate film comprising an electrically insulating, puncture resistant Kapton® polyimide core coated with a thermally conductive silicone-based adhesive formulation for stability at high temperatures.

Temprion™ EIF features Kapton® MT or Kapton® MT+ polyimide as a carrier to achieve best-in-class thermal performance for an electrically insulating film, where electrical isolation of components within a package is critical to operation.

APPLICATIONS

- Thermal Interface Material
- Flexible Heaters
- Power Electronics

FEATURES

- Low thermal resistance
- High puncture resistance
- Electrical isolation of components on either side
- UL 94 flammability rating (pending)
- RoHS Compliance

Table 1 – Typical Properties of DuPont™ Temprion™ EIF S Series Electrically Insulating Film

Property	SA037089S000			SA037089D089			Test Method
Thickness, mil (mm)	5 (0.13)			8.5 (0.22)			ASTM D374
Reinforcement Carrier	Kapton® MT+			Kapton® MT+			N/A
Thermal Conductivity, W/m•K	0.72			0.70			ASTM D5470
Thermal Impedance vs. Pressure, psi (MPa)	14.5 (0.1)	43.5 (0.30)	72.5 (0.5)	101.5 (0.7)	130.5 (0.9)	159.5 (1.1)	ASTM D5470
SA037089S000 – Thermal Impedance, °C•in ² /W (°C•cm ² /W)	0.34 (2.22)	0.32 (2.08)	0.32 (2.04)	0.31 (2.01)	0.31 (1.99)	0.31 (1.98)	
SA037089D089 – Thermal Impedance, °C•in ² /W (°C•cm ² /W)	0.57 (3.67)	0.54 (3.48)	0.53 (3.40)	0.52 (3.37)	0.52 (3.36)	0.52 (3.36)	
Breakdown Voltage, VAC	9000			9000			ASTM D149
Lap Shear @ 25°C, psi (MPa)	12.7 (0.09)			31.0 (0.21)			ASTM D1002
Lap Shear @ 25°C Thermally aged for 7 d @ 175°C, psi (kPa)	15.0 (0.10)			84.6 (0.58)			ASTM D1002
90° Peel Adhesion @ 25°C, oz/in (N/cm)	20.5 (2.25)			34.0 (3.72)			ASTM D3330
90° Peel Adhesion @ 25°C Thermally aged for 7 d @ 175°C, oz/in (N/cm)	37.2 (4.07)			52.1 (5.70)			ASTM D3330
180° Peel Adhesion @ 25°C, oz/in (N/cm)	25.1 (2.75)			24.2 (2.65)			ASTM D3330
180° Peel Adhesion @ 25°C Thermally aged for 7 d @ 175°C, oz/in (N/cm)	43.1 (4.72)			64.2 (7.03)			ASTM D3330
Flammability	Pending						UL94
RoHS Compliant	Yes						N/A

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CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102-4.

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