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**THERMOPLASTIC FILM**  
**TP8650**

**Tack-Free**  
**Ambient Temp Storable**  
**Electrically Conductive**  
**Thermoplastic**  
**Film Adhesive**

**IDEAL FOR:**

- Die Attach
- Component Attach
- Substrate Attach

**DESCRIPTION:**

TP8650 is a silver filled thermoplastic film adhesive designed for bonding component and substrate. It is designed to meet the hybrid adhesive specification, MIL-STD883;Method 5011.4. It exhibits low outgassing at 125°C and is designed to pass NASA outgassing requirements. TP8650 has excellent thermal conductivity. The dry, tack-free handling of the film makes it suitable for an automated assembly.

Because of the relatively low rigidity of the adhesive, it is useful for large area die. This high purity adhesive possesses excellent moisture resistance.

**AVAILABILITY:**

TP8650 is available in sheet sizes or as custom preforms. Standard thicknesses are 0.003" and 0.006". Special thicknesses are available. TP8650 can also be obtained in liquid form(LTP8650).

**APPLICATION PROCEDURES:**

- ( 1 ) Remove film from protective paper.
- ( 2 ) Cut to desired size.
- ( 3 ) Place on substrate and reflow according to one of the recommended schedules.

**TYPICAL PROPERTIES\***

Electrical Resistivity ( 200 °C/1 minute )	<4x10 <sup>-4</sup> ohm-cm
Dielectric Strength (Volts/mil)	N/A
Glass Transition Temp.(°C)	-70
Lap-Shear Strength	
Device Push-off Strength	900 psi
	6.2 N/mm <sup>2</sup>
Cured Density (gm/cc)	3.5
Hardness (Type)	70 (A)
Thermal Conductivity	45 Btu-in/hr-ft <sup>2</sup> -°F 6.4 W/m-°C
Linear Thermal Expansion Coeff. (ppm/°C)	65
Tensile Modulus:	50,000 psi
Maximum Continuous Operation Temp. (°C)	175

\* Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is intended to be used in manufacturing and in the final product.

**REFLOW TEMPERATURES:**

<u>Temperature</u>	<u>Time</u>	<u>Pressure</u>
200°C	0.5-5 sec	5-10 psi

**SHELF LIFE:**

<u>Storage temperature</u>	<u>Shelf Life</u>
25°C	1 yr

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