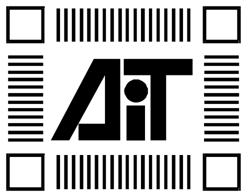

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Flexible Die-Attach

ME8456-DA

Flexible
Stress Free
Low Temperature Curable
Electrically Conductive
Epoxy Paste Adhesive

IDEAL FOR:

Large Area Die

Substrate and Component

Reworkability

Mismatched CTE's

DESCRIPTION:

ME8456-DA is a flexible, pure silver filled, electrically and thermally conductive epoxy paste adhesive for die-attach application. It exhibits outstanding flexibility for bonding materials with highly mismatched CTE's (i.e., alumina to aluminum, silicon to copper). It has been proven to work well for ultra-large area die on ceramic, copper or aluminum substrate.

Die attach with a large area on aluminum have been proven to withstand thermal cycling and shocks from -65 to 150ºC for over 1000 times without loss of thermal or mechanical properties. Moisture sensitivity has been improved even for the worst testing conditions. The bond strength recovers its full bond strength after the testing is finished and moisture returns to normal level.

AVAILABILITY:

ME8456-DA is available in syringes for automatic needle dispense applications or in jars.

APPLICATION PROCEDURES:

(1) Thaw for 30 minutes before opening jar.

(2) Dispense adhesive onto clean substrate.

(3) Pre-Bake Dispensed Adhesive at 60ºC for 30 minutes to achieve optimum bonding. Pre-Bake is not needed in all applications.

(4) Cure according to one of the recommended schedules.

TYPICAL PROPERTIES*

Property	Value
Electrical Resistivity (150ºC/ 60 min)	$<4\times10^{-4}$ ohm-cm
Dielectric Strength (Volts/mil)	N/A
Glass Transition Temp.(ºC)	-20 ±10%
Current Carrying Capabilities	35 Amp/mm^2
Lap-Shear Strength	>1000 psi >6.9 N/mm^2
Device Push-off Strength	>2000 psi >13.8 N/mm^2
Hardness (Type)	80 (A) ±10%
Cured Density (gm/cc)	3.5 ±10%
Thermal Conductivity	>55 Btu-in/hr-ft^2-ºF ±10% >7.9 W/m-ºC ±10%
Linear Thermal Expansion Coeff. (ppm/ºC)	100 ±15%
Maximum Continuous Operation Temp. (ºC)	<150
Avg. Viscosity (5.0 rpm, 25ºC) (Brookfield DV-1,spindle CP51)	20,000 cp ±20%

* 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.

CURE SCHEDULES:

Temperature	Time	Presure
80ºC	8 hr	
100ºC	4 hr	
125ºC	2 hr	
150ºC	1 hr	
Pot Life	5 Days @ 25ºC	

** For higher temperature curing above 125ºC, and/or bonding area of over 1x1 sq cm, it is recommended the dispensed adhesive be pre-baked, open-faced without parts, at 60ºC for 30 minutes before parts are mounted and cured.

SHELF LIFE:

Storage temperature	Shelf Life
-40ºC	1 yr

CAUTION: This product may cause skin irritation. Avoid skin contact. If contact does occur, wash immediately with soap and water. Please refer SDS for more details.

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