

Technical Data Sheet

FeedBond® FP-5023-E2

Electrically Conductive Die Attach Adhesive

Description:

FeedBond®FP-5023-E2 electrically conductive adhesive is designed for die attach of IC package with small to medium size dies on silver and gold-plated leadframes, as well as on copper leadframes.

Characteristics:

- Minimal tailing and stringing
- Minimal bleeding
- Good bonding on variable substrates.
- Low stress

UNCURED PROPERTIES		TEST DESCRIPTION	TEST METHOD
Appearance	Silver	Brookfield DV-III/CP-51 @ 5rpm Brookfield DV-III/CP-51 Visc. @ 0.5rpm/Visc. @ 5rpm Grind meter 25°C/24hours 25% increase in visc. @ 5rpm	FT-P006
Viscosity @ 25°C	9500cps		FT-P008
Thixotropic Index @ 25°C	3.5		FT-P026
Grind	< 20µm		FT-P002
Moisture Content	< 0.5 %		FT-P024
Work Life @ 25°C	48 hrs		FT-P018
Shelf Life@ -40°C	12months		
CURE CONDITION		TEST DESCRIPTION	TEST METHOD
Standard Cure Condition		20~30 minutes ramp to 150°C +60 minutes @ 150°C	
Alternate Cure Condition		20~30 minutes ramp to 175°C + 30 minutes @ 175°C	

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PHYSIOCHEMICAL PROPERTIES		TEST DESCRIPTION	TEST METHOD
Glass Transition Temperature (Tg)	63°C	TMA Expansion Mode	FT-M016A
Glass Transition Temperature (Tg)	92°C	DMA Mode	FT-M019A
Coefficient of Thermal Expansion			
Below Tg(α_1)	52ppm/°C	TMA Expansion Mode	FT-M016
Above Tg(α_2)	212 ppm/°C		
Flexural Modulus		Dynamic Mechanical Thermal Analysis(TA) using <1.6mm thick specimen	FT-M019A
@ -60°C	5156MPa		
@ 25°C	3978MPa		
@ 150°C	93MPa		
@ 250°C	89MPa		
Weight loss	<1 % @300°C	Thermogravimetric Analysis	FT-P010
Ionic Content		Teflon flask, 20~40 mesh, 5g sample in 50g DI water, 24hr@100°C	FTC-021
Cl-	<20 ppm		
Na+	<10 ppm		
K+	<10ppm		
MECHANICAL PROPERTIES- POST CURE		TEST DESCRIPTION	TEST METHOD
Die Shear Strength @ 25°C 10Kg/die @260°C 2Kg/die		2mmx2mm Si die on Ag/Cu LF (80milx80 mil)	FT-M012
THERMAL ELECTRICAL PROPERTIES- POST CURE		TEST DESCRIPTION	TEST METHOD
Thermal Conductivity @ 25°C	2 W/m · K	HOT DISK Tester	FT-P022
Volume resistivity	0.0001 ohm-cm	4-Point Probe	FT-P017

Instruction

Thawing

Place the container to stand vertically for 30min ~90min.**DO NOT** open the container before adhesive reaches ambient temperature to prevent the moisture condensation. Any moisture that collects on the thawed container should be removed prior to use. Adhesives that appear to have separated should not be used.

Storage

Adhesive should be stored @ -40°C. The shelf life of the material is only valid when the material has been stored at the correct storage condition.

Availability

FeedBond® adhesives are packaged in syringes or pots per customer specification. For the details, please contact our Customer Service or sales department.