

## Product Information Sheet

**MATERIAL ID:**

**EPO-TEK® E3037**

**Date:** 05/2006

**Per:**

**Rev:** II

**Material Description:**

A single component, electrically conductive, thixotropic silver-filled epoxy for die-attach and SMD-attach inside hybrid microelectronics.

**Number of Components:**

Single

**Mix Ratio by weight:**

N/A

**Cure Schedule (minimum)**

150°C/1 Hour

**Specific Gravity:**

3.07 --- Part A: Part B:

**Pot Life:**

28 Days

**Shelf Life:**

One year at -40°C

*NOTE:* Container(s) should be kept closed when not in use. Filled systems should be stirred thoroughly before mixing and prior to use

**MATERIAL CHARACTERISTICS:** *To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 150°C/1 hour*  
 \* denotes test on lot acceptance basis

| <b>PHYSICAL PROPERTIES:</b>                    |   |
|--|---|
| <b>*Color (before cure):</b>                   | Silver  |
| <b>*Consistency:</b>                           | Smooth flowing paste  |
| <b>*Viscosity (23°C):</b>                      |   |
| @ 10 rpm                                       | 22,000 - 26,000 cPs   |
| <b>Thixotropic Index:</b>                      | 3.62  |
| <b>*Glass Transition Temp:</b>                 | ≥ 90 °C (Dynamic Cure<br>20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min) |
| <b>Coefficient of Thermal Expansion (CTE):</b> |   |
| Below Tg:                                      | 52 x 10 <sup>-6</sup> in/in°C   |
| Above Tg:                                      | 148 x 10 <sup>-6</sup> in/in°C  |
| <b>Shore D Hardness:</b>                       | 80  |
| <b>Lap Shear @ 23°C:</b>                       | 1,880 psi   |
| <b>Die Shear @ 23°C:</b>                       | ≥ 10 Kg / 3,400 psi   |
| <b>Degradation Temp:</b>                       | 358 °C  |
| <b>Weight Loss:</b>                            |   |
| @ 200°C:                                       | 0.13 %  |
| @ 250°C:                                       | 0.41 %  |
| @ 300°C:                                       | 0.80 %  |
| <b>Operating Temp:</b>                         |   |
| <b>Continuous:</b>                             | - 55°C to + 200°C   |
| <b>Intermittent:</b>                           | - 55°C to + 300°C   |
| <b>Storage Modulus @ 23°C:</b>                 | 727,680 psi   |
| <b>Ion Content:</b>                            |   |
| Cl <sup>-</sup> :                              | 187 ppm   |
| NH <sub>4</sub> <sup>+</sup> :                 | 65 ppm  |
| Na <sup>+</sup> :                              | 22 ppm  |
| K <sup>+</sup> :                               | 3 ppm   |
| <b>*Particle Size:</b>                         | ≤ 20 microns  |

| <b>ELECTRICAL AND THERMAL PROPERTIES:</b> |                 |
|---|-----------------|
| <b>Thermal Conductivity:</b>              | 1.59 W/mK       |
| <b>*Volume Resistivity @ 23°C:</b>        | ≤ 0.0005 Ohm-cm |
| <b>Dielectric Constant (1KHz):</b>        | N/A             |
| <b>Dissipation Factor (1KHz):</b>         | N/A             |

| <b>OPTICAL PROPERTIES @ 23°:</b> |     |
|----------------------------------|-----|
| <b>Spectral Transmission:</b>    | N/A |
| <b>Index of Refraction:</b>      | N/A |

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