

EM-A56 / EM-A56B

High Tg / Ultra Low Loss / Halogen Free

- Applications Include: Autonomous Driving System, Networking, and High Speed Applications
- Ultra Low Transmission Loss Material
- Designed for High Thermal Reliability with Excellent CAF Resistance
- Outstanding multiple lamination capability
- RoHS Compliant
- UL File: E150504
- Applicable IPC-4101 Slash Sheets: 134 ; IPC-4103 Slash Sheets: 240 /540

Basic Laminate Property

| Property | Item | | Typical Value | Unit | Test Condition | IPC-TM-650 |
|----------------------|------------------------|--------|-------------------|--------------|-----------------|------------------|
| Thermal | Tg | | N/A | °C | DSC | 2.4.25 |
| | | | 170 | °C | TMA | 2.4.24 |
| | | | 200 | °C | DMA | 2.4.24.4 |
| | CTE, X/Y-axis | | 12/13 | ppm/°C | < Tg, TMA | 2.4.24.5 |
| | CTE, Z-axis | | 35~40 | ppm/°C | < Tg, TMA | 2.4.24 |
| | | | 140~160 | ppm/°C | > Tg, TMA | |
| | Z-axis Expansion | | 1.8 | % | 50~260°C | 2.4.24 |
| | Td | | 425 | °C | TGA (5% W.L) | 2.4.24.6 |
| | T288 | | > 60 | Min | Clad | 2.4.24.1 |
| > 60 | | | Min | Etched | | |
| Thermal Conductivity | | 0.50 | W/m.K | - | ASTM D5470 | |
| Electrical | Dk (RC: 50/ 70%) | 10 GHz | 3.7/ 3.2 | - | C-24/23/50 | Cavity Resonator |
| | Df (RC: 50/ 70%) | 10 GHz | 0.005/ 0.004 | - | C-24/23/50 | Cavity Resonator |
| | Volume Resistivity | | >10 ¹⁰ | MΩ-cm | C-96/35/90 | 2.5.17.1 |
| | Surface Resistivity | | >10 ⁹ | MΩ | C-96/35/90 | 2.5.17.1 |
| Physical | Water Absorption | | 0.10 | % | E-1/105+D-24/23 | 2.6.2.1 |
| | Peel Strength (RTF) | 1 oz | 4.5 | lb/in | As Received | 2.4.8 |
| | Flexural Strength | Warp | 430-470 | MPa | As Received | 2.4.4 |
| | | Fill | 410-450 | MPa | As Received | |
| Flame Resistance | | V-0 | - | A & E-24/125 | UL-94 | |

Above typical values are tested under specified constructions and not intended for specification.