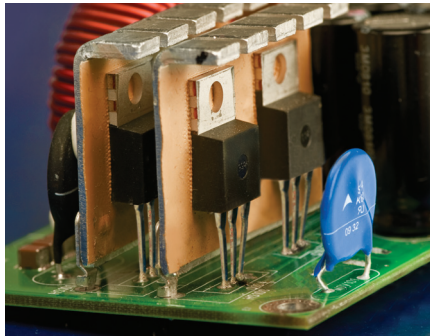


Bond-Ply® LMS 500P

Thermally Conductive, Polyimide Reinforced, Laminate Material-Silicone

Features and Benefits

- Polyimide film provides high dielectric strength
- Intended for secondary and primary voltage power applications
- Reliable lap shear strength at temperature extremes
- Quick cure rate
- Excellent CTE and shock/vibe absorption



Bond-Ply LMS 500P is a thermally conductive laminate with a polyimide film substrate. The product consists of a high performance thermally conductive low modulus silicone compound coated both sides of a polyimide film, and double lined with protective films. The low modulus silicone design effectively absorbs mechanical stresses induced by assembly-level CTE mismatch and shock and vibration while providing exceptional thermal performance and long-term adhesion and dielectric integrity. Bond-Ply LMS 500P is typically used for bonding power components and PCBs to a heatsink. See application note for lamination recommendations.

TYPICAL PROPERTIES OF BOND-PLY LMS 500P			
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Orange	Orange	Visual
Reinforcement Carrier	Polyimide Film	Polyimide Film	—
Thickness (inch) / (mm)	0.008	0.203	ASTM D374
ADHESION			
Lap Shear @ RT (psi) / (MPa) (1)	200	1.4	ASTM D1002
ELECTRICAL		VALUE	TEST METHOD
Dielectric Breakdown Voltage (Vac) (2)		6000	ASTM D149
Flame Rating		V-O	U.L.94
THERMAL			
Bulk Thermal Conductivity of Resin (W/m-K)		0.7	ASTM D5470
THERMAL PERFORMANCE vs PRESSURE			
Lamination Pressure (psi)		25	75
TO-220 Thermal Performance (°C/W) (3)		3.5	2.8

1) Laminates at 75psi, cured at 160°C for 6 minutes. Lap Shear tested at 25°C.
 2) The ASTM D149 test method was completed on cured Bond-Ply LMS 500P material. No pressure was applied to the product during the cure cycle. Actual application dielectric performance will vary with primary dependence on consistent material handling of Bond-Ply LMS 500P in the pre-cured or "green" state and applied pressure and dwell time during the lamination process.
 3) TO-220 Thermal Performance testing, per The Bergquist RD2010 specification for Laminates, was completed on pre-laminated TO-220 assemblies. Lamination was completed at the pressure levels referenced above. Actual pressure during performance testing was limited to the inherent weight distribution of the TO-220 component. No additional pressure was applied.

Typical Applications Include:

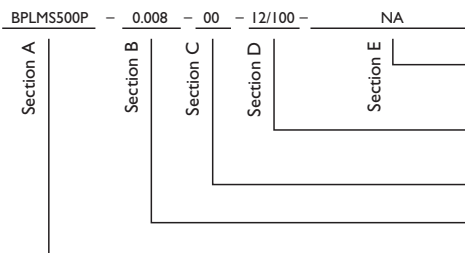
- Discrete semi-conductor packages bonded to heat spreader or heat sink

Configurations Available:

- Roll form
- Sheet form
- Die-cut parts

Shelf Life: The Bond-Ply LMS 500P is a heat-cured material and should be stored in temperature-controlled conditions. A recommended storage temperature range of 5-25°C should be used to maintain optimum characteristics for 5 months.

Building a Part Number



Standard Options

- ◀ example
- NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.
- 1212 = 12" x 12" Sheets, 12/100 = 12" x 100' rolls
- 00 = No adhesive
- Standard thicknesses available: 0.008"
- BPLMS500P = Bond-Ply LMS500P Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

www.bergquistcompany.com

The Bergquist Company -
North American Headquarters
18930 West 78th Street
Chanhassen, MN 55317
Phone: 800-347-4572
Fax: 952-835-0430

The Bergquist Company -
European Headquarters
Netherlands
Phone: 31-35-5380684
Fax: 31-35-5380295

The Bergquist Company -
Asia Headquarters
Hong Kong
Ph: 852-2690-9296
Fax: 852-2690-0782

All statements, technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

PDS_BP_LMS500P_0412