LIQUID CRYSTAL POLYMER
BOBBINS

- Excellent Insulation Properties
- Minimal Warpage
- Thin Wall Molding
- UL V0 Flammability Rating
- Precision Pin Positioning
- Suitable for Surface Mount

Liquid Crystal Polymer (LCP) fulfills rigorous requirements for high temperature resistance, high dielectric strength, dimensional stability, mechanical strength over a broad temperature range, and UL V0 recognition. As a result, it is Cosmo Corporation’s material of choice for custom design of miniature bobbins.

Liquid Crystal Polymer bobbins are used by Cosmo’s customers for transformers, chokes, reed relays, aerospace applications, and surface mount components where board space is at a premium. Using LCP, Cosmo can provide extremely small bobbin assemblies with terminals for both through-hole PC board mounting and surface mounting.

Cosmo’s through-hole PC board mounting bobbins are manufactured utilizing custom designed automated terminal insertion machinery for the precision placement of solder coated wire terminals.

Our surface mount styles include both conventional gull-wing and Cosmo’s wraparound terminal style. LCP’s high strength in thin walls allows the post-inserted pins to be wrapped around the terminal blocks. The pins’ bent ends at the top are for wire attachment; the bottoms are for surface mount. Based on LCP’s high strength, dimensional stability, and high temperature resistance, the wraparound style offers a greater degree of control of the coplanarity of the terminals by using the structure of the bobbin material to ensure terminal stability.

As a result, the coplanarity is maintained during shipping, manufacturing and soldering.

Cosmo’s expertise in molding, combined with the unique flow characteristics of LCP, has enabled us to produce bobbins with flange and winding tube wall sections as thin as 0.010 in. (0.25 mm). This has opened up additional space for windings and saved space on the printed circuit board.

Liquid Crystal Polymer has a UL V0 flammability rating with a heat deflection temperature of over 280°C. This translates into increased material stability during wave, vapor phase, and infrared soldering of terminals. These characteristics allow designers to reduce the amount of material surrounding the terminals without fear of terminals loosening during the soldering process. This further contributes to the ability to design miniature parts.

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