

A large number of small, dark, cylindrical pellets are scattered across the top of the page, casting soft shadows on the white background.

# COOLPOLY® THERMALLY CONDUCTIVE PLASTICS

## FOR LIGHT EMITTING DIODES (LED)

CoolPoly® thermally conductive injection molding grade thermoplastics are ideal for managing the heat output of light emitting diodes (LEDs). Thermally conductive plastics can be used at the die, board and enclosure levels to reduce temperatures, enhance brightness and increase lifetime. At the die level, thermally conductive plastics provide low CTE and thermally conductive mass to help transfer and dissipate heat close to the source. CoolPoly D5506 thermally conductive LCP is a good choice for die level encapsulation.



At the board level, thermally conductive plastics provide three-dimensional molded substrates that transfer LED energy similar to ceramic boards and metal backed boards. CoolPoly D5108 is a good choice for board level construction.

At the enclosure level, thermally conductive plastics can be molded to a net shape that serves as a heat sink and a mechanical enclosure. CoolPoly E5101 and E3603 are appropriate choices for LED enclosures.

LED thermal management solutions molded from thermally conductive plastics can provide:

- LOW THERMAL RESISTANCE
- LOW COST
- 3-DIMENSIONAL COMPLEXITY
- LOW WEIGHT
- ADDED CONVECTIVE SURFACES
- MOLDED IN THERMAL INTERFACE
- COMPONENT INTEGRATION

Additionally, compliant thermally conductive materials, like D8102, can be molded in enclosures to provide three-dimensional thermal interfaces and sealing gaskets.

Millions of LED thermal management components have been molded from CoolPoly thermally conductive plastics.