


MATERIAL DECLARATION SHEET



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|-----------------|---------------------------|-----|-----|---|
| Material Number | CRM2010 | | |  |
| Product Line | High power chip resistors | | | |
| Compliance Date | | | | |
| RoHS Compliant | Yes (Lead Exemption) | MSL | N/A | |

| No. | Construction Element(subpart) | Homogeneous Material | Material weight [mg] | Homogeneous Material\ Substances | CASRN if applicable | Materials Mass % | Material Mass % of total unit wt. | Subpart mass of total wt. (%) |
|-----|-------------------------------|----------------------|----------------------|----------------------------------|---------------------|------------------|-----------------------------------|-------------------------------|
| 1 | Ceramic | Substrate | 21.4686 | Aluminum oxide | 1344-28-1 | 96 | 83.687 | 87.174 |
| | | | | Silicon dioxide | 7631-86-9 | 4 | 3.487 | |
| | | | | Magnesium oxide | 1309-48-4 | | | |
| 2 | Top conductor | Silver | 0.3805 | Silver | 7440-22-4 | 100 | 1.545 | 1.545 |
| 3 | Bottom conductor | Silver | 0.1948 | Silver | 7440-22-4 | 100 | 0.791 | 0.791 |
| 4 | Resistor | Ruthenium Oxide | 0.2361 | Silver | 7440-22-4 | 40 | 0.383 | 0.959 |
| | | | | Ruthenium dioxide | 12036-10-1 | 20 | 0.192 | |
| | | | | Palladium | 7440-05-3 | 15 | 0.144 | |
| | | | | Lead glass | 7439-92-1 | 25 | 0.24 | |

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|----|---------------------|--------|--------------|------------------|------------|---------|-------|-------|
| 5 | First encapsulating | Resin | 0.2277 | Bismuth trioxide | 1304-76-3 | 50 | 0.462 | 0.925 |
| | | | | Resin | 25036-25-3 | 30 | 0.277 | |
| | | | | Aluminum oxide | 1344-28-1 | 10 | 0.093 | |
| | | | | Boron glass | 7440-42-8 | 10 | 0.093 | |
| 6 | Overcoat | Epoxy | 0.5224 | Epoxy | 25036-25-3 | 100 | 2.121 | 2.121 |
| 7 | Side conductor | Silver | 0.5031 | Silver | 7440-22-4 | 85 | 1.736 | 2.042 |
| | | | | Resin | 9003-36-5 | 15 | 0.306 | |
| 8 | Plating (Middle) | Nickel | 0.4246 | Nickel | 7440-02-0 | 100 | 1.724 | 1.724 |
| 9 | Plating (Outer) | Tin | 0.6370 | Tin | 7440-31-5 | 100 | 2.587 | 2.587 |
| 10 | Marking | Epoxy | 0.0324 | Epoxy | 25068-38-6 | 70 | 0.092 | 0.132 |
| | | | | Titanium dioxide | 1317-80-2 | 30 | 0.040 | |
| | | | Total weight | | | 24.6272 | | |

This Document was updated on: 10/29/2010

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
2. RoHS exemption 7c-I - Lead in glass of ... electronic components.