

# MATERIAL DECLARATION SHEET



|                 |                |     |     |  |
|-----------------|----------------|-----|-----|--|
| Material Number | PWR220035XXX   |     |     |  |
| Product Line    | Power Resistor |     |     |  |
| Compliance Date |                |     |     |  |
| RoHS Compliant  | yes            | MSL | N/A |  |

| No. | Construction Element (subpart) | Homogeneous Material   | Material weight [g] | Homogeneous Material/ Substances | CASRN if applicable | Materials Mass % | Material Mass % of total unit wt. | Subpart mass of total wt. (%) |
|-----|--------------------------------|------------------------|---------------------|----------------------------------|---------------------|------------------|-----------------------------------|-------------------------------|
| 1   | Housing                        | Epoxy Molding Compound | 0.5                 | Silica                           | 14808-60-7          | 53               | 15.132                            | 28.55                         |
|     |                                |                        |                     | Epoxy Resin                      | 29690-82-2          | 25               | 7.138                             |                               |
|     |                                |                        |                     | Phenolic Resin                   | 9003-35-4           | 15               | 4.283                             |                               |
|     |                                |                        |                     | Antimony trioxide                | 1309-64-4           | 3                | 0.857                             |                               |
|     |                                |                        |                     | Brominated epoxy resin           | 40039-93-8          | 3                | 0.857                             |                               |
|     |                                |                        |                     | Carbon Black                     | 1333-86-4           | 1                | 0.286                             |                               |
| 2   | Back Plate                     | Copper                 | 1.03                | Copper                           | 7440-50-8           | 99.9             | 58.755                            | 58.81                         |
|     |                                |                        |                     | Other                            |                     | 0.1              | 0.059                             |                               |
|     |                                | Plating                | 0.003               | Nickel                           | 7440-02-0           | 100              | 0.171                             | 0.17                          |
| 3   | Terminal                       | Copper                 | 0.11                | Copper                           | 7440-50-8           | 99.95            | 6.278                             | 6.28                          |
|     |                                |                        |                     | Other                            |                     | 0.05             | 0.003                             |                               |
|     |                                | Plating                | 0.007               | Tin                              | 7440-31-5           | 100              | 0.400                             | 0.40                          |
| 4   | Solder                         | Metal                  | 0.02                | Tin                              | 7440-31-5           | 96.5             | 1.102                             | 1.142                         |
|     |                                |                        |                     | Silver                           | 7440-22-4           | 3                | 0.034                             |                               |
|     |                                |                        |                     | Copper                           | 7440-50-8           | 0.5              | 0.006                             |                               |
| 5   | Substrate                      | Alumina                | 0.078               | Aluminum Oxide                   | 1344-28-1           | 88               | 3.919                             | 4.45                          |
|     |                                |                        |                     | Manganese dioxide                | 1313-13-9           | 3.5              | 0.156                             |                               |
|     |                                |                        |                     | Titanium-dioxide                 | 13463-67-7          | 3.5              | 0.156                             |                               |
|     |                                |                        |                     | Chromium(III)oxide               | 1308-38-9           | 2.5              | 0.111                             |                               |
|     |                                |                        |                     | Quartz (Silicon dioxide)         | 14808-60-7          | 2.5              | 0.111                             |                               |

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|---|----------------|--------------|--------|--------------------------------------|------------|-------|-------|------|
| 6 | Term Ink       | Ink          | 0.002  | Silver                               | 7440-22-4  | 96    | 0.110 | 0.11 |
|   |                |              |        | Lead-Oxide                           | 1309-60-0  | 1     | 0.001 |      |
|   |                |              |        | Dibismuth-trioxide                   | 1304-76-3  | 1     | 0.001 |      |
|   |                |              |        | Platinum                             | 7440-06-4  | 1     | 0.001 |      |
|   |                |              |        | Confidential Substances              |            | 1     | 0.001 |      |
| 7 | Resistor Paste | Ink          | 0.0008 | Palladium                            | 7440-05-3  | 25    | 0.011 | 0.05 |
|   |                |              |        | Boraluminosilicate glass             | 65997-17-3 | 30    | 0.014 |      |
|   |                |              |        | Trimethylpentanediol monoisobutyrate | 25265-77-4 | 25    | 0.011 |      |
|   |                |              |        | Silver                               | 7440-22-4  | 15    | 0.007 |      |
|   |                |              |        | Ruthenium dioxide                    | 12036-10-1 | 1     | 0.000 |      |
|   |                |              |        | Manganese dioxide                    | 1313-13-9  | 1     | 0.000 |      |
|   |                |              |        | Alumina                              | 1344-28-1  | 3     | 0.001 |      |
| 8 | Encapsulant    | Ink          | 0.0005 | Lead-monoxide                        | 1317-36-8  | 56.63 | 0.016 | 0.03 |
|   |                |              |        | Silicon dioxide                      | 7631-86-9  | 27.89 | 0.008 |      |
|   |                |              |        | Diboron-trioxide                     | 1303-86-2  | 9.15  | 0.003 |      |
|   |                |              |        | Chromium(III)oxide                   | 1308-38-9  | 3.15  | 0.001 |      |
|   |                |              |        | Confidential Substances              |            | 3.15  | 0.001 |      |
|   |                | Total weight | 1.751  |                                      |            |       |       |      |

**This Document was updated on:** October 20, 2009

**Important remarks:**

1. It is the responsibility of the user to verify they are accessing the latest version.
2. RoHS exemptions: 5 – lead in glass of cathode ray tubes, electronic components & fluorescent tubes.