

MATERIAL DECLARATION SHEET



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|-----------------|--------------------------|-----|---|
| Material Number | 4611X | | |
| Product Line | Thick Film Conformal SIP | | |
| Compliance Date | 4-12-2010 | | |
| RoHS Compliant | Yes | MSL | 1 |

| 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 | Ceramic substrate | Alumina | 0.17897 | Aluminum oxide | 1344-28-1 | 96.60 | 30.051 | 31.109 |
| | | | | Silicon dioxide | 14808-60-7 | 2.10 | 0.653 | |
| | | | | Magnesium oxide | 1309-48-4 | 1.10 | 0.342 | |
| | | | | Calcium oxide | 1305-78-8 | 0.20 | 0.062 | |
| 2 | Protective coating | Protective coating | 0.00143 | Bismuth trioxide | 1304-76-3 | 60.00 | 0.149 | 0.249 |
| | | | | Silicon dioxide | 14808-60-7 | 35.00 | 0.087 | |
| | | | | Chromium III oxide | 7440-47-3 | 5.00 | 0.012 | |
| 3 | Resistor | Resistive glass | 0.00374 | Ruthenium dioxide | 12036-10-1 | 15.84 | 0.103 | 0.650 |
| | | | | Lead oxide | 1317-36-8 | 42.08 | 0.274 | |
| | | | | Silicon dioxide | 14808-60-7 | 16.83 | 0.109 | |
| | | | | Boron oxide | 1303-86-2 | 5.89 | 0.038 | |
| | | | | Aluminum oxide | 1344-28-1 | 16.83 | 0.109 | |
| | | | | Zinc oxide | 1314-13-2 | 2.53 | 0.016 | |
| 4 | Termination | Silver Palladium glass | 0.00649 | Silver | 7440-22-4 | 93.63 | 1.056 | 1.129 |
| | | | | Palladium | 7440-05-3 | 1.02 | 0.012 | |
| | | | | Glass | 65997-17-3 | 5.44 | 0.061 | |
| 5 | Leadframe with matte tin plating | Steel alloy with tin plating | 0.1012 | Iron | 7439-89-6 | 85.86 | 15.103 | 17.591 |
| | | | | Tin | 7440-31-5 | 14.14 | 2.487 | |
| 6 | Solder | Solder | 0.03663 | Tin | 7440-31-5 | 98.5 | 6.272 | 6.367 |
| | | | | Silver | 7440-22-4 | 1.0 | 0.064 | |
| | | | | Copper | 7440-50-8 | 0.5 | 0.032 | |

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|---|---------------|------------------|---------|-----------------------------|-------------------------|----|--------|--------|
| 7 | Encapsulation | Molding compound | 0.24684 | Epoxy resin | 25068-38-6 | 30 | 12.872 | 42.906 |
| | | | | Silicon dioxide | 14808-60-7 | 45 | 19.308 | |
| | | | | Non-halogen flame retardant | proprietary | 17 | 7.294 | |
| | | | | Pigment | 13463-67-7 4531-49-1 | 8 | 3.433 | |
| | | Total weight | 0.5753 | | | | | |

This Document was updated on: **July 7, 2011**

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
2. RoHS exemptions: 7(c)-I electrical and electronic components containing lead in a glass or ceramic...