

Material Data Sheet

Date : Mar/22/2011
 Company : Panasonic Electronic Devices Co., Ltd.
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| | | | |
|------------------------|--|--------------------|------------------|
| Product P/N | ER16GEY1000V | | |
| Product Classification | Electric/Electronic component(Passive component) | | |
| Product Name | Chip Resistor | Substitute P/N | No |
| Pb | Pb free | Packaging Material | Not included |
| | | | Weight TOTAL(mg) |
| | | | 4.81295 |

| Part Name | Material Name | Chemical Name | CASNo. | Remark | Weight of each chemical material in a part (mg) | Weight of a part(mg) | Rate of each chemical material in a part (%) | Rate of each chemical material in a product (wt%) | Rate of each part in a product (wt%) | | |
|---------------------------|--|--|--|------------|---|----------------------|--|---|--------------------------------------|-----------|-----------|
| Substrate | Ceramics | Aluminum oxide ; Alumina; Corundum; Al2O3 | 1344-28-1 | | 4.0572 | 4.2 | 96.6 | 87.264326 | 84.29733 | | |
| | | Silica; Silicon dioxide | 7631-86-9 | | 0.0882 | | 2.1 | | 1.832556 | | |
| | | Magnesium oxide; MgO | 1309-48-4 | | 0.042 | | 1 | | 0.872646 | | |
| | | Calcium oxide; CaO | 1305-78-8 | | 0.0126 | | 0.3 | | 0.261794 | | |
| Top Terminal | Other special metals | Silver; Ag | 7440-22-4 | | 0.032982 | 0.03404 | 96.891889 | 0.707323 | 0.685339 | | |
| | | Palladium; Pd | 7440-05-3 | | 0.000443 | | 1.301411 | | 0.009205 | | |
| | Glass | Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide | 1317-36-8 | | 0.000307 | | 0.901881 | | 0.006379 | | |
| | | Cupric oxide; CuO | 1317-38-0 | | 0.000205 | | 0.602233 | | 0.00426 | | |
| Bottom Terminal | Other special metals | Silver; Ag | 7440-22-4 | | 0.027845 | 0.02856 | 97.496498 | 0.593421 | 0.578564 | | |
| | | Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide | 1317-36-8 | | 0.000429 | | 1.502101 | | 0.008914 | | |
| | Glass | Silica; Silicon dioxide | 7631-86-9 | | 0.000286 | | 1.001401 | | 0.005943 | | |
| | | Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide | 1317-36-8 | | 0.004997 | | 43.987675 | | 0.236074 | | |
| Resistive Element | Glass | Ruthenium(IV) oxide; RuO2 | 12036-10-1 | | 0.00434 | 0.01136 | 38.204226 | 0.09174 | 0.035405 | | |
| | | Boron oxide; B2O3 | 1303-86-2 | | 0.001704 | | 15 | | 0.004426 | | |
| | | Other antimony compounds | -- | | 0.000213 | | 1.875 | | 0.002203 | | |
| | | Manganese dioxide; MnO2 | 1313-13-9 | | 0.000106 | | 0.933099 | | 0.002203 | | |
| First Protective Coating | Glass | Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide | 1317-36-8 | | 0.009832 | 0.01788 | 54.988813 | 0.371542 | 0.204324 | | |
| | | Silica; Silicon dioxide | 7631-86-9 | | 0.004578 | | 25.604027 | | 0.095119 | | |
| | | Boron oxide; B2O3 | 1303-86-2 | | 0.002307 | | 12.902685 | | 0.047934 | | |
| | | Zinc oxide; ZnO | 1314-13-2 | | 0.000751 | | 4.200224 | | 0.015604 | | |
| Second Protective Coating | EP (Epoxy resin) | Epichlorohydrin, o-cresol, formaldehyde polymer; Formaldehyde, polymer with (chloromethyl)oxirane and 2-me | 29690-82-2 | | 0.027945 | 0.0405 | 69 | 0.841481 | 0.590621 | | |
| | | Ceramics | Silica; Silicon dioxide | 7631-86-9 | | | 0.009315 | | 23 | 0.193541 | |
| | Others (Powder, etc) | Carbon black; C | 1333-86-4 | | 0.00324 | | 8 | | 0.067319 | | |
| | | EP (Epoxy resin) | Epichlorohydrin, o-cresol, formaldehyde polymer; Formaldehyde, polymer with (chloromethyl)oxirane and 2-me | 29690-82-2 | | | 0.001701 | | 0.00279 | 60.967741 | 0.05799 |
| Marking 1 | Ceramics | Silica; Silicon dioxide | 7631-86-9 | | 0.00851 | 0.00279 | 30.501793 | 0.017682 | 0.017682 | | |
| | | Others (Powder, etc) | Titanium dioxide; Pigment white 6; TiO2 | 13463-67-7 | | | 0.000238 | | 8.530466 | 0.004945 | |
| | Other special metals | Silver; Ag | 7440-22-4 | | 0.047136 | | 0.09882 | | 47.698845 | 2.053254 | 0.9794 |
| | | EP (Epoxy resin) | Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250 | 25068-38-6 | | | | | 0.041208 | | 41.700061 |
| Other nonferrous metal | Carbon black; C | 1333-86-4 | | 0.005831 | 5.900623 | 0.121153 | | | | | |
| | Potassium titanate; Potassium titanium oxide; K2Ti6O13 | 12056-51-8 | | 0.004645 | 4.700466 | 0.096511 | | | | | |
| Middle Terminal | Nickel and Nickel alloy | Nickel; Ni | 7440-02-0 | | 0.223 | 0.223 | 100 | 4.633333 | 4.633333 | | |
| Outer Terminal | Other nonferrous metal | Tin; Sn | 7440-31-5 | | 0.156 | 0.156 | 100 | 3.241256 | 3.241256 | | |