

Dear Customers,

## Material Data Sheet

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Company : Industrial Solutions Company, Panasonic Corporation

Address : 401 Sadamasa-cho, Fukui City, Fukui Japan

Department : Engineering Planning Section, Morita Plant, Device Solutions Business Division

Approved by : Hideki Tanaka

Prepared by : Takeshi Torii

Telephone : +81-776-56-8028

Product P/N	ERA6AED@@@V				
Product Classification	Electric/Electronic component(Passive component)				
Product Name	Metal Film Chip Resistor	Substitute P/N	No	Weight TOTAL(mg)	4.91187
Pb	Pb free	Packaging Material	Not included		

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		4.1538	4.3	96.6	87.542795	84.56633
			Quartz; SiO2	14808-60-7	0.0903	2.1		1.838404		
			Magnesium oxide; MgO	1309-48-4	0.043	1		0.875431		
			Calcium oxide; CaO	1305-78-8	0.0129	0.3		0.26263		
Top Terminal	EU RoHS exemption 7(c)-I	Gold	Gold; Au	7440-57-5		0.001381	0.0014	98.642856	0.028524	0.028136
			Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide	1317-36-8	0.000013	0.928572		0.000265		
		Glass	Boron oxide; B2O3	1303-86-2	0.000006	0.428572		0.000123		
Bottom Terminal		Other special metals	Silver; Ag	7440-22-4		0.023791	0.02863	83.098148	0.582895	0.484378
		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.004839		16.901852		0.098517
Resistive Element		Other nonferrous metals	Chromium; Cr	7440-47-3		0.000364	0.00091	40	0.018528	0.007411
		Nickel and Nickel alloys	Nickel; Ni	7440-02-0		0.000364		40		0.007411
		Wrought aluminium alloys	Aluminum; Al	7429-90-5		0.000091		10		0.001853
		Other nonferrous metals	Silicon; Si	7440-21-3		0.000091		10		0.001853
Re-top Terminal		Other special metals	Silver; Ag	7440-22-4		0.017575	0.02115	83.096926	0.43061	0.357827
		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.003575		16.903074		0.072783
Overcoat		EP (Epoxy resin)	Epichlorohydrin, o-cresol, formaldehyde polymer; Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol	29690-82-2		0.026388	0.04458	59.192461	0.907682	0.537311
		Ceramics	Silica, vitreous	60676-86-0		0.009897		22.200539		0.201492
		Others (Powder,etc)	C.I. Pigment Black 28; Copper chromite black spinel; Cu(Cr,Mn)2O4	68186-91-4		0.003656		8.200987		0.074432
			Carbon black; C	1333-86-4		0.002007		4.502019		0.040861
			Talc; Magnesium silicate; Mg3H2(SiO3)4	14807-96-6		0.002007		4.502019		0.040861
			Bismuth oxide; Bi2O3	1304-76-3		0.000535		1.20009		0.010892
			Bismuth trinitrate; Bi(NO3)3	10361-44-1		0.00009		0.201885		0.001833
Marking 1		EP (Epoxy resin)	Epichlorohydrin, o-cresol, formaldehyde polymer; Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol	29690-82-2		0.001403	0.0028	50.107141	0.05707	0.028625
		Others (Powder,etc)	Talc; Magnesium silicate; Mg3H2(SiO3)4	14807-96-6		0.000703		25.107143		0.014313
			Titanium dioxide; Pigment white 6; TiO2	13463-67-7		0.000527		18.821429		0.01073
			Calcium carbonate; Marble; CaCO3	471-34-1		0.000107		3.821429		0.002179
			Bismuth oxide; Bi2O3	1304-76-3		0.000051		1.821429		0.001039
			Bismuth trinitrate; Bi(NO3)3	10361-44-1		0.000009		0.321429		0.000184
Side Terminal		Other special metals	Silver; Ag	7440-22-4		0.039304	0.0824	47.699028	1.677591	0.800205
		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.034361		41.700243		0.699551
		Others (Powder,etc)	Carbon black; C	1333-86-4		0.004862		5.900486		0.098985
		Other nonferrous metals	Potassium titanate; Potassium titanium oxide; K2Ti6O13	12056-51-8		0.003873		4.700243		0.07885
Middle Terminal		Nickel and Nickel alloys	Nickel; Ni	7440-02-0		0.25	0.25	100	5.089712	5.089712
Outer Terminal		Other nonferrous metals	Tin; Sn	7440-31-5		0.18	0.18	100	3.664593	3.664593

EU RoHS exemption 7(c)-I

Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound