

Dear Customers,

Material Data Sheet

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Product P/N	ERA3ARB@@@V				
Product Classification	Electric/Electronic component(Passive component)				
Product Name	Metal Film Chip Resistor	Substitute P/N	No	Weight TOTAL(mg)	2.045728
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		1.68084	1.74	96.6	85.054944	82.163063	
			Quartz; SiO2	14808-60-7		0.03654		2.1		1.786162	
			Magnesium oxide; MgO	1309-48-4		0.0174		1		0.850553	
			Calcium oxide; CaO	1305-78-8		0.00522		0.3		0.255166	
Top Terminal		Gold	Gold; Au	7440-57-5		0.000631	0.00064	98.59375	0.031335	0.030894	
	EU RoHS exemption 7(c)-I	Glass	Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide; Lead(2+) oxide	1317-36-8		0.000006		0.9375		0.000294	
			Boron oxide; B2O3	1303-86-2		0.000003		0.46875		0.000147	
Bottom Terminal		Other special metals	Silver; Ag	7440-22-4		0.01096	0.01319	83.093252	0.644808	0.5358	
		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.00223		16.906748		0.109008	
Resistive Element		Other nonferrous metals	Chromium; Cr	7440-47-3		0.000216	0.00054	40	0.026398	0.010559	
			Nickel and Nickel alloys	Nickel; Ni	7440-02-0			0.000216		40	0.010559
			Wrought aluminium alloys	Aluminum; Al	7429-90-5			0.000054		10	0.00264
			Other nonferrous metals	Silicon; Si	7440-21-3			0.000054		10	0.00264
Re-top Terminal		Other special metals	Silver; Ag	7440-22-4		0.008217	0.009889	83.092324	0.483448	0.401716	
		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.001672		16.907676		0.081732	
Overcoat		EP (Epoxy resin)	Epichlorohydrin, o-cresol, formaldehyde polymer; Formaldehyde, polymer with (chloromethyl)oxirane and 2-methylphenol	29690-82-2		0.017562	0.02967	59.191099	1.450488	0.858619	
		Ceramics	Silica, vitreous	60676-86-0		0.006587		22.200877		0.321988	
			Others (Powder,etc)	C.I. Pigment Black 28; Copper chromite black spinel; Cu(Cr,Mn)2O4	68186-91-4			0.002433		8.200203	0.118931
			Carbon black; C	1333-86-4		0.001336		4.502865		0.065307	
			Talc; Magnesium silicate; Mg3H2(SiO3)4	14807-96-6		0.001336		4.502865		0.065307	
			Bismuth oxide; Bi2O3	1304-76-3		0.000356		1.199866		0.017403	
	Bismuth trinitrate; Bi(NO3)3	10361-44-1		0.000006	0.202225	0.002933					
Side Terminal		EP (Epoxy resin)	Bisphenol A, epichlorohydrin polymer; Epoxy resin; Epon 820; Araldite GY 250	25068-38-6		0.018544	0.0408	45.450979	1.994451	0.906475	
		Other special metals	Silver; Ag	7440-22-4		0.018543		45.44853		0.906475	
		Others (Powder,etc)	Carbon black; C	1333-86-4		0.003713		9.100491		0.181501	
Middle Terminal		Nickel and Nickel alloys	Nickel; Ni	7440-02-0		0.124	0.124	6.061412	6.061412		
Outer Terminal		Other nonferrous metals	Tin; Sn	7440-31-5		0.086999	0.086999	100	4.252716	4.252716	

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