

Dear Customers,

Material Data Sheet

Date : January 5, 2020
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Product P/N	ERA3AEB@@@V				
Product Classification	Electric/Electronic component(Passive component)				
Product Name	Metal Film Chip Resistor	Substitute P/N	No	Weight TOTAL(mg)	2.04573
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)-1	Glass	Lead(II) oxide; Lead oxide (PbO); C.I. Pigment Yellow 46; Lead monoxide;	1317-36-8				0.000006	0.9375	0.000294
				Lead(2+) oxide							
Bottom Terminal	Other special metals	Boron oxide; B2O3	1303-86-2		0.000003	0.01319	0.46875	0.644808	0.000147		
		Silver; Ag	7440-22-4		0.01096		83.093252		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 alloy	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		0.00006		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	
Middle Terminal	Others (Powder,etc)	Carbon black; C	1333-86-4		0.003713	0.124	9.100491	6.061412	0.181501		
		Nickel and Nickel alloys	Nickel; Ni	7440-02-0			0.124		100	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)-1
 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