


MATERIAL DECLARATION SHEET



Material Number	CRM 1210-A ($> 1\Omega$)			
Product Line	High power chip resistors			
Compliance Date	20/11/2017			
RoHS Compliant	Yes (Lead Exemption)	MSL	1	

No.	Construction Element(subpart)	Homogeneous Material	Material weight [mg]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	Ceramic	Substrate	14.3847	Al ₂ O ₃	1344-28-1	96	82.003	85.419
				SiO ₂	14808-60-7	4	3.416	
				MgO	1309-48-4			
2	Top conductor	Silver	0.2711	Ag	7440-22-4	100	1.610	1.610
3	Bottom conductor	Silver	0.0909	Ag	7440-22-4	100	0.540	0.540
4	Resistor	Ruthenium Oxide	0.1783	Ag	7440-22-4	40	0.423	1.059
				RuO ₂	12036-10-1	20	0.212	
				Pd	7440-05-3	15	0.159	
				Glass	65997-18-4	14.9	0.158	
				Lead oxide	1317-36-8	10.1	0.107	

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5	First encapsulating	Glass	0.1687	Silica	14808-60-7	74	0.741	1.001
				Glass	65997-18-4	12	0.120	
				Al	1344-28-1	6	0.060	
				CR ₂ O ₃	1308-38-9	8	0.080	
6	Overcoat	Resin	0.3890	Resin	25036-25-3	100	2.310	2.310
7	Side conductor	Silver	0.3924	Ag	7440-22-4	85	1.981	2.331
				Resin	9003-36-5	15	0.35	
8	Plating (Middle)	Nickel	0.3317	Ni	7440-02-0	100	1.970	1.970
9	Plating (Outer)	Tin	0.5978	Sn	7440-31-5	100	3.550	3.550
10	Marking	Resin	0.0354	Resin	29690-82-2	70	0.147	0.210
				Pigment	1317-80-2	30	0.063	
			Total weight	16.84				

This Document was updated on: 20/11/2017

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.
 - a. **“Compliance Date”** is not the date supplier submits the MDS, but when the product was first compliant with RoHS.
 - b. **“This Document was updated on:”** is where we indicate when supplier submits the MDS. All previous MDS must be archived for traceability in the future.

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c. Material weights for components less than 100mg (most Semiconductor products) should be listed in milligrams. This avoids all those zeros and round off issues.

2. 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.