

# MATERIAL DECLARATION SHEET



Material Number	CRS 2010			
Product Line	High power & anti-surge chip resistors			
Compliance Date	5-29-2013			
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	21.4686	Aluminum oxide	1344-28-1	96	83.687	87.175
				Silicon dioxide	7631-86-9	4	3.487	
				Magnesium oxide	1309-48-4			
2	Top conductor	Silver	0.3805	Silver	7440-22-4	100	1.545	1.545
3	Bottom conductor	Silver	0.1948	Silver	7440-22-4	100	0.791	0.791
4	Resistor	Silver Palladium	0.2361	Silver	7440-22-4	40	0.383	0.959
				Ruthenium dioxide	12036-10-1	20	0.192	
				Palladium	7440-05-3	15	0.144	
				Lead-containing Glass	7439-92-1	25	0.240	

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5	First encapsulating	Resin	0.2277	Glass	65997-18-4	92	0.851	0.925
				Chromium oxide	1308-38-9	8	0.074	
6	Overcoat	Resin	0.5224	Resin	25036-25-3	100	2.121	2.121
7	Side conductor	Silver	0.5031	Silver	7440-22-4	85	1.736	2.042
				Resin	9003-36-5	15	0.306	
8	Plating (Middle)	Nickel	0.4246	Nickel	7440-02-0	100	1.724	1.724
9	Plating (Outer)	Tin	0.6370	Tin	7440-31-5	100	2.587	2.587
10	Marking	Resin	0.0324	Resin	25068-38-6	70	0.092	0.131
				Titanium oxide	1317-80-2	30	0.039	
			Total weight	24.6272				

**This Document was updated on: 08/26/2019**

**Important remarks:**

1. It is the responsibility of the user to verify they are accessing the latest version.
2. Lead exemption – 7c-l