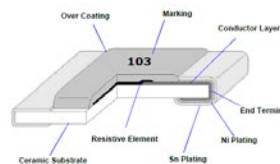


# MATERIAL DECLARATION SHEET



Material Number	CR0603 Series		
Product Line	Thick Film Chip Resistors		
Compliance Date	04-01-2003		
RoHS Compliant	Yes	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	Ceramic	1.662	Aluminum oxide	1344-28-1	96%	82.49	85.93
				Silicon dioxide	14808-60-7	4%	3.44	
2	Conductor Layer	Thick Film Conductor	0.045	Silver	7440-22-4	96%	2.23	2.31
				Bismuth	7440-69-9	1%	0.02	
				Barium	7440-39-3	1%	0.02	
				Silicon	7440-21-3	1%	0.02	
				Boron	7440-42-8	1%	0.02	
3	Resistive Element	Thick Film Resistor	0.026	Ruthenium dioxide	12036-10-1	25%	0.33	1.32
				Silver	7440-22-4	40%	0.53	
				Palladium	7440-05-3	15%	0.2	
				Lead	7439-92-1	20%	0.26	
4	Over Coating	Epoxy	0.03	Epoxy	29690-82-2	100%	1.57	1.57
5	Marking	Epoxy	0.003	Epoxy	25085-99-8	100%	0.16	0.16
6	End Terminal	NI-CR	0.003	Nickel	7440-02-0	80%	0.1	0.13
				Chromium	7440-47-3	20%	0.03	
7	Ni Plating	Nickel	0.088	Nickel	7440-02-0	100%	4.54	4.54
8	Sn Plating	Tin	0.078	Tin	7440-31-5	100%	4.04	4.04
			Total weight	1.935				

This Document was updated on: **2016-2-5**

**Important remarks:**

1. It is the responsibility of the user to verify they are accessing the latest version.
2. Resistive Element contains the Lead (Pb) which can be referred to RoHS Exemption 7(c)-I