


# MATERIAL DECLARATION SHEET



Material Number	CHP0603Q			
Product Line	Thick film Automotive High Rated Power chip resistors			
Compliance Date	11/30/2021			
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	1.811	Aluminum oxide	1344-28-1	96	77.314	80.535
				Silicon dioxide	14808-60-7	2	1.6105	
				Magnesium oxide	1309-48-4	2	1.6105	
2	Top conductor	Silver	0.0464	Silver	7440-22-4	100	2.063	2.063
3	Bottom conductor	Silver	0.0201	Silver	7440-22-4	100	0.894	0.894
4	Resistor	Ruthenium Oxide	0.0264	Silver	7440-22-4	40	0.469	1.174
				Ruthenium dioxide	12036-10-1	20	0.235	
				Palladium	7440-05-3	15	0.176	
				Glass	65997-18-4	14.9	0.175	
				Lead-containing glass	7439-92-1	10.1	0.119	

# MATERIAL DECLARATION SHEET



5	First encapsulating	Glass	0.0252	Non-Lead Glass	65997-18-4	74	0.83	1.121
				Silicon dioxide	14808-60-7	12	0.134	
				Aluminum oxide	1344-28-1	6	0.067	
				Chromium oxide	1308-38-9	8	0.090	
6	Overcoat	Resin	0.0517	Resin	25036-25-3	100	2.299	2.299
7	Side conductor	Silver	0.1309	Silver	7440-22-4	85	4.948	5.821
				Resin	9003-36-5	15	0.873	
8	Plating (Middle)	Nickel	0.0525	Nickel	7440-02-0	100	2.335	2.335
9	Plating (Outer)	Tin	0.0782	Tin	7440-31-5	100	3.478	3.478
10	Marking	Resin	0.0063	Resin	29690-82-2	70	0.196	0.28
				Titanium dioxide	1317-80-2	30	0.084	
Total weight			2.2487					

**This Document was updated on: 11/30/2021**

**Important remarks:**

1. It is the responsibility of the user to verify they are accessing the latest version.
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.