


MATERIAL DECLARATION SHEET



Material Number	PF2203			
Product Line	Resistors			
Compliance Date	2024/10/04			
RoHS Compliant	Yes	MSL		

No.	Construction Element(subpart)	Homogeneous Material	Material weight [g]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	Preform	Tin	0.01	Tin	7440-31-5	90	0.407%	0.452%
				Silver	7440-22-4	10	0.045%	
2	Back Plate	Copper	1.28	Copper	7440-50-8	100	57.819%	57.819%
3	Lead frame	Copper	0.18	Copper	7440-50-8	100	8.131%	8.131%
4	CERAMIC SUBSTRATE	CERAMIC	0.23057	Alumina oxide	1344-28-1	96	9.999%	10.415%
				Silicon dioxide	14808-60-7	4	0.417%	
5	Conductor Layer	Thick Film	0.012439	Silver Powder	7440-22-4	97	0.545%	0.562%
				Platinum	7440-06-4	1	0.006%	
				Copper oxide	1317-39-1	1	0.006%	
				Zinc oxide	1314-13-2	1	0.006%	
6	Resistive Element	Thick Film Resistor	0.010788	Ruthenium oxide	12036-10-1	25	0.122%	0.487%
				Silver Powder	7440-22-4	40	0.195%	
				Palladium	7440-05-3	15	0.073%	
				Lead	7439-92-1	20	0.097%	

MATERIAL DECLARATION SHEET



7	Lead-free solder	Tin	0.002	Tin	7440-31-5	90.3	0.082%	0.090%
				silver	7440-22-4	7.4	0.007%	
				Copper	7440-50-8	2	0.002%	
				Polymerized rosin	65997-05-9	0.3	0.000%	
8	Epoxy molding compound	Quartz (SiO ₂)	0.488	Quartz (SiO ₂)	29690-82-2	82	18.076%	22.044%
				Phenol polymer with formaldehyde	9003-35-4	12	2.645%	
				Antimony trioxide	1309-64-4	3	0.661%	
				Silica, vitreous	60676-86-0	1.3	0.287%	
				Carbon black	1333-86-4	1.7	0.375%	
		Total weight	2.213797					

This Document was updated on: 10/04/2024

Important remarks:

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