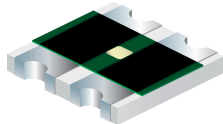


# MATERIAL DECLARATION SHEET



Material Number	CAT16-J2AS Series			
Product Line	Chip Resistor			
Compliance Date	11/19/2015			
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	Alumina	3.34	Magnesium oxide	1309-48-4	1.3	1.0552	81.1665
				Crystalline silica	14808-60-7	3.0	2.4353	
				Aluminum oxide	1344-28-1	95.0	77.1081	
				Calcium oxide	1305-78-8	0.7	0.5682	
2	Surface electrode	AgPd glass	0.150	Lead	7439-92-1	2.0	0.0729	3.6452
				Boron	7440-42-8	1.0	0.0365	
				Palladium	7440-05-3	21.0	0.7655	
				Silver	7440-22-4	73.0	2.6610	
				Crystalline silica	14808-60-7	2.0	0.0729	
3	Resistance Element	RuO2 glass	0.105	Zirconium oxide	1314-23-4	1.0	0.0365	2.5516
				Lead	7439-92-1	26.0	0.6634	
				Boron	7440-42-8	4.0	0.1021	
				Palladium	7440-05-3	7.0	0.1786	
				Silver	7440-22-4	38.0	0.9696	
				Crystalline silica	14808-60-7	9.0	0.2296	
4	Protective Coat 1	Glass	0.130	Manganese oxide	1313-13-9	1.0	0.0255	3.1592
				Ruthenium oxide	12036-10-1	15.0	0.3827	
				Lead	7439-92-1	50.0	1.5796	
				Boron	7440-42-8	10.0	0.3159	
5	Protective Coat 2	Resin	0.125	Crystalline silica	14808-60-7	35.0	1.0632	3.0377
				Chromium oxide	1308-38-9	3.0	0.0948	
				Epoxy resin	Proprietary	65.0	1.9745	
6	Stamp	Resin	0.008	Titanium dioxide	13463-67-7	50	0.0972	0.1944
				Epoxy resin	Proprietary	50	0.0972	

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7	Side electrode	NiCr/Cu	0.042	Nickel	7440-02-0	20.0	0.2041	1.0207
				Copper	7440-50-8	75.0	0.7655	
				Chromium	7440-47-3	5.0	0.0510	
8	Internal coating	Nickel	0.110	Nickel	7440-02-0	99.75	2.6665	2.6731
				Misc., not to declare	N/A	0.25	0.0067	
9	External coating	Tin	0.105	Tin	7440-31-5	99.75	2.5453	2.5516
				Misc., not to declare	N/A	0.25	0.0064	
Total weight			4.115					

**This Document was updated on:** January 5, 2017

**Important remarks:**

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