



Material Declaration Sheet

Vishay Inter-technology

Date 12/20/2021

Part / Product Family Details

Part / Family Series	RoHS Compliance Status	RoHS Compliance Date Code	Total product Weight (mg)	Value Range	Product Type	Manufacturing Location	Number of Exemptions Used
CRCW0402 e3 (10R to less than 10M)	YES WITH EXEMPTION	16-Oct-2004	0.6091609	10R to less than 10M	Resistor	Vishay BCComponents Bevschlag	1

Technical Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	JESD-97 Pb-Free Material Code Marking	J-STD-20D MSL Rating	Reflow Peak Process Body Temperature	Reflow Maximum number of cycles	Reflow Max.Time at Peak Temperature (sec)	Soldering Compatibility (SnPb/Pb-Free)
Tin (Sn)	Other	e3	1	260 °C	3	40	Backward & Forward

Material Composition

Homogenous Material Name	Material Classification	Substance Name	CAS number	Weight of Substance (mg)	With respect to Homogenous Material		% with respect to Total Product Weight	RoHS Exemptions Used
					%	ppm		
Ceramic substrate	Ceramics / glass			0.44709				
		Aluminium Oxide	1344-28-1	0.42697	95.50	954998	70091.50	0 - None
		Magnesium Oxide	1309-48-4	0.00444	0.99	9931	728.87	0 - None
		Miscellaneous	System	0.00268	0.60	5994	439.95	0 - None
		Silicon dioxide	7631-86-9	0.01300	2.91	29077	2134.08	0 - None
EP-QD 35	Other duromers			0.01720				
		Carbon Black	1333-86-4	0.00123	7.15	71512	201.92	0 - None
		Epoxy resin	25068-38-6	0.00983	57.15	571512	1613.70	0 - None
		Silicon dioxide	7631-86-9	0.00614	35.70	356977	1007.94	0 - None
Glass electrical contact	Ceramics / glass			0.00123				
		Lead silicate [Glass]	10099-76-0	0.00123	99.90	999000	201.72	7(c)-I
		Miscellaneous	System	0.00000	0.10	1000	0.20	0 - None
Glass enamel	Ceramics / glass			0.00456				
		Chromium oxide (III)	1308-38-9	0.00010	2.19	21930	16.42	0 - None
		Lead silicate [Glass]	10099-76-0	0.00446	97.81	978070	732.15	7(c)-I
Glass Layer	Ceramics / glass			0.00204				
		Lead silicate [Glass]	10099-76-0	0.00103	50.49	504902	169.09	7(c)-I
		Palladium	7440-05-3	0.00033	16.18	161765	54.17	0 - None
		Ruthenium oxide	12036-10-1	0.00068	33.33	333333	111.63	0 - None
Nickel plating	Nickel alloys			0.02603				
		Miscellaneous	System	0.00003	0.10	1000	4.27	0 - None
		Nickel	7440-02-0	0.02600	99.90	999000	4268.83	0 - None
Silver electrical contact alloy	Other special metals			0.06045				
		Bismuthous oxide	1304-76-3	0.00185	3.06	30603	303.70	0 - None
		Chromium	7440-47-3	0.00000	0.00	5	0.05	0 - None
		Copper	7440-50-8	0.00000	0.00	8	0.08	0 - None
		Copper oxide	1317-38-0	0.00062	1.03	10256	101.78	0 - None
		Silver	7440-22-4	0.05798	95.91	959127	9518.01	0 - None
				0.00136				
Silver layer	Other special metals			0.00000				
		Miscellaneous	System	0.00000	0.10	1000	0.22	0 - None
		Silver	7440-22-4	0.00136	99.90	999000	223.03	0 - None
Sn99.9	Other special metals			0.04920				
		Miscellaneous	System	0.00005	0.10	1000	8.08	0 - None
		Tin	7440-31-5	0.04915	99.90	999000	8068.61	0 - None

EU-RoHS Directive-2011/65/EU MCV of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and MCV of 0.01% by mass cadmium

Exemption Used 7(c)-I - 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

Note :- (i) All information is based on data received from our vendors & subjected to change without prior notice.
(ii) Substance weight are derived from MSDS.