



# Material Declaration Sheet

Vishay Inter-technology

Date: 3/14/2022

## 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
CRCW2010 e3 (10R to less than 2K)	YES WITH EXEMPTION	16-Oct-2004	23.651667	10R to less than 2K	Resistor	Vishay BCComponents Buechling	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)
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	Aluminium oxide	1344-28-1	20.35119	95.50	955000	86.05	0 - None
		Magnesium oxide	1309-48-4	0.21097	0.99	9900	0.89	0 - None
		Miscellaneous	System	0.12786	0.60	6000	0.54	0 - None
		Silicon dioxide	7631-86-9	0.62013	2.91	29100	2.62	0 - None
						0.35478		
EP-QD 80	Other duromers	Epoxy resin	25068-38-6	0.05676	16.00	160000	0.24	0 - None
		Silicon dioxide	7631-86-9	0.29802	84.00	840000	1.26	0 - None
Glass electrical contact	Ceramics / glass			0.01134				
		Lead silicate (Glass)	10099-76-0	0.01123	99.00	990000	0.05	7(c)-I
Glass enamel	Ceramics / glass	Miscellaneous	System	0.00011	1.00	10000	0.00	0 - None
						0.14191		
Glass layer	Ceramics / glass	Chromium oxide (III)	1308-38-9	0.00298	2.10	20999	0.01	0 - None
		Lead silicate (Glass)	10099-76-0	0.13893	97.90	979001	0.59	7(c)-I
Nickel plating	Nickel alloys			0.09934				
		Lead silicate (Glass)	10099-76-0	0.04967	50.00	500000	0.21	7(c)-I
		Palladium	7440-05-3	0.01656	16.67	166700	0.07	0 - None
		Ruthenium oxide	12036-10-1	0.03311	33.33	333300	0.14	0 - None
Silver electrical contact alloy	Other special metals			0.38920				
		Miscellaneous	System	0.00039	0.10	1000	0.00	0 - None
		Nickel	7440-02-0	0.38881	99.90	999000	1.64	0 - None
Silver layer	Other special metals			0.55591				
		Bismuthous oxide	1304-76-3	0.01702	3.06	30616	0.07	0 - None
		Chromium	7440-47-3	0.00001	0.00	10	0.00	0 - None
		Copper	7440-50-8	0.00001	0.00	17	0.00	0 - None
		Copper oxide	1317-38-0	0.00567	1.02	10199	0.02	0 - None
		Silver	7440-22-4	0.53321	95.92	959158	2.25	0 - None
Sn99	Other special metals			0.06622				
		Silver	7440-22-4	0.06615	99.90	999000	0.28	0 - None
Tin	Miscellaneous	System	System	0.00007	0.10	1000	0.00	0 - None
						0.00072		
						0.72281		
		Miscellaneous	System	0.00072	0.10	1000	0.00	0 - None
		Tin	7440-51-5	0.72209	99.90	999000	3.05	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.