



# Material Declaration Sheet

Vishay Inter-technology

Date: 1/24/2022

## 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
CRCW1206 e3	YES WITH EXEMPTION	16-Oct-2004	8.811775	All R except (1R to less than 10R)	Resistor	Vishay BCcomponents Revschlap	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	Aluminium Oxide	1344-28-1	7.61010	95.64	956400	86.36	0 - None
		Magnesium Oxide	1309-48-4	0.07878	0.99	9901	0.89	0 - None
		Silicon dioxide	7631-86-9	0.23155	2.91	29100	2.63	0 - None
		Miscellaneous	System	0.03660	0.46	4600	0.42	0 - None
				0.12336				
EP-QD 80	Other duromers	Epoxy resin	25068-38-6	0.01526	12.37	123690	0.17	0 - None
		Silicon dioxide	7631-86-9	0.10810	87.63	876310	1.23	0 - None
Glass electrical contact	Ceramics / glass			0.00460				
		Lead silicate [Glass]	10099-76-0	0.00460	99.90	999000	0.05	7(c)-I
Glass enamel	Ceramics / glass	Miscellaneous	System	0.00000	0.10	1000	0.00	0 - None
				0.03525				
Glass Layer	Ceramics / glass	Chromium oxide (III)	1308-38-9	0.00074	2.10	20993	0.01	0 - None
		Lead silicate [Glass]	10099-76-0	0.03451	97.90	979007	0.39	7(c)-I
Nickel plating	Nickel alloys			0.02644				
		Lead silicate [Glass]	10099-76-0	0.01322	50.00	500000	0.15	7(c)-I
		Palladium	7440-05-3	0.00441	16.68	166793	0.05	0 - None
		Ruthenium oxide	12036-10-1	0.00881	33.32	333207	0.10	0 - None
Silver electrical contact alloy	Other special metals			0.14766				
		Nickel	7440-02-0	0.14751	99.90	999000	1.67	0 - None
		Miscellaneous	System	0.00015	0.10	1000	0.00	0 - None
Silver layer	Other special metals			0.22557				
		Chromium	7440-47-3	0.00000	0.00	8	0.00	0 - None
		Copper	7440-50-8	0.00000	0.00	12	0.00	0 - None
		Copper oxide	1317-38-0	0.00576	2.55	25535	0.07	0 - None
		Silver	7440-22-4	0.21981	97.44	974445	2.49	0 - None
Sn99.9	Other special metals			0.01762				
		Silver	7440-22-4	0.01760	99.90	999000	0.20	0 - None
Sn99.9	Other special metals	Miscellaneous	System	0.00002	0.10	1000	0.00	0 - None
				0.27424				
		Tin	7440-31-5	0.27397	99.90	999000	3.11	0 - None
		Miscellaneous	System	0.00027	0.10	1000	0.00	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.

Build Vishay  
into your Design

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

One of the World's Largest Manufacturers of  
Discrete Semiconductors and Passive Components