



# Material Declaration Sheet

Vishay Inter-technology

Date: 4/4/2022

## 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
CRCW0402-HP series (All R values)	YES WITH EXEMPTION	16-Oct-2004	0.6101609	All R values	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	0.42697	95.50	954998	69.98	0 - None
		Magnesium oxide	1309-48-4	0.00444	0.99	9931	0.73	0 - None
		Miscellaneous	System	0.00268	0.60	5994	0.44	0 - None
		Silicon dioxide	7631-86-9	0.01300	2.91	29077	2.13	0 - None
				0.01720				
EP-QD 35	Other duromer	Epoxy resin	25068-38-6	0.01074	62.46	634619	1.76	0 - None
		Silicon dioxide	7631-86-9	0.00646	37.54	375381	1.06	0 - None
Glass electrical contact	ceramic/glass			0.00209				
		Lead silicate (Glass)	10099-76-0	0.00209	99.90	999000	0.34	7(c)-I
Glass enamel	Ceramics / glass	Miscellaneous	System	0.00000	0.10	1000	0.00	0 - None
				0.00456				
Glass layer	ceramic/glass	Chromium oxide (III)	1308-38-9	0.00010	2.19	21930	0.02	0 - None
		Lead silicate (Glass)	10099-76-0	0.00446	97.81	978070	0.73	7(c)-I
Nickel plating	Nickel alloy			0.00295				
		Lead silicate (Glass)	10099-76-0	0.00154	52.20	522034	0.25	7(c)-I
		Palladium	7440-05-3	0.00132	44.75	447458	0.22	0 - None
		Ruthenium oxide	12036-10-1	0.00009	3.05	30508	0.01	0 - None
Silver electrical contact alloy	other special metals			0.02603				
		Miscellaneous	System	0.00003	0.10	1000	0.00	0 - None
		Nickel	7440-02-0	0.02600	99.90	999000	4.26	0 - None
Silver layer	other special metals			0.05959				
		Chromium	7440-47-3	0.00000	0.00	5	0.00	0 - None
		Copper	7440-50-8	0.00000	0.00	8	0.00	0 - None
		Silver	7440-22-4	0.05959	100.00	999987	9.77	0 - None
Sn99.9	other special metals			0.00145				
		Miscellaneous	System	0.00000	0.10	1000	0.00	0 - None
		Silver	7440-22-4	0.00145	99.90	999000	0.24	0 - None
				0.04920				
		Miscellaneous	System	0.00005	0.10	1000	0.01	0 - None
		Tin	7440-31-5	0.04915	99.90	999000	8.06	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