



Material Declaration Sheet

Vishay Intertechnology

Date 6/1/2018

Part / Product Family Details

Part / Family Series	RoHS Compliance Status	RoHS Compliance Date Code dd-mmm-yyyy	Total product Weight (mg)	Value Range	3rd Party Lab ICP Test Report Available	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	Yes	Israel	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)
Matte 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	21.310150				
		Magnesium oxide	1309-48-4	20.351190	95.500	955000.0	86.045478	0 - None
		Miscellaneous	System	0.210970	0.990	9900.0	0.891988	0 - None
		Silicon dioxide	7631-86-9	0.127860	0.600	6000.0	0.540596	0 - None
		Silicon dioxide	7631-86-9	0.620130	2.910	29100.0	2.621929	0 - None
EP-QD 80	Other duromers			0.354780				
		Epoxy resin	25068-38-6	0.056765	16.000	160000.0	0.240003	0 - None
Glass electrical contact	Ceramics / glass	Silicon dioxide	7631-86-9	0.298015	84.000	840000.0	1.260018	0 - None
				0.011340				
Glass enamel	Ceramics / glass	Lead silicate [Glass]	10099-76-0	0.011227	99.000	990000.0	0.047466	7(c)-I
		Miscellaneous	System	0.000113	1.000	10000.0	0.000479	0 - None
Glass layer	Ceramics / glass			0.141910				
		Chromium oxide (III)	1308-38-9	0.002980	2.100	20999.0	0.012600	0 - None
		Lead silicate [Glass]	10099-76-0	0.138930	97.900	979001.0	0.587400	7(c)-I
Nickel plating	Nickel alloys			0.099340				
		Lead silicate [Glass]	10099-76-0	0.049670	50.000	500000.0	0.210006	7(c)-I
		Palladium	7440-05-3	0.016560	16.670	166700.0	0.070016	0 - None
		Ruthenium oxide	12036-10-1	0.033110	33.330	333300.0	0.139990	0 - None
Silver electrical contact alloy	Other special metals	Miscellaneous	System	0.000389	0.100	1000.0	0.001646	0 - None
		Nickel	7440-02-0	0.388813	99.900	999000.0	1.643913	0 - None
Silver layer	Other special metals			0.555915				
		Bismuthous oxide	1304-76-3	0.017020	3.062	30616.0	0.071961	0 - None
		Chromium	7440-47-3	0.000006	0.001	10.0	0.000024	0 - None
		Copper	7440-50-8	0.000009	0.002	17.0	0.000039	0 - None
		Copper oxide	1317-38-0	0.005670	1.020	10199.0	0.023973	0 - None
		Silver	7440-22-4	0.533210	95.916	959158.0	2.254429	0 - None
Sn99	Other special metals			0.066220				
		Silver	7440-22-4	0.066154	99.900	999000.0	0.279700	0 - None
		Miscellaneous	System	0.000066	0.100	1000.0	0.000280	0 - None
				0.722810				
		Miscellaneous	System	0.000723	0.100	1000.0	0.003056	0 - None
		Tin	7440-31-5	0.722087	99.900	999000.0	3.053008	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. piezoelectric 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.

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