



Material Declaration Sheet

Draloric/Beyschlag Resistor

Date 3/8/2017

Part / Product Family Details

Part / Family Series	RoHS Compliance Status	RoHS Compliance Date Code dd-mm-yyyy	Total product Weight (mg)	Value Range	3rd Party Lab ICP Test Report Available	Manufacturing Location	Number of Exemptions Used
CRCW1210 e3 (2K to 10M)	YES WITH EXEMPTION	16-10-2004	15.2485145	2K to 10M	Yes	Vishay BComponents Beyschlag GmbH	Three

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				13.43393				
	Magnesium Oxide	Magnesium Oxide	1309-48-4	0.13300	0.99	9900	0.87	0 - None
	Aluminium Oxide	Aluminium Oxide	1344-28-1	12.82940	95.50	955000	84.14	0 - None
	Silicon Dioxide	Silicon Dioxide	7631-86-9	0.39093	2.91	29100	2.56	0 - None
	Miscellaneous	Miscellaneous	System	0.08060	0.60	6000	0.53	0 - None
Nickel Barrier				0.30552				
	Nickel	Nickel	7440-02-0	0.30552	100.00	1000000	2.00	0 - None
Passivation				0.10674				
	Lead(2+) Silicate	Lead(2+) Silicate	10099-76-0	0.10450	97.90	979014	0.69	Exemption No: -7(c)-1
	Chromium (iii) Oxide	Chromium (iii) Oxide	1308-38-9	0.00224	2.10	20986	0.01	0 - None
Resistive layer				0.07624				
	Lead(2+) Silicate	Lead(2+) Silicate	10099-76-0	0.02287	30.00	299974	0.15	Exemption No: -7(c)-1
	Ruthenium (iv) Oxide	Ruthenium (iv) Oxide	12036-10-1	0.01525	20.00	200026	0.10	0 - None
	Lead Ruthenium oxide	Lead Ruthenium oxide	59707-49-2	0.00763	10.01	100079	0.05	Exemption No: -7(c)-1
	Palladium	Palladium	7440-05-3	0.00762	9.99	99948	0.05	0 - None
	Silver	Silver	7440-22-4	0.02287	30.00	299974	0.15	0 - None
Termination				0.51470				
	Lead(2+) Silicate	Lead(2+) Silicate	10099-76-0	0.01029	2.00	19992	0.07	Exemption No: -7(c)-1
	Dibismuth Trioxide	Dibismuth Trioxide	1304-76-3	0.01544	3.00	29998	0.10	0 - None
	Copper Oxide (Derivatives-1)	Copper Oxide (Derivatives-1)	1317-38-0	0.00515	1.00	10006	0.03	0 - None
	Silver	Silver	7440-22-4	0.48381	94.00	939978	3.17	0 - None
	Chromium	Chromium	7440-47-3	0.0000051	0.0009900	10	0.00003	0 - None
	Copper	Copper	7440-50-8	0.0000082	0.0015900	16	0.00005	0 - None
Tin Plating				0.56740				
	Tin	Tin	7440-31-5	0.56740	100.00	1000000	3.72	0 - None
Top Coat Marking				0.24398				
	Epoxy Resine	Epoxy Resine	25068-38-6	0.03016	12.36	123617	0.20	0 - None
	Silicon Dioxide	Silicon Dioxide	7631-86-9	0.21382	87.64	876383	1.40	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)-1 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
- 2nd Exemption Used 7(c)-1 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
- 3rd Exemption Used 7(c)-1 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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