



Material Declaration Sheet

Draloric/Beyschlag Resistor

Date 1/31/2017

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
CRCW1210 e3 (1R to less than 10R)	YES WITH EXEMPTION	16/10/2004	15.2485145	1R to less than 10R	Yes	Vishay BCcomponents 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)-I
	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	0.03995	52.40	524003	0.26	Exemption No: -7(c)-I
	Palladium	Palladium	7440-05-3	0.01975	25.91	259050	0.13	0 - None
	Platinum	Platinum	7440-06-4	0.01654	21.69	216946	0.11	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)-I
	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	0.000051	0.0010	10	0.00003	0 - None
	Copper	Copper	7440-50-8	0.000082	0.0016	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)-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
2nd 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
3rd 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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