



Material Declaration Sheet

Draloric/Beyschlag Resistor

Date: 7/8/2016

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
MMA0204 series [10R = R value = 332K]	YES	Since 1983	19.126	10R = R value = 332K	Yes	Germany	None

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	N/A	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			
Insulation (Lacquer)	Glass Filler	Glass Filler	System	2.01100	0.68000	33.81	338140	3.56	0 - None
	Pigment portion, not to declare	Pigment portion, not to declare	System	0.00100	0.00100	0.05	497	0.01	0 - None
	Polyacrylate	Polyacrylate	System	1.33000	1.33000	66.14	661363	6.95	0 - None
Resistive layer (Metal film)	Nickel	Nickel	7440-02-0	0.01000	0.00400	40.00	400000	0.02	0 - None
	Chromium	Chromium	7440-47-3	0.00600	0.00600	60.00	600000	0.03	0 - None
Substrate (Ceramic)	Aluminium Oxide	Aluminium Oxide	1344-28-1	8.16000	6.94000	85.05	850490	36.29	0 - None
	Silicon Dioxide	Silicon Dioxide	7631-86-9	0.81000	0.81000	9.93	99265	4.24	0 - None
	Miscellaneous	Miscellaneous	System	0.05000	0.05000	0.61	6127	0.26	0 - None
	Silicate	Silicate	System	0.36000	0.36000	4.41	44118	1.88	0 - None
Termination (Cap)	Iron	Iron	7439-89-6	8.94500	8.94500	89.99	899944	42.09	0 - None
	Nickel	Nickel	7440-02-0	0.31000	0.31000	3.47	34656	1.62	0 - None
	Tin	Tin	7440-31-5	0.45000	0.45000	5.03	50307	2.35	0 - None
	Copper	Copper	7440-50-8	0.09000	0.09000	1.01	10061	0.47	0 - None
	Phosphorus	Phosphorus	7723-14-0	0.01800	0.01800	0.20	2012	0.09	0 - None
	Miscellaneous	Miscellaneous	System	0.02700	0.02700	0.30	3018	0.14	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: NONE

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.