



# Material Declaration Sheet

Vishay Inter-technology

Date 7/19/2021

## 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
MCT0603 series (R values greater than 221K)	YES WITH EXEMPTION	17-Jun-2005	1.89393	R values greater than 221K	Yes	Germany	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	CU Alloy	e3	Not Applicable	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	Ceramics / glass	Aluminium oxide	1344-28-1	1.65000	97.20	972000	84.6811	0 - None
		Miscellaneous	System	0.00165	0.10	1000	0.0871	0 - None
		Silicon dioxide	7631-86-9	0.04455	2.70	27000	2.3523	0 - None
Cu-ETP1	3.1 Copper			0.00780				
		Copper	7440-50-8	0.00779	99.90	999000	0.4114	0 - None
EP QD-60	Other durometer	Miscellaneous	System	0.00001	0.10	1000	0.0004	0 - None
				0.02503				
		Epoxy resin	25068-38-6	0.00800	31.96	319616	0.4224	0 - None
		Filler	14807-96-6	0.01390	55.53	555334	0.7339	0 - None
		Pigment	147-14-8	0.00003	0.12	1199	0.0016	0 - None
		Silicone resin	92797-60-9	0.00310	12.39	123851	0.1637	0 - None
Glass electrical contact	ceramic/glass			0.00600				
		Lead silicate [Glass]	10099-76-0	0.00460	76.67	766667	0.2429	7(c)-I
Glass Layer	ceramic/glass	Palladium	7440-05-3	0.00140	23.33	233333	0.0739	0 - None
				0.01730				
		Lead silicate [Glass]	10099-76-0	0.00820	47.40	473988	0.4330	7(c)-I
		Ruthenium oxide	12036-10-1	0.00260	15.03	150289	0.1373	0 - None
		Silicon dioxide	7631-86-9	0.00650	37.57	375723	0.3432	0 - None
Nickel plating	Nickel alloy			0.05580				
		Miscellaneous	System	0.00006	0.10	1000	0.0029	0 - None
		Nickel	7440-02-0	0.05574	99.90	999000	2.9433	0 - None
				0.05780				
Silver electrical contact	Other special metal	Chromium	7440-47-3	0.00020	0.35	3460	0.0106	0 - None
		Silver	7440-22-4	0.05760	99.65	996540	3.0413	0 - None
Sn99.9	Other special metal			0.07420				
		Miscellaneous	System	0.00007	0.10	1000	0.0039	0 - None
		Tin	7440-31-5	0.07413	99.90	999000	3.9139	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.