



Material Declaration Sheet

Vishay General Semiconductor - PDD

Date 28/Jul/20

Part / Product Family Details

Vishay Part Number	RoHS Compliance Status	RoHS Compliance Date Code dd-mm-yyyy	Total product Weight (gm)	Resistance value	3rd Party Lab ICP Test Report Available	Manufacturing Location	Number of Exemptions Used
ES2A-(H)E3 to ES2D-(H)E3 ES2F-(H)E3 to ES2G-(H)E3 ESH2B-(H)E3 to ESH2D-(H)E3 MURS120-(H)E3 to MURS160-(H)E3 MURS240-(H)E3 to MURS260-(H)E3 MURS340S-(H)E3 to MURS360S-(H)E3 RS2A-(H)E3 to RS2K-(H)E3 S2A-(H)E3 to S2M-(H)E3 S2AHE3_A to S2MHE3_A USB260-(H)E3 CS2D, CS2G, CS2J, CS2K, CS2M-(H)E3	YES WITH EXEMPTION	01-12-2004	0.093	N/A	Yes	China	Two

Technical Information: refer to <http://www.vishay.com/hs/leadfree/summary>

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)

Material Composition

Homogenous Material Name	Material Classification	Substance Name	CAS number	Weight of Substance (gm)	With respect to Homogenous Material		% with respect to Total Product Weight	RoHS Exemptions Used
					%	ppm		
Chip	Electronics (e.g. pc boards, displays)	Silicon and others (business secret)	-	0.00240	100.00	1000000	2.58	Exemption No:7(c)-I
Lead Frame	Copper (e.g. copper amounts in cable harnesses)	Copper	7440-50-8	0.03620	100.00	1000000	38.92	
Solder 92.5	Other special metals	Lead	7439-92-1	0.00315	92.50	925000	3.38	Exemption No:7(a)
		Tin	7440-31-5	0.00017	5.00	50000	0.18	
Encapsulation	Other duromers	Silver	7440-22-4	0.00009	2.50	25000	0.09	
		Quartz (SiO2)	14808-60-7	0.03423	70.00	700000	36.81	
		Epichlorohydrin, o-cresol, formalde polymer	29690-82-2	0.00782	16.00	160000	8.41	
		Phenol-formaldehyde resin	9003-35-4	0.00587	12.00	120000	6.31	
		Antimony oxide (Sb2-03)	1309-64-4	0.00049	1.00	10000	0.53	
		Carbon-Black	1333-86-4	0.00012	0.25	2500	0.13	
		Additive & know-how	-	0.00036	0.75	7500	0.39	
Surface finish	Other special metals	Tin	7440-31-5	0.00210	100.00	1000000	2.26	

EU-RoHS Directive 2015/863/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, Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

This MDS valid for List of PN's

Exemption Used 7(a) - Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)

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

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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