



Material Declaration Sheet

Vishay General Semiconductor - PDD

Date 28/Jul/16

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
P2SMAnnA-E3 P4SMAnnA-(H)E3 SMA5Jxx(A)-(H)E3 SMAJxx(A)- (H)E3 SMAZ5919B-E3 to SMAZ5945B-E3 P4SMAnnCA-(H)E3 SMA5JxxC(A)-(H)E3 SMAJxxC(A)-(H)E3	YES WITH EXEMPTION	01-12-2004	0.064	N/A	Yes	China	Two

Technical Information: refer to <http://www.vishay.com/how/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)	-	0.00190	100.00	1000000	2.97	Exemption No:7(c)-I
Lead Frame	Copper (e.g. copper amounts in cable harnesses)	Copper	7440-50-8	0.02300	100.00	1000000	35.94	
Solder 92.5	Other special metals	Lead	7439-92-1	0.00231	92.50	925000	3.61	Exemption No:7(a)
		Tin	7440-31-5	0.00013	5.00	50000	0.20	
		Silver	7440-22-4	0.00006	2.50	25000	0.10	
Encapsulation	Other duromers	Quartz (SiO2)	14808-60-7	0.02451	70.00	700000	38.30	
		Epichlorohydrin, o-cresol, formalde polymer	29690-82-2	0.00558	16.00	160000	8.73	
		Phenol-formaldehyde resin	9003-35-4	0.00419	12.00	120000	6.54	
		Antimony oxide (Sb2-03)	1309-64-4	0.00035	1.00	10000	0.55	
		Carbon-Black	1333-86-4	0.00009	0.25	2500	0.14	
		Additive & know-how	-	0.00026	0.75	7500	0.41	
		Tin	7440-31-5	0.00160	100.00	1000000	2.50	
Surface finish	Other special metals	Tin	7440-31-5	0.00160	100.00	1000000	2.50	

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.

Build Vishay
into your Design

Vishay General Semiconductor - PDD
233, Pao Chiao Rd., Hsin Tien, Taipei, Taiwan, R.O.C. 23145
ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components