



# 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
P6KEnn(A)-(H)E3 SAxx(A)-(H)E3 P6KEnnC(A)-(H)E3 SAxxC(A)-(H)E3	YES WITH EXEMPTION	01-12-2004	0.4	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)	-	0.00270	100.00	1000000	0.68	Exemption No:7(c)-I
Lead Wire	Copper (e.g. copper amounts in cable harnesses)	Copper	7440-50-8	0.30730	100.00	1000000	76.83	
Solder 92.5	Other special metals	Lead	7439-92-1	0.00444	92.50	925000	1.11	Exemption No:7(a)
		Tin	7440-31-5	0.00024	5.00	50000	0.06	
		Silver	7440-22-4	0.00012	2.50	25000	0.03	
Encapsulation	Other duromers	Quartz (SiO2)	14808-60-7	0.05641	70.00	700000	14.10	
		Epichlorohydrin, o-cresol, formalde polymer	29690-82-2	0.01291	16.00	160000	3.23	
		Phenol-formaldehyde resin	9003-35-4	0.00967	12.00	120000	2.42	
		Antimony oxide (Sb2-O3)	1309-64-4	0.00080	1.00	10000	0.20	
		Carbon-Black	1333-86-4	0.00020	0.25	2500	0.05	
		Additive & know-how	-	0.00060	0.75	7500	0.15	
Surface finish	Other special metals	Tin	7440-31-5	0.00440	100.00	1000000	1.10	
Marking	Electronics (e.g. pc boards, displays)	Synthetic resin	53192-18-0	0.00003	65.00	650000	0.01	
		Starting agent	21245-01-2	0.00001	10.00	100000	0.00	
		Dye	7429-90-5	0.00001	15.00	150000	0.00	
		Additive	947-19-3	0.00000	5.00	50000	0.00	
		Silicon dioxide	112945-52-5	0.00000	5.00	50000	0.00	

**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. 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.

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