



# Material Declaration Sheet

Vishay General Semiconductor - PDD

Date 30/Jul/19

## 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
MBRF10H90CT-(H)E3 to MBRF10H100CT-(H)E3 MBRF15H45CT-(H)E3 to MBRF15H60CT-(H)E3 MBRF20H35CT-(H)E3 to MBRF20H60CT-(H)E3 MBRF20H90CT-(H)E3 to MBRF20H100CT-(H)E3 MBRF20H90CTG-(H)E3 to MBRF20H100CTG-(H)E3 MBRF25H35CT-(H)E3 to MBRF25H60CT-(H)E3 MBRF30H35CT-(H)E3 to MBRF30H60CT-(H)E3 MBRF30H90CT-(H)E3 to MBRF30H100CT-(H)E3 MBRF1535CT-(H)E3 to MBRF1560CT-(H)E3 MBRF2035CT-(H)E3 to MBRF2060CT-(H)E3 MBRF2090CT-(H)E3 to MBRF20100CT-(H)E3 MBRF2535CT-(H)E3 to MBRF2560CT-(H)E3 MBRF3035CT-(H)E3 to MBRF3045CT-(H)E3 MBRF10100CT-(H)E3 SBLF25L20CT-(H)E3 to SBLF25L30CT-(H)E3 SBLF1030CT-(H)E3 to SBLF1040CT-(H)E3 SBLF1630CT-(H)E3 to SBLF1640CT-(H)E3 SBLF2030CT-(H)E3 to SBLF2040CT-(H)E3	YES WITH EXEMPTION	01-12-2004	1.99	N/A	Yes	China	One

Technical Information: refer to <http://www.vishay.com/doc/Leadfree/2mmxmu>

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)	-	0.02069	100.00	1000000	1.04	
Lead Frame	Copper (e.g. copper amounts in cable harnesses)	Copper	7440-50-8	1.03080	100.00	1000000	51.80	
Bridge Frame	Copper alloys	Copper	7440-50-8	0.03470	99.85	998501	1.74	
		Nickel	7440-02-0	0.00005	0.15	1499	0.00	
Solder 88	Other special metals	Lead	7439-92-1	0.00885	88.00	880000	0.44	Exemption No:-7 a
		Tin	7440-31-5	0.00101	10.00	100000	0.05	
		Silver	7440-22-4	0.00020	2.00	20000	0.01	
Encapsulation	Other duromers	Quartz (SiO2)	14808-60-7	0.62272	70.15	701500	31.29	
		Epichlorohydrin, o-cresol, formalde polymers	29690-82-2	0.14239	16.04	160400	7.16	
		Phenol-formaldehyde resin	9003-35-4	0.10661	12.01	120100	5.36	
		Antimony oxide (Sb2-O3)	1309-64-4	0.00897	1.01	10100	0.45	
		Carbon-Black	1333-86-4	0.00222	0.25	2500	0.11	
		Additive & know-how	-	0.00470	0.53	5300	0.24	
Surface finish	Other special metals	Tin	7440-31-5	0.00604	100.00	1000000	0.30	
Marking	Electronics (e.g. pc boards, displays)	Synthetic resin	53192-18-0	0.00005	65.00	650000	0.00	
		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)

**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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