

Product Class	Motor protection Sensor, B5930xM1*, B59xxxU1*
Date	02.11.2020
IMDS ID if available	
Version	5.15

Product Part (IMDS: semi component)	Material Class (IMDS: Material)	Material (Classification) VDA 231	Substance	TMPS**) [wt%]	CAS if applicable	typical mass of material [wt-%]	Traces see 1)
Active Part	Ceramic	3B	for types Tref ≤ 130°C ***):	Ba-titanates	80	12047-27-7	0,47
				Sr-titanates	10	12060-59-2	
			Ca-titanates	9	12049-50-2		
			others*)	1			
			for types Tref ≥ 140°C:	Ba-titanates	69	12047-27-7	
				Pb-titanates	15	12060-00-3	
				Sr-titanates	10	12060-59-2	
				Ca-titanates	5	12049-50-2	
			others*)	1			
Termination	Noble Metal	1D7	Ag	100	7440-22-4	0,16	
	Heavy Metal	1C14	Ni	100	7440-02-0	0,09	
	Heavy Metal	1C2	Cr	100	7440-47-3	0,02	
Solder	Heavy Metal	1C15	Pb +)	92	7439-92-1	4,2	
			Sn	5	7440-31-5		
			Ag	3	7440-22-4		
Cable	Thermoplastic	2A	PTFE insulation	100		48,1	
	Heavy Metal	1C12	Cu	98	7440-50-8	43,8	
			Ag	2	7440-50-8		
Encapsulation	Thermoplastic	2A	Shrinktube PVDF / Teflon a)	100		1	
	Organic, solid	4B1	Silicone Lacquer	100		0,8	
Tining on cable	Heavy Metal	1C8	Sn	96,5	7440-31-5	1,36	
			Ag	3,5	7440-22-4		
Sum of total						100	

weight range [g]	material numbers	material numbers	material numbers	weight range [g]	material numbers	weight range [g]	material numbers		
4,5	B59120U1140B 70	B59130U1160B070	B59300M1140A070	2	B59042U1155B 70	2,4	B59310U1130B 70		
	B59120U1160B 70	B59130U1170B070a	B59300M1145A070		B59095U1120B 70		B59310U1140B 70		
	B59130U1080B070	B59130U1180B070a	B59300M1150A070		B59095U1145B 70		B59310U1150B 70		
	B59130U1090B070	B59300M1060A070	B59300M1150B070	B59150U1140B 40	B59310U1160B 70				
	B59130U1100B070	B59300M1070A070	B59300M1155A070	B59300M1120B 11	B59310U1180B 70a)				
	B59130U1110B070	B59300M1080A070	B59300M1160A070	B59303M1110B 70	B59311U1110B 70				
	B59130U1120B070	B59300M1090A070	B59300M1170A070a)	B59141U1160B070	B59312U1130B 70				
	B59130U1130B070	B59300M1100A070	B59300M1180A070a)	B59303M1120B070	B59312U1140B 70				
	B59130U1140B070	B59300M1110A070	B59300M1190A070a)		B59312U1150B 70				
	B59130U1150B070	B59300M1120A070	B59351U1160B 70		B59312U1160B 70				
	B59130U1155B070	B59300M1130A070							
	5,15	B59140U1160B070	B59317U1155B070		5,6		B59092U1110B 70	6,9	B59201U1155B 70
		B59317U1130B070	B59317U1170B070a)				B59101U1145B 70		B59142U1130B070
		B59317U1145B070	B59317U1180B070a)		B59123U1130B 70		B59142U1155B070		
		B59317U1150B070	B59317U1190B070a)		B59300M1xxxB140		B59142U1170B070a)		
Not part of a Product Class				5,95					

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Contact	Ronner Christoph	Important remarks: 1) The declaration limit is 0.1% as defined by IEC 62474 (IEC PAS 61906). Traces are product parts, substances etc. that are below a percentage of 0.1 % by weight, if not otherwise regulated. 2) This Material Data Sheet contains typical values of the respective products set forth herein. We expressly point out that all values and statements contained herein are based on our best present knowledge and cannot be regarded as binding statements or binding product specifications, unless otherwise explicitly agreed in writing. TDK ELECTRONICS AG AND ITS AFFILIATES HEREBY EXPRESSLY DISCLAIM ANY REPRESENTATION OR WARRANTY, WHETHER EXPRESS, IMPLIED OR STATUTORY, WITH REGARD TO THE STATEMENTS AND VALUES CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR SUITABILITY FOR ANY
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*) others: (not declarable or prohibited substances acc. GADSL) **) typical mass percentage of substance ***) for types Tref ≤ 130°C no exemption 7 (c)-I used *) listed in the Candidate list of Substances of Very High Concern acc. to Regulation 1907/2006/EC		

The products set forth herein are "RoHS-compatible". RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

RoHS - Exemptions for the Product Class / Product according to Annex III: (valid not valid)

- no exemptions;
- Exemption 6 (a): Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight;
- Exemption 6 (b): Lead as an alloying element in aluminium containing up to 0,4 % lead by weight;
- Exemption 6 (c): Copper alloy containing up to 4 % lead by weight;
- Exemption 7 (a): Lead in high melting temperature type solder (i.e. lead-based alloys containing 85 % by weight or more lead);
- Exemption 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;
- Exemption 7 (c)-II: Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher;
- Exemption 7 (c)-III: Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC;
- Exemption 15: Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages;
- Other Exemption than above