

# PTC

# Material Data Sheet

<b>Product Class</b>	<b>PTC Motor Protection Sensor</b> B59200A1*, B59100A1*, B59043A0191P040, B59004A1*
<b>Date</b>	11.10.2021
IMDS ID if available	
<b>Version</b>	5.05

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)
<b>Active Part</b>	Ceramic	3B	for types Tref ≤ 130°C ***):	Ba-titanates	80	12047-27-7	45
				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			
<b>Termination</b>	Noble Metal	1D7	Ag	100	7440-22-4	32,5	
	Heavy Metal	1C14	Ni	100	7440-02-0	19,4	
	Heavy Metal	1C2	Cr	100	7440-47-3	3,1	
<b>Sum of total</b>						100	

sizes [ mm]	weight range [ g]	part numbers	sizes [ mm]	weight range [ g]	part numbers
1,9x0,4	0,044	B59100A1060A 40	1,9x0,4	0,044	B59004A1060B 40
		B59100A1070A 40			B59004A1070B 40
		B59100A1080A 40			B59004A1080B 40
		B59100A1090A 40			B59004A1090B 40
		B59100A1100A 40			B59004A1100B 40
		B59100A1105A 40			B59004A1110B 40
		B59100A1110A 40			B59004A1120B 40
		B59100A1115A 40			B59004A1130B 40
		B59100A1120A 40			B59004A1140B 40
		B59100A1125A 40			B59004A1145B 40
		B59100A1130A 40			B59004A1150B 40
		B59100A1135A 40			B59004A1155B 40
		B59100A1140A 40			B59004A1160B 40
		B59100A1145A 40			B59004A1170B 40
		B59100A1150A 40			B59004A1180B 40
		B59100A1155A 40			B59004A1190B 40
B59100A1160A 40	B59200A1090A040				
B59100A1170A 40	B59200A1100A040				
B59100A1180A 40	B59200A1110A040				
B59100A1190A 40	B59043A 191P 40				
1,3x0,4	0,02				
1,3x0,5	0,025				
1,65x0,5	0,04	B59104A1165B040			
Not part of a Product Class					

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<b>IMDS ID if available</b>	
<b>Version</b>	<b>5.05</b>

<b>Contact</b>	Ronner Christoph	<b>Important remarks:</b>  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 PURPOSE.
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*) others: not declarable or prohibited substances acc. GADSL **) typical mass percentage of substance		

**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 8<sup>th</sup>, 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. piezoelectric 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 .....