



Product Service

# CERTIFICATE

No. B 096048 0001 Rev. 01

**Holder of Certificate:** **BESTBRIGHT ELECTRONICS CO LTD**  
#3 Building, Modern Enterprise  
Accelerator Park  
Song Shan Lake High-tech Industrial Development Zone  
523808 Dongguan City, Guangdong Province  
PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:**



**Product:** **Thermistors**  
**(PTC thermistor for current limitation)**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 64100150576402

**Valid until:** 2026-07-22

**Date,** 2021-07-29

( Martin Ma )

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Model(s):

**SMD0805 series, SMD1812 series,  
SMD1206 series, SMD0603 series,  
SMD1210 series, SMD2016 series,  
SMD2920 series**  
(SMD0805P010TF, SMD0805B010TF,  
SMD0805P020TF, SMD0805B020TF,  
SMD0805P035TF, SMD0805B035TF,  
SMD0805P050TF, SMD0805B050TF,  
SMD0805P075TF, SMD0805B075TF,  
SMD0805P100TFT, SMD0805B100TFT,  
SMD0805P110TF, SMD0805B110TF,  
SMD1206P005TF, SMD1206B005TF,  
SMD1206P010TF, SMD1206B010TF,  
SMD1206P012TF, SMD1206B012TF,  
SMD1206P016TF, SMD1206B016TF,  
SMD1206P020TF/24, SMD1206B020TF/24,  
SMD1206P025TF, SMD1206B025TF,  
SMD1206P025TF/24, SMD1206B025TF/24,  
SMD1206P035TF/16, SMD1206B035TF/16,  
SMD1206P050TF, SMD1206B050TF,  
SMD1206P050TF/15, SMD1206B050TF/15,  
SMD1206P075TFT, SMD1206B075TFT,  
SMD1206P075TF/13.2, SMD1206B075TF/13.2,  
SMD1206P075TF/16, SMD1206B075TF/16,  
SMD1206P110TFT, SMD1206B110TFT,  
SMD1206P150TFT, SMD1206B150TFT,  
SMD1206P175TF, SMD1206B175TF,  
SMD1206P200TF, SMD1206B200TF,  
SMD1812P010TF, SMD1812B010TF,  
SMD1812P014TF, SMD1812B014TF,  
SMD1812P020TF, SMD1812B020TF,  
SMD1812P020TF-J, SMD1812B020TF-J,  
SMD1812P035TF/30, SMD1812B035TF/30,  
SMD1812P050TF, SMD1812B050TF,  
SMD1812P050TF/30, SMD1812B050TF/30,  
SMD1812P075TF, SMD1812B075TF,  
SMD1812P075TF/24, SMD1812B075TF/24,  
SMD1812P075TF/33, SMD1812B075TF/33,  
SMD1812P110TF, SMD1812B110TF,  
SMD1812P110TF/16, SMD1812B110TF/16,  
SMD1812P110TF/24, SMD1812B110TF/24,  
SMD1812P110TF/33, SMD1812B110TF/33,  
SMD1812P125TF/16, SMD1812B125TF/16,  
SMD1812P125TF/6,4L, SMD1812B125TF/6,4L,  
SMD1812P150TF/8, SMD1812B150TF/8,  
SMD1812P150TF/12, SMD1812B150TF/12,  
SMD1812P150TF/16, SMD1812B150TF/16,

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SMD1812P150TF/24, SMD1812B150TF/24,  
SMD1812P160TF/8(4L), SMD1812B160TF/8(4L),  
SMD1812P160TF/16, SMD1812B160TF/16,  
SMD1812P200TFT, SMD1812B200TFT,  
SMD1812P200TF/12, SMD1812B200TF/12,  
SMD1812P200TF/16, SMD1812B200TF/16,  
SMD1812P260TFT, SMD1812B260TFT,  
SMD1812P260TF/12, SMD1812B260TF/12,  
SMD1812P260TF/16, SMD1812B260TF/16,  
SMD1812P300TFT, SMD1812B300TFT,  
SMD0603P004TF, SMD0603B004TF,  
SMD0603P010TF, SMD0603B010TF,  
SMD0603P020TF, SMD0603B020TF,  
SMD0603P025TF, SMD0603B025TF,  
SMD0603P035TF, SMD0603B035TF,  
SMD0603P050TF, SMD0603B050TF,  
SMD1210P005TF, SMD1210B005TF,  
SMD1210P010TF, SMD1210B010TF,  
SMD1210P020TF, SMD1210B020TF,  
SMD1210P035TF, SMD1210B035TF,  
SMD1210P050TF, SMD1210B050TF,  
SMD1210P075TF, SMD1210B075TF,  
SMD1210P075TF/24, SMD1210B075TF/24,  
SMD1210P110TFT, SMD1210B110TFT,  
SMD1210P110TF/12, SMD1210B110TF/12,  
SMD1210P110TF/16, SMD1210B110TF/16,  
SMD1210P150TFT, SMD1210B150TFT,  
SMD1210P150TF/12, SMD1210B150TF/12,  
SMD1210P150TF/16, SMD1210B150TF/16,  
SMD1210P175TF, SMD1210B175TF,  
SMD1210P200TF, SMD1210B200TF,  
SMD2016P030TF, SMD2016B030TF,  
SMD2016P050TF, SMD2016B050TF,  
SMD2016P075TF, SMD2016B075TF,  
SMD2016P100TF, SMD2016B100TF,  
SMD2016P100TF/33, SMD2016B100TF/33,  
SMD2016P150TF, SMD2016B150TF,  
SMD2016P200TF, SMD2016B200TF,  
SMD2920P030TF, SMD2920B030TF,  
SMD2920P050TF, SMD2920B050TF,  
SMD2920P075TF, SMD2920B075TF,  
SMD2920P075TF/60, SMD2920B075TF/60,  
SMD2920P100TF, SMD2920B100TF,  
SMD2920P125TF, SMD2920B125TF,  
SMD2920P150TF, SMD2920B150TF,  
SMD2920P185TF, SMD2920B185TF,  
SMD2920P200TF/24, SMD2920B200TF/24,

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SMD2920P250TF, SMD2920B250TF,  
 SMD2920P260TF, SMD2920B260TF,  
 SMD2920P260TF/24, SMD2920B260TF/24,  
 SMD2920P300TF/15, SMD2920B300TF/15,  
 SMD2920P400TF, SMD2920B400TF,  
 SMD2920P500TF, SMD2920B500TF,  
 SMD2920P500TF/16, SMD2920B500TF/16)

## Parameters:

Type:	PTC thermistor for current limitation
Upper/Lower category temperature (UCT/LCT):	85°C/-40°C
Operating temperature range at maximum voltage:	0-40°C
Maximum voltage ( $U_{max}$ ):	See below Electrical Rating table
Endurance at room temperature (cycling):	1000 cycles, no burning or arcing. (delta R)/R =±30%.
Endurance at upper category temperature:	1000h. (delta R) /R limit =±50%.
Endurance at maximum operating temperature and maximum voltage:	500h, no burning or arcing. (delta R)/R limit =±50%.
Damp heat, steady state:	21 day. (delta R) /R limit =±20%.
Cold environmental electrical cycling:	1000 cycles, no burning or arcing. (delta R)/R limit =±50%.
Thermal runaway by increased voltage:	$2U_{max}$ , no burning, arcing or breakdown. (delta R)/R limit =±50%.

**Tested according to:** EN 60738-1:2006/A1:2009  
 EN 60738-1-1:2008

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Electrical Rating table:

## SMD0805 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD0805P010TF	SMD0805B010TF	15	0.10	0.04	0.30	100	1.00	6.00	1.50	0.50
SMD0805P020TF	SMD0805B020TF	9	0.20	0.05	0.50	100	0.65	3.50	0.02	8.00
SMD0805P035TF	SMD0805B035TF	6	0.35	0.08	0.75	100	0.25	1.20	0.10	8.00
SMD0805P050TF	SMD0805B050TF	6	0.50	0.08	1.00	100	0.15	0.85	0.10	8.00
SMD0805P075TF	SMD0805B075TF	6	0.75	0.1	1.50	40	0.09	0.35	0.20	8.00
SMD0805P100TFT	SMD0805B100TFT	6	1.00	0.1	1.95	40	0.06	0.21	0.30	8.00
SMD0805P110TF	SMD0805B110TF	6	1.10	0.13	2.00	100	0.05	0.16	0.10	8.00

## SMD1206 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD1206P005TF	SMD1206B005TF	30	0.05	0.02	0.15	100	3.600	50.00	0.25	1.50
SMD1206P010TF	SMD1206B010TF	30	0.100	0.02	0.27	100	1.500	15.00	0.20	1.50
SMD1206P012TF	SMD1206B012TF	30	0.125	0.02	0.29	100	1.500	6.000	0.20	1.00
SMD1206P016TF	SMD1206B016TF	30	0.16	0.03	0.37	100	1.200	4.500	0.30	1.00
SMD1206P020TF/24	SMD1206B020TF/24	24	0.20	0.025	0.42	100	0.650	2.600	0.10	8.00
SMD1206P025TF	SMD1206B025TF	16	0.25	0.0375	0.50	100	0.550	2.300	0.08	8.00
SMD1206P025TF/24	SMD1206B025TF/24	24	0.25	0.025	0.55	100	0.550	2.300	0.08	8.00
SMD1206P035TF/16	SMD1206B035TF/16	16	0.35	0.0375	0.75	100	0.300	1.200	0.10	8.00
SMD1206P050TF	SMD1206B050TF	6	0.50	0.1	1.00	100	0.150	0.700	0.10	8.00
SMD1206P050TF/15	SMD1206B050TF/15	15	0.50	0.04	1.00	100	0.150	0.750	0.10	8.00
SMD1206P075TFT	SMD1206B075TFT	8	0.75	0.075	1.50	100	0.090	0.290	0.20	8.00
SMD1206P075TF/13.2	SMD1206B075TF/13.2	13.2	0.75	0.045	1.50	100	0.090	0.350	0.20	8.00
SMD1206P075TF/16	SMD1206B075TF/16	16	0.75	0.0375	1.50	100	0.090	0.290	0.20	8.00
SMD1206P110TFT	SMD1206B110TFT	8	1.10	0.1	2.20	100	0.040	0.210	0.10	8.00
SMD1206P150TFT	SMD1206B150TFT	8	1.50	0.1	3.00	100	0.040	0.120	0.30	8.00
SMD1206P175TF	SMD1206B175TF	6	1.75	0.13	3.50	100	0.020	0.090	0.50	8.00
SMD1206P200TF	SMD1206B200TF	6	2.00	0.13	3.50	100	0.018	0.080	1.50	8.00

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## SMD1812 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD1812P010TF	SMD1812B010TF	30	0.10	0.026	0.30	100	1.600	15.00	1.50	0.50
SMD1812P014TF	SMD1812B014TF	60	0.14	0.013	0.34	10	1.500	6.000	0.15	1.50
SMD1812P020TF	SMD1812B020TF	30	0.20	0.026	0.40	100	0.800	5.000	0.02	8.00
SMD1812P020TF-J	SMD1812B020TF-J	60	0.20	0.03	0.40	40	0.700	5.000	2.00	1.00
SMD1812P035TF/30	SMD1812B035TF/30	30	0.35	0.026	0.75	40	0.400	1.700	0.15	8.00
SMD1812P050TF	SMD1812B050TF	15	0.50	0.053	1.00	100	0.150	1.000	0.15	8.00
SMD1812P050TF/30	SMD1812B050TF/30	30	0.50	0.026	1.00	100	0.150	1.000	0.15	8.00
SMD1812P075TF	SMD1812B075TF	13.2	0.75	0.06	1.50	100	0.100	0.450	0.20	8.00
SMD1812P075TF/24	SMD1812B075TF/24	24	0.75	0.033	1.50	100	0.110	0.290	0.20	8.00
SMD1812P075TF/33	SMD1812B075TF/33	33	0.75	0.024	1.50	20	0.110	0.400	0.20	8.00
SMD1812P110TF	SMD1812B110TF	8	1.10	0.1	2.20	100	0.040	0.210	0.30	8.00
SMD1812P110TF/16	SMD1812B110TF/16	16	1.10	0.05	1.95	100	0.060	0.180	0.30	8.00
SMD1812P110TF/24	SMD1812B110TF/24	24	1.10	0.033	1.95	20	0.060	0.200	0.50	8.00
SMD1812P110TF/33	SMD1812B110TF/33	33	1.10	0.024	1.95	20	0.060	0.200	0.50	8.00
SMD1812P125TF/16	SMD1812B125TF/16	16	1.25	0.05	2.50	100	0.050	0.140	0.40	8.00
SMD1812P125TF/6,4L	SMD1812B125TF/6,4L	6	1.25	0.13	2.50	100	0.050	0.140	0.40	8.00
SMD1812P150TF/8	SMD1812B150TF/8	8	1.50	0.1	3.00	100	0.040	0.110	0.30	8.00
SMD1812P150TF/12	SMD1812B150TF/12	12	1.50	0.066	3.00	100	0.040	0.110	0.50	8.00
SMD1812P150TF/16	SMD1812B150TF/16	16	1.50	0.05	2.80	100	0.040	0.110	0.50	8.00
SMD1812P150TF/24	SMD1812B150TF/24	24	1.50	0.033	3.00	20	0.040	0.120	1.50	8.00
SMD1812P160TF/8(4L)	SMD1812B160TF/8(4L)	8	1.60	0.1	2.80	100	0.030	0.100	1.00	8.00
SMD1812P160TF/16	SMD1812B160TF/16	16	1.60	0.05	2.80	100	0.030	0.100	0.50	8.00
SMD1812P200TFT	SMD1812B200TFT	8	2.00	0.1	3.50	100	0.020	0.070	2.00	8.00
SMD1812P200TF/12	SMD1812B200TF/12	12	2.00	0.083	3.50	100	0.020	0.070	2.00	8.00
SMD1812P200TF/16	SMD1812B200TF/16	16	2.00	0.0625	3.50	100	0.020	0.070	2.00	8.00
SMD1812P260TFT	SMD1812B260TFT	8	2.60	0.1	5.00	100	0.015	0.047	2.50	8.00
SMD1812P260TF/12	SMD1812B260TF/12	12	2.60	0.066	5.00	100	0.015	0.055	5.00	8.00
SMD1812P260TF/16	SMD1812B260TF/16	16	2.60	0.075	5.00	100	0.015	0.050	5.00	8.00
SMD1812P300TFT	SMD1812B300TFT	6	3.00	0.133	5.00	100	0.012	0.040	4.00	8.00

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## SMD0603 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD0603P004TF	SMD0603B004TF	24	0.04	0.02	0.12	20	4.00	40.0	1.00	0.20
SMD0603P010TF	SMD0603B010TF	15	0.10	0.033	0.30	40	0.90	6.00	1.00	0.50
SMD0603P020TF	SMD0603B020TF	9	0.20	0.033	0.50	40	0.55	3.50	0.60	1.0
SMD0603P025TF	SMD0603B025TF	9	0.25	0.055	0.55	40	0.50	3.00	0.08	8.0
SMD0603P035TF	SMD0603B035TF	6	0.35	0.083	0.75	40	0.20	1.00	0.10	8.0
SMD0603P050TF	SMD0603B050TF	6	0.50	0.083	1.00	40	0.10	0.68	0.10	8.0

## SMD1210 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD1210P005TF	SMD1210B005TF	30	0.05	0.02	0.15	10	3.600	50.00	1.5	0.25
SMD1210P010TF	SMD1210B010TF	30	0.10	0.02	0.30	10	1.600	15.00	1.5	0.50
SMD1210P020TF	SMD1210B020TF	30	0.20	0.02	0.40	10	0.800	5.000	0.02	8.00
SMD1210P035TF	SMD1210B035TF	6	0.35	0.1	0.70	100	0.320	1.300	0.20	8.00
SMD1210P050TF	SMD1210B050TF	13.2	0.50	0.045	1.00	100	0.250	0.900	0.05	8.00
SMD1210P075TF	SMD1210B075TF	6	0.75	0.1	1.50	100	0.130	0.400	0.10	8.00
SMD1210P075TF/ 24	SMD1210B075TF/ 24	24	0.75	0.025	1.50	100	0.130	0.400	0.10	8.00
SMD1210P110TFT	SMD1210B110TFT	8	1.10	0.075	2.20	100	0.060	0.210	0.10	8.00
SMD1210P110TF/ 12	SMD1210B110TF/ 12	12	1.10	0.05	2.20	100	0.060	0.210	0.10	8.00
SMD1210P110TF/ 16	SMD1210B110TF/ 16	16	1.10	0.0375	2.20	100	0.060	0.210	0.10	8.00
SMD1210P150TFT	SMD1210B150TFT	6	1.50	0.133	3.00	100	0.040	0.110	0.30	8.00
SMD1210P150TF/ 12	SMD1210B150TF/ 12	12	1.50	0.066	3.00	100	0.040	0.110	0.30	8.00
SMD1210P150TF/ 16	SMD1210B150TF/ 16	16	1.50	0.05	3.00	100	0.040	0.110	0.30	8.00
SMD1210P175TF	SMD1210B175TF	6	1.75	0.133	3.50	100	0.020	0.080	0.60	8.00
SMD1210P200TF	SMD1210B200TF	6	2.00	0.2	4.00	100	0.015	0.070	1.00	8.00

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## SMD2016 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD2016P030TF	SMD2016B030TF	60	0.30	0.023	0.60	20	0.50	2.30	3.00	1.50
SMD2016P050TF	SMD2016B050TF	60	0.55	0.023	1.10	20	0.20	1.00	5.00	2.50
SMD2016P075TF	SMD2016B075TF	60	0.75	0.023	1.50	20	0.13	0.90	0.50	8.00
SMD2016P100TF	SMD2016B100TF	15	1.10	0.093	2.20	40	0.10	0.40	0.50	8.00
SMD2016P100TF/ 33	SMD2016B100TF/ 33	33	1.10	0.042	2.20	40	0.10	0.40	0.50	8.00
SMD2016P150TF	SMD2016B150TF	15	1.50	0.093	3.00	40	0.07	0.18	1.00	8.00
SMD2016P200TF	SMD2016B200TF	6	2.00	0.3	4.20	40	0.048	0.10	3.00	8.00

## SMD2920 series:

Model	Alternative model name	U <sub>max</sub> (dc)	Current				R <sub>23</sub> (Ω)		Time-to-trip	
			I <sub>max.nt</sub> (A)	I <sub>res</sub> (A)	I <sub>t</sub> (A)	I <sub>mo</sub> (A)	R <sub>min</sub>	R <sub>max</sub>	T (s)	I (A)
SMD2920P030TF	SMD2920B030TF	60	0.30	0.025	0.60	10	1.200	4.800	3.00	1.50
SMD2920P050TF	SMD2920B050TF	60	0.50	0.025	1.00	10	0.350	1.400	4.00	2.50
SMD2920P075TF	SMD2920B075TF	30	0.75	0.05	1.50	40	0.350	1.000	0.30	8.00
SMD2920P075TF/ 60	SMD2920B075TF/ 60	60	0.75	0.025	1.50	10	0.300	0.950	0.30	8.00
SMD2920P100TF	SMD2920B100TF	33	1.10	0.045	2.20	40	0.120	0.410	0.50	8.00
SMD2920P125TF	SMD2920B125TF	15	1.25	0.1	2.50	40	0.070	0.250	2.00	8.00
SMD2920P150TF	SMD2920B150TF	33	1.50	0.045	3.00	40	0.080	0.230	2.00	8.00
SMD2920P185TF	SMD2920B185TF	33	1.85	0.045	3.70	40	0.050	0.150	2.50	8.00
SMD2920P200TF/ 24	SMD2920B200TF/ 24	24	2.00	0.0625	4.00	40	0.050	0.125	5.00	8.00
SMD2920P250TF	SMD2920B250TF	15	2.50	0.1	5.00	40	0.035	0.085	5.00	8.00
SMD2920P260TF	SMD2920B260TF	6	2.60	0.5	5.20	40	0.025	0.075	10.0	8.00
SMD2920P260TF/ 24	SMD2920B260TF/ 24	24	2.60	0.0625	5.20	40	0.025	0.075	5.00	8.00
SMD2920P300TF/ 15	SMD2920B300TF/ 15	15	3.00	0.1	6.00	40	0.015	0.048	20.00	8.00
SMD2920P400TF	SMD2920B400TF	15	4.00	0.1	8.00	40	0.010	0.040	4.00	20.0
SMD2920P500TF	SMD2920B500TF	12	5.00	0.125	10.0	40	0.005	0.025	5.00	20.0
SMD2920P500TF/ 16	SMD2920B500TF/ 16	16	5.00	0.125	10.0	40	0.005	0.025	5.00	20.0