



Product Service

# CERTIFICATE

No. B 096048 0006 Rev. 02

**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:** **Surge absorber  
(Varistor)**

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.:** 64100180017903

**Valid until:** 2026-06-20

**Date,** 2021-06-21

( Martin Ma )



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Model(s):

K05, K07, K10, K14, K20 series  
 (180KK05, 220KK05, 270KK05, 330KK05,  
 390KK05,  
 470KK05, 560KK05, 680KK05, 820KK05,  
 101KK05,  
 121KK05, 151KK05, 181KK05, 201KK05,  
 221KK05,  
 241KK05, 271KK05, 301KK05, 331KK05,  
 361KK05,  
 391KK05, 431KK05, 471KK05, 511KK05,  
 561KK05,  
 621KK05, 681KK05, 711KK05, 751KK05,  
 781KK05,  
 821KK05, 911KK05, 180KK07, 220KK07,  
 270KK07,  
 330KK07, 390KK07, 470KK07, 560KK07,  
 680KK07,  
 820KK07, 101KK07, 121KK07, 151KK07,  
 181KK07,  
 201KK07, 221KK07, 241KK07, 271KK07,  
 301KK07,  
 331KK07, 361KK07, 391KK07, 431KK07,  
 471KK07,  
 511KK07, 561KK07, 621KK07, 681KK07,  
 711KK07,  
 751KK07, 781KK07, 821KK07, 911KK07,  
 180KK10,  
 220KK10, 270KK10, 330KK10, 390KK10,  
 470KK10,  
 560KK10, 680KK10, 820KK10, 101KK10,  
 121KK10,  
 151KK10, 181KK10, 201KK10, 221KK10,  
 241KK10,  
 271KK10, 301KK10, 331KK10, 361KK10,  
 391KK10,  
 431KK10, 471KK10, 511KK10, 561KK10,  
 621KK10,  
 681KK10, 711KK10, 751KK10, 781KK10,  
 821KK10,  
 911KK10, 951KK10, 102KK10, 112KK10,

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122KK10,  
 180KK14, 220KK14, 270KK14, 330KK14,  
 390KK14,  
 470KK14, 560KK14, 680KK14, 820KK14,  
 101KK14,  
 121KK14, 151KK14, 181KK14, 201KK14,  
 221KK14,  
 241KK14, 271KK14, 301KK14, 331KK14,  
 361KK14,  
 391KK14, 431KK14, 471KK14, 511KK14,  
 561KK14,  
 621KK14, 681KK14, 711KK14, 751KK14,  
 781KK14,  
 821KK14, 911KK14, 951KK14, 102KK14,  
 112KK14,  
 122KK14, 142KK14, 152KK14, 162KK14,  
 182KK14,  
 180KK20, 220KK20, 270KK20, 330KK20,  
 390KK20,  
 470KK20, 560KK20, 680KK20, 820KK20,  
 101KK20,  
 121KK20, 151KK20, 181KK20, 201KK20,  
 221KK20,  
 241KK20, 271KK20, 301KK20, 331KK20,  
 361KK20,  
 391KK20, 431KK20, 471KK20, 511KK20,  
 561KK20,  
 621KK20, 681KK20, 711KK20, 751KK20,  
 781KK20,  
 821KK20, 911KK20, 951KK20, 102KK20,  
 112KK20,  
 122KK20, 142KK20, 152KK20, 162KK20,  
 182KK20)

## Parameters:

Maximum continuous voltage:	Details see Electrical Rating table
Leakage current:	Details see Electrical Rating table
Reference current:	1mA
Class current(8/20 $\mu$ s):	Details see Electrical Rating table
Maximum peak current(8/20 $\mu$ s, 1time):	Details see Electrical Rating table
Climatic category:	40/125/21

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Flame class: | V-0 |

K05 series:

Model	Maximum continuous voltage(V)		Leakage Current (mA)	Nominal varistor voltage (V)	Clamping Voltage (Max. V)	Class current (Max. A)	Maximum Peak Current(A)
	A.C	D.C	$I_L$	$V_N$	$V_C$	8/20 $\mu$ s $I_C$	8/20 $\mu$ s (1 time)
180KK05	11	14	50	18	40	1	250
220KK05	14	18	50	22	48	1	250
270KK05	17	22	50	27	60	1	250
330KK05	20	26	50	33	73	1	250
390KK05	25	31	50	39	80	1	250
470KK05	30	38	50	47	104	1	250
560KK05	35	45	50	56	123	1	250
680KK05	40	56	50	68	145	1	250
820KK05	50	65	30	82	150	5	800
101KK05	60	85	30	100	175	5	800
121KK05	75	100	30	120	210	5	800
151KK05	95	125	30	150	260	5	800
181KK05	115	150	30	180	320	5	800
201KK05	130	170	20	200	355	5	800
221KK05	140	180	20	220	380	5	800
241KK05	150	200	20	240	415	5	800
271KK05	175	225	20	270	475	5	800
301KK05	190	250	20	300	520	5	800
331KK05	210	275	20	330	570	5	800
361KK05	230	300	20	360	620	5	800
391KK05	250	320	20	390	675	5	800
431KK05	275	350	20	430	745	5	800
471KK05	300	385	20	470	810	5	800
511KK05	320	415	20	510	845	5	800
561KK05	350	460	20	560	920	5	800
621KK05	385	505	20	620	1025	5	800
681KK05	420	560	20	680	1120	5	800
711KK05	440	580	20	710	1170	5	800
751KK05	460	615	20	750	1240	5	800
781KK05	485	640	20	780	1290	5	800
821KK05	510	670	20	820	1355	5	800
911KK05	550	745	20	910	1500	5	800

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K07 series:

Type	Maximum continuous voltage(V)		Leakage Current (mA)	Nominal varistor voltage (V)	Clamping Voltage (Max. V)	Class current (Max. A)	Maximum Peak Current(A)
	A.C	D.C	I <sub>L</sub>	V <sub>N</sub>	V <sub>C</sub>	8/20 μs I <sub>C</sub>	8/20 μs (1 time)
180KK07	11	14	50	18	36	2.5	500
220KK07	14	18	50	22	43	2.5	500
270KK07	17	22	50	27	53	2.5	500
330KK07	20	26	50	33	65	2.5	500
390KK07	25	31	50	39	77	2.5	500
470KK07	30	38	50	47	93	2.5	500
560KK07	35	45	50	56	110	2.5	500
680KK07	40	56	50	68	135	2.5	500
820KK07	50	65	30	82	135	10	1750
101KK07	60	85	30	100	165	10	1750
121KK07	75	100	30	120	200	10	1750
151KK07	95	125	30	150	250	10	1750
181KK07	115	150	30	180	300	10	1750
201KK07	130	170	20	200	340	10	1750
221KK07	140	180	20	220	360	10	1750
241KK07	150	200	20	240	395	10	1750
271KK07	175	225	20	270	455	10	1750
301KK07	190	250	20	300	500	10	1750
331KK07	210	275	20	330	550	10	1750
361KK07	230	300	20	360	595	10	1750
391KK07	250	320	20	390	650	10	1750
431KK07	275	350	20	430	710	10	1750
471KK07	300	385	20	470	775	10	1750
511KK07	320	415	20	510	845	10	1750
561KK07	350	460	20	560	925	10	1750
621KK07	385	505	20	620	1025	10	1750
681KK07	420	560	20	680	1120	10	1750
711KK07	440	580	20	710	1170	10	1750
751KK07	460	615	20	750	1240	10	1750
781KK07	485	640	20	780	1290	10	1750
821KK07	510	670	20	820	1355	10	1750
911KK07	550	745	20	910	1500	10	1750

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K10 series:

Type	Maximum continuous voltage(V)		Leakage Current (mA)	Nominal varistor voltage (V)	Clamping Voltage (Max. V)	Class current (Max. A)	Maximum Peak Current(A)
	A.C	D.C	$I_L$	$V_N$	$V_C$	8/20 $\mu$ s $I_C$	8/20 $\mu$ s (1 time)
180KK10	11	14	50	18	36	5	1000
220KK10	14	18	50	22	43	5	1000
270KK10	17	22	50	27	53	5	1000
330KK10	20	26	50	33	65	5	1000
390KK10	25	31	50	39	77	5	1000
470KK10	30	38	50	47	93	5	1000
560KK10	35	45	50	56	110	5	1000
680KK10	40	56	50	68	135	5	1000
820KK10	50	65	30	82	135	25	3500
101KK10	60	85	30	100	165	25	3500
121KK10	75	100	30	120	200	25	3500
151KK10	95	125	30	150	250	25	3500
181KK10	115	150	30	180	300	25	3500
201KK10	130	170	20	200	340	25	3500
221KK10	140	180	20	220	360	25	3500
241KK10	150	200	20	240	395	25	3500
271KK10	175	225	20	270	455	25	3500
301KK10	190	250	20	300	500	25	3500
331KK10	210	275	20	330	550	25	3500
361KK10	230	300	20	360	595	25	3500
391KK10	250	320	20	390	650	25	3500
431KK10	275	350	20	430	710	25	3500
471KK10	300	385	20	470	775	25	3500
511KK10	320	415	20	510	845	25	3500
561KK10	350	460	20	560	925	25	3500
621KK10	385	505	20	620	1025	25	3500
681KK10	420	560	20	680	1120	25	3500
711KK10	440	580	20	710	1170	25	3500
751KK10	460	615	20	750	1240	25	3500
781KK10	485	640	20	780	1290	25	3500
821KK10	510	670	20	820	1355	25	3500
911KK10	550	745	20	910	1500	25	3500
951KK10	575	780	20	950	1570	25	3500
102KK10	625	825	20	1000	1650	25	3500
112KK10	680	895	20	1100	1815	25	3500
122KK10	750	990	20	1200	1980	25	3500

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K14 series:

Type	Maximum continuous voltage(V)		Leakage Current (mA)	Nominal varistor voltage (V)	Clamping Voltage (Max. V)	Class current (Max. A)	Maximum Peak Current(A)
	A.C	D.C	$I_L$	$V_N$	$V_C$	8/20 $\mu$ s $I_C$	8/20 $\mu$ s (1 time)
180KK14	11	14	50	18	36	10	2000
220KK14	14	18	50	22	43	10	2000
270KK14	17	22	50	27	53	10	2000
330KK14	20	26	50	33	65	10	2000
390KK14	25	31	50	39	77	10	2000
470KK14	30	38	50	47	93	10	2000
560KK14	35	45	50	56	110	10	2000
680KK14	40	56	50	68	135	10	2000
820KK14	50	65	30	82	135	50	6000
101KK14	60	85	30	100	165	50	6000
121KK14	75	100	30	120	200	50	6000
151KK14	95	125	30	150	250	50	6000
181KK14	115	150	30	180	300	50	6000
201KK14	130	170	20	200	340	50	6000
221KK14	140	180	20	220	360	50	6000
241KK14	150	200	20	240	395	50	6000
271KK14	175	225	20	270	455	50	6000
301KK14	190	250	20	300	500	50	6000
331KK14	210	275	20	330	550	50	6000
361KK14	230	300	20	360	595	50	6000
391KK14	250	320	20	390	650	50	6000
431KK14	275	350	20	430	710	50	6000
471KK14	300	385	20	470	775	50	6000
511KK14	320	415	20	510	845	50	6000
561KK14	350	460	20	560	925	50	6000
621KK14	385	505	20	620	1025	50	6000
681KK14	420	560	20	680	1120	50	6000
711KK14	440	580	20	710	1170	50	6000
751KK14	460	615	20	750	1240	50	6000
781KK14	485	640	20	780	1290	50	6000
821KK14	510	670	20	820	1355	50	6000
911KK14	550	745	20	910	1500	50	6000
951KK14	575	780	20	950	1570	50	6000
102KK14	625	825	20	1000	1650	50	6000
112KK14	680	895	20	1100	1815	50	6000
122KK14	750	990	20	1200	1980	50	6000
142KK14	880	1140	20	1400	2310	50	6000
152KK14	930	1200	20	1500	2475	50	6000
162KK14	1000	1280	20	1600	2640	50	6000
182KK14	1100	1465	20	1800	2970	50	6000

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K20 series:

Type	Maximum continuous voltage(V)		Leakage Current (mA)	Nominal varistor voltage (V)	Clamping Voltage (Max. V)	Class current (Max. A)	Maximum Peak Current(A)
	A.C	D.C	$I_L$	$V_N$	$V_C$	8/20 $\mu$ s $I_C$	8/20 $\mu$ s (1 time)
180KK20	11	14	50	18	36	20	3000
220KK20	14	18	50	22	43	20	3000
270KK20	17	22	50	27	53	20	3000
330KK20	20	26	50	33	65	20	3000
390KK20	25	31	50	39	77	20	3000
470KK20	30	38	50	47	93	20	3000
560KK20	35	45	50	56	110	20	3000
680KK20	40	56	50	68	135	20	3000
820KK20	50	65	30	82	135	100	12000
101KK20	60	85	30	100	165	100	12000
121KK20	75	100	30	120	200	100	12000
151KK20	95	125	30	150	250	100	12000
181KK20	115	150	30	180	300	100	12000
201KK20	130	170	20	200	340	100	12000
221KK20	140	180	20	220	360	100	12000
241KK20	150	200	20	240	395	100	12000
271KK20	175	225	20	270	455	100	12000
301KK20	190	250	20	300	500	100	12000
331KK20	210	275	20	330	550	100	12000
361KK20	230	300	20	360	595	100	12000
391KK20	250	320	20	390	650	100	12000
431KK20	275	350	20	430	710	100	12000
471KK20	300	385	20	470	775	100	12000
511KK20	320	415	20	510	845	100	12000
561KK20	350	460	20	560	925	100	12000
621KK20	385	505	20	620	1025	100	12000
681KK20	420	560	20	680	1120	100	12000
711KK20	440	580	20	710	1170	100	12000
751KK20	460	615	20	750	1240	100	12000
781KK20	485	640	20	780	1290	100	12000
821KK20	510	670	20	820	1355	100	12000
911KK20	550	745	20	910	1500	100	12000
951KK20	575	780	20	950	1570	100	12000
102KK20	625	825	20	1000	1650	100	12000
112KK20	680	895	20	1100	1815	100	12000
122KK20	750	990	20	1200	1980	100	12000
142KK20	880	1140	20	1400	2310	100	12000
152KK20	930	1200	20	1500	2475	100	12000
162KK20	1000	1280	20	1600	2640	100	12000
182KK20	1100	1465	20	1800	2970	100	12000





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**Tested according to:** IEC 61051-1:2018  
IEC 61051-2:1991/A1:2009  
IEC 61051-2-2:1991