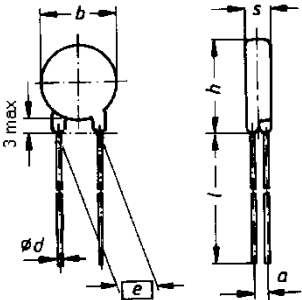
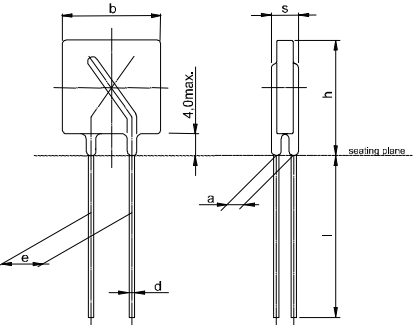


<p><i>Specification available from:</i> Österreichischer Verband für Elektrotechnik (OVE) A-1010 Wien, Eschenbachgasse 9</p>	<p>IEC 61051-2-2 AT0001 Issue 14 / 2025-04 QC 420102 AT0001</p>
<p><i>Electronic components of assessed quality in accordance with:</i> IEC 61051-1: 2018-10 IEC 61051-2: 2021-11 IEC 60950-1: 2013-05 Annex Q IEC 62368-1: 2023-05 Annex G.8.1 QC 420000</p>	<p>IEC 61051-2-2: 1991-01 QC 420102</p>
<p>Outline drawing for S*-, SNF*-types (see 1.2.1)</p>  <p>Outline drawing for Q*-types (see 1.2.1)</p>  <p>Crimp-Type Standard (Q-types)</p>	<p>ZINC OXYDE SURGE SUPPRESSION VARISTORS</p> <p>Insulated</p> <p>Assessment level: E</p>

NOTES

- 1 - Other shapes and crimp styles are permitted within the dimensions given.
- 2 - The undimensioned details do not affect the performance of the device.
- 3 - The terminations are suitable for soldering.
- 4 - The terminations are suitable for printed wiring applications.
- 5 - The terminations are rigid.

Information on the availability of components qualified to this detail specification is given in the Qualified Products List.

SECTION ONE – GENERAL DATA

1 General data

1.1 Recommended method (s) of mounting

The varistors shall be mounted by their normal means in such a manner that there shall be no parasitic vibration.

1.2 Dimensions, ratings and characteristics (see table 1)

1.2.1 Dimensions (All dimensions are in millimeters)

- Body diameter: b see table 1
- Body thickness (including terminations of styles with wire terminations): s see table 1
- Diameter of wire terminations: d see below
- Length of wire termination: l lmin = 25 mm
- Distance between wire terminations: e see below

e [mm] ± 1.0	5.0	7.1	7.5	10.0	12.7
φ d [mm] ± 0.05	0.6	0.8	0.8	1.0	1.0
Style S05, S07, SNF05, SNF07	*	---	R7	R10	---
Style S10, S14, SNF10, SNF14,	R5	R7	*	R10	---
Style S20, SNF20	R5	---	R7	*	---
Style Q14, Q20	---	---	R7	*	---
Style S25	---	---	R7	R10	R12

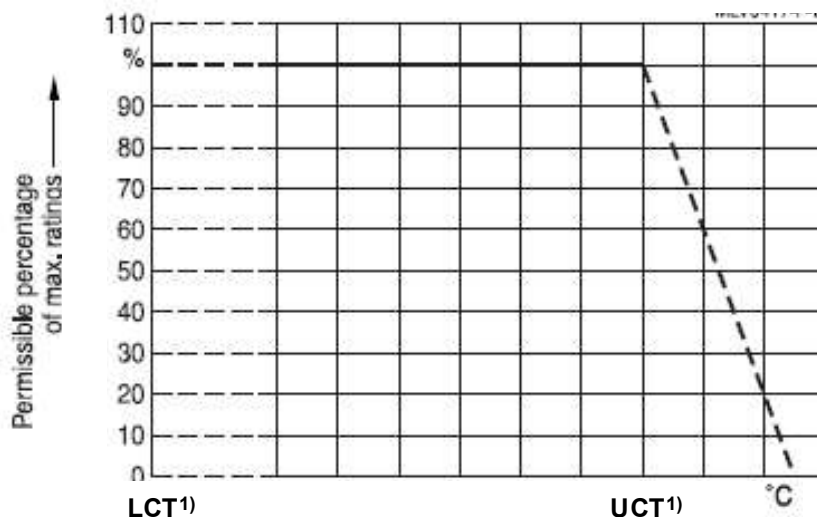
* Default Varistors types ("R" is omitted)

1.2.2 Ratings and characteristics

Climatic category (SNF & *T7 types):	40/125/56
LCT/UCT (Lower/Upper category temperature) ¹⁾	-40°C/125°C
Climatic category (other types excluding SNF & *T7 types):	40/105/56
LCT/UCT (Lower/Upper category temperature) ¹⁾	-40°C/105°C
Maximum continuous a.c. voltage:	see table 1
Maximum continuous d.c. voltage:	see table 1
Supply voltage:	see table 1
Voltage at specified current (1 mA):	
- at 25°C	see table 1
- if applicable, at upper category temperature:	-
- if applicable, at ... °C	-
Maximum peak current:	
10 pulses 8/20 µs at 2 per min in one direction	see table 1 and 1.2.3
Rated energy:	
Single current pulse with 2 ms rectangular wave shape or 10 µs / 1 000 µs wave shape	see table 1 and 1.2.3
Class current:	see table 1
Voltage at class current (protection level):	see table 1
Capacitance:	see table 1
Isolation voltage (standard rating; if not defined otherwise see 1.5):	2500 V (a.c.)
Maximum temperature coefficient of the voltage at specified current	-(0.09 % / K)max.

1.2.3 Derating curve

Maximum continuous a.c. or d.c. voltage with temperature.



Maximum peak current ratings: See 1.3/ Table 1.

¹⁾ LCT/UCT: Lower/Upper category temperature = Operating temperature range.

1.3 Related documents

Generic specification:	IEC Publication 61051-1: Varistors for Use in Electronic Equipment. Part 1: Generic Specification.
Sectional specification:	IEC Publication 61051-2: Varistors for Use in Electronic Equipment. Part 2: Sectional Specification for Surge Suppression Varistors.

Table 1 (1 of 21)

Style (1)	Equivalent KV type	Supply voltage	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	b _{max} (mm)	S _{max} (mm)
S(NF)05K11	S(NF)05KV180	-	11	14	18	1,0	36	100	50	N/A	0,3	3000	7,0	3,3	9,0	6,3
S(NF)07K11	S(NF)07KV180		11	14	18	2,5	36	250	100	N/A	0,8	7000	9,0	3,4	11,0	6,4
S(NF)10K11	S(NF)10KV180		11	14	18	5,0	36	500	250	N/A	1,7	15000	12,0	4,0	14,0	7,0
S(NF)14K11	S(NF)14KV180		11	14	18	10,0	36	1000	500	N/A	3,2	35000	15,5	4,0	17,5	7,0
S(NF)20K11	S(NF)20KV180		11	14	18	20,0	36	2000	1000	N/A	10,0	70000	21,5	4,5	23,5	7,5
S(NF)05K14	S(NF)05KV220		14	18	22	1,0	43	100	50	N/A	0,4	2500	7,0	3,4	9,0	6,4
S(NF)07K14	S(NF)07KV220		14	18	22	2,5	43	250	100	N/A	0,9	5500	9,0	3,8	11,0	6,8
S(NF)10K14	S(NF)10KV220		14	18	22	5,0	43	500	250	N/A	2,0	12000	12,0	4,2	14,0	7,2
S(NF)14K14	S(NF)14KV220		14	18	22	10,0	43	1000	500	N/A	4,0	30000	15,5	4,2	17,5	7,2
S(NF)20K14	S(NF)20KV220		14	18	22	20,0	43	2000	1000	N/A	12,0	60000	21,5	4,6	23,5	7,6
S(NF)05K17	S(NF)05KV270		17	22	27	1,0	53	100	50	N/A	0,5	2000	7,0	3,5	9,0	6,5
S(NF)07K17	S(NF)07KV270		17	22	27	2,5	53	250	100	N/A	1,1	4000	9,0	3,6	11,0	6,6
S(NF)10K17	S(NF)10KV270		17	22	27	5,0	53	500	250	N/A	2,5	8000	12,0	4,4	14,0	7,4
S(NF)14K17	S(NF)14KV270		17	22	27	10,0	53	1000	500	N/A	5,0	20000	15,5	4,4	17,5	7,4
S(NF)20K17	S(NF)20KV270		17	22	27	20,0	53	2000	1000	N/A	14,0	45000	21,5	4,8	23,5	7,8
S(NF)05K20	S(NF)05KV330		20	26	33	1,0	65	100	50	N/A	0,6	1800	7,0	3,5	9,0	6,5
S(NF)07K20	S(NF)07KV330		20	26	33	2,5	65	250	100	N/A	1,3	3000	9,0	3,6	11,0	6,6
S(NF)10K20	S(NF)10KV330		20	26	33	5,0	65	500	250	N/A	3,1	6000	12,0	4,5	14,0	7,5
S(NF)14K20	S(NF)14KV330		20	26	33	10,0	65	1000	500	N/A	6,0	15000	15,5	4,6	17,5	7,6
S(NF)20K20	S(NF)20KV330		20	26	33	20,0	65	2000	1000	N/A	18,0	35000	21,5	5,1	23,5	8,1
S(NF)05K25	S(NF)05KV390		25	31	39	1,0	77	100	50	N/A	0,7	1000	7,0	3,6	9,0	6,6
S(NF)07K25	S(NF)07KV390		25	31	39	2,5	77	250	100	N/A	1,6	2500	9,0	3,7	11,0	6,7
S(NF)10K25	S(NF)10KV390		25	31	39	5,0	77	500	250	N/A	3,7	5000	12,0	4,2	14,0	7,2
S(NF)14K25	S(NF)14KV390		25	31	39	10,0	77	1000	500	N/A	7,0	12000	15,5	4,2	17,5	7,2
S(NF)20K25	S(NF)20KV390		25	31	39	20,0	77	2000	1000	N/A	22,0	30000	21,5	4,7	23,5	7,7

(1) For explanation of style reference number, see clause 1.5.

(2) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

Table 1 (2 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	bmax (mm)	Smax (mm)
S(NF)05K30	S(NF)05KV470	-	30	38	47	1,0	93	100	50	N/A	0,9	1500	7,0	3,6	9,0	6,6
S(NF)07K30	S(NF)07KV470		30	38	47	2,5	93	250	100	N/A	2,0	3000	9,0	3,7	11,0	6,7
S(NF)10K30	S(NF)10KV470		30	38	47	5,0	93	500	250	N/A	4,4	6000	12,0	4,4	14,0	7,4
S(NF)14K30	S(NF)14KV470		30	38	47	10,0	93	1000	500	N/A	9,0	11000	15,5	4,4	17,5	7,4
S(NF)20K30	S(NF)20KV470		30	38	47	20,0	93	2000	1000	N/A	26,0	25000	21,5	4,9	23,5	7,9
S(NF)05K35	S(NF)05KV560		35	45	56	1,0	110	100	50	N/A	1,1	1250	7,0	3,7	9,0	6,7
S(NF)07K35	S(NF)07KV560		35	45	56	2,5	110	250	100	N/A	2,5	2300	9,0	3,9	11,0	6,9
S(NF)10K35	S(NF)10KV560		35	45	56	5,0	110	500	250	N/A	5,4	4500	12,0	4,4	14,0	7,4
S(NF)14K35	S(NF)14KV560		35	45	56	10,0	110	1000	500	N/A	10,0	9000	15,5	4,5	17,5	7,5
S(NF)20K35	S(NF)20KV560		35	45	56	20,0	110	2000	1000	N/A	33,0	20000	21,5	5,1	23,5	8,1
S(NF)05K40	S(NF)05KV680		40	56	68	1,0	135	100	50	N/A	1,3	1200	7,0	3,9	9,0	6,9
S(NF)07K40	S(NF)07KV680		40	56	68	2,5	135	250	100	N/A	3,0	1900	9,0	4,1	11,0	7,1
S(NF)10K40	S(NF)10KV680		40	56	68	5,0	135	500	250	N/A	6,4	3600	12,0	4,8	14,0	7,8
S(NF)14K40	S(NF)14KV680		40	56	68	10,0	135	1000	500	N/A	13,0	6000	15,5	4,9	17,5	7,9
S(NF)20K40	S(NF)20KV680		40	56	68	20,0	135	2000	1000	N/A	37,0	10000	21,5	5,4	23,5	8,4
S(NF)05K50	S(NF)05KV820		50	65	82	5,0	135	400	150	N/A	1,8	900	7,0	3,3	9,0	6,3
S(NF)07K50	S(NF)07KV820		50	65	82	10,0	135	1200	500	N/A	4,2	1800	9,0	3,3	11,0	6,3
S(NF)10K50	S(NF)10KV820		50	65	82	25,0	135	2500	1500	N/A	8,4	3400	12,0	3,9	14,0	6,9
*S(NF)14K50	*S(NF)14KV820		50	65	82	50,0	135	4500	3000	6.0kV/3.0kA	15,0	5400	15,5	3,9	17,5	6,9
*S(NF)20K50	*S(NF)20KV820		50	65	82	100,0	135	6500	3000	6.0kV/3.0kA	27,0	9000	21,5	4,3	23,5	7,3
S(NF)05K60	S(NF)05KV101		60	85	100	5,0	165	400	150	N/A	2,2	600	7,0	3,3	9,0	6,3
S(NF)07K60	S(NF)07KV101	60	85	100	10,0	165	1200	500	N/A	4,8	1000	9,0	3,3	11,0	6,3	
S(NF)10K60	S(NF)10KV101	60	85	100	25,0	165	2500	1500	N/A	10,0	2000	12,0	4,0	14,0	7,0	
*S(NF)14K60	*S(NF)14KV101	60	85	100	50,0	165	4500	3000	6.0kV/3.0kA	17,0	3400	15,5	4,0	17,5	7,0	
*S(NF)20K60	*S(NF)20KV101	60	85	100	100,0	165	6500	3000	6.0kV/3.0kA	33,0	6000	21,5	4,4	23,5	7,4	

- (1) For explanation of style reference number, see clause 1.5.
(2) All types marked with *** are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

Table 1 (3 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	bmax (mm)	Smax (mm)
S(NF)05K75	S(NF)05KV121	-	75	100	120	5,0	200	400	150	N/A	2,5	420	7,0	3,4	9,0	6,4
S(NF)07K75	S(NF)07KV121		75	100	120	10,0	200	1200	500	N/A	5,9	790	9,0	3,6	11,0	6,6
S(NF)10K75	S(NF)10KV121		75	100	120	25,0	200	2500	1500	N/A	12,0	1600	12,5	4,2	14,0	7,2
*S(NF)14K75	*S(NF)14KV121		75	100	120	50,0	200	4500	3000	6.0kV/3.0kA	20,0	3000	15,5	4,2	17,5	7,2
*S(NF)20K75	*S(NF)20KV121		75	100	120	100,0	200	6500	3000	6.0kV/3.0kA	40,0	5000	21,5	4,6	23,5	7,6
S(NF)05K95	S(NF)05KV151		95	125	150	5,0	250	400	150	N/A	3,4	350	7,0	3,4	9,0	6,4
S(NF)07K95	S(NF)07KV151		95	125	150	10,0	250	1200	500	N/A	7,6	700	9,0	3,4	11,0	6,4
S(NF)10K95	S(NF)10KV151		95	125	150	25,0	250	2500	1500	N/A	15,0	1400	12,5	4,0	14,0	7,0
*S(NF)14K95	*S(NF)14KV151		95	125	150	50,0	250	4500	3000	6.0kV/3.0kA	25,0	2500	15,5	4,0	17,5	7,0
*S(NF)20K95	*S(NF)20KV151		95	125	150	100,0	250	6500	3000	6.0kV/3.0kA	50,0	4500	21,5	4,5	23,5	7,5
S(NF)05K115#	S(NF)05KV181#		115	150	180	5,0	300	400	150	N/A	3,6	300	7,0	3,6	9,0	6,6
S(NF)07K115#	S(NF)07KV181#		115	150	180	10,0	300	1200	500	N/A	8,4	640	9,0	3,6	11,0	6,6
S(NF)10K115#	S(NF)10KV181#		115	150	180	25,0	300	2500	1500	N/A	18,0	1200	12,5	4,2	14,0	7,2
*S(NF)14K115#	*S(NF)14KV181#		115	150	180	50,0	300	4500	3000	6.0kV/3.0kA	30,0	2200	15,5	4,2	17,5	7,2
*S(NF)20K115#	*S(NF)20KV181#		115	150	180	100,0	300	6500	3000	6.0kV/3.0kA	60,0	4000	21,5	4,6	23,5	7,6
S(NF)05K130#	S(NF)05KV201#		130	170	205	5,0	340	400	150	N/A	4,2	240	7,0	3,6	9,0	6,6
S(NF)07K130#	S(NF)07KV201#		130	170	205	10,0	340	1200	500	N/A	9,5	580	9,0	3,6	11,0	6,6
S(NF)10K130#	S(NF)10KV201#		130	170	205	25,0	340	2500	1500	N/A	19,0	1050	12,5	4,2	14,0	7,2
*S(NF)14K130#	*S(NF)14KV201#		130	170	205	50,0	340	4500	3000	6.0kV/3.0kA	34,0	1900	15,5	4,2	17,5	7,2
*S(NF)20K130#	*S(NF)20KV201#		130	170	205	100,0	340	8000	3000	6.0kV/3.0kA	74,0	3500	21,5	4,7	23,5	7,7
S(NF)05K140#	S(NF)05KV221#	140	180	220	5,0	360	400	150	N/A	4,5	220	7,0	3,7	9,0	6,7	
S(NF)07K140#	S(NF)07KV221#	140	180	220	10,0	360	1200	500	N/A	10,0	550	9,0	3,7	11,0	6,7	
S(NF)10K140#	S(NF)10KV221#	140	180	220	25,0	360	2500	1500	N/A	22,0	980	12,5	4,3	14,0	7,3	
*S(NF)14K140#	*S(NF)14KV221#	140	180	220	50,0	360	4500	3000	6.0kV/3.0kA	36,0	1750	15,5	4,3	17,5	7,3	
*S(NF)20K140#	*S(NF)20KV221#	140	180	220	100,0	360	8000	3000	6.0kV/3.0kA	78,0	3250	21,5	4,8	23,5	7,8	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated

(4) All types marked with "#" may be followed by suffix "T7".

Table 1 (4 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	bmax (mm)	Smax (mm)	
S(NF)05K150#	S(NF)05KV241#	120	150	200	240	5,0	395	400	150	N/A	4,9	200	7,0	3,8	9,0	6,8	
S(NF)07K150#	S(NF)07KV241#		150	200	240	10,0	395	1200	500	N/A	11,0	520	9,0	3,8	11,0	6,8	
S(NF)10K150#	S(NF)10KV241#		150	200	240	25,0	395	2500	1500	N/A	24,0	900	12,0	4,4	14,0	7,4	
*S(NF)14K150#	*S(NF)14KV241#		150	200	240	50,0	395	4500	3000	6.0kV/3.0kA	40,0	1600	15,5	4,4	17,5	7,4	
*S(NF)20K150#	*S(NF)20KV241#		150	200	240	100,0	395	8000	3000	6.0kV/3.0kA	85,0	3000	21,5	4,9	23,5	7,9	
S(NF)05K175#	S(NF)05KV271#		175	225	270	5,0	455	400	150	N/A	5,6	170	7,0	4,3	9,0	6,9	
S(NF)07K175#	S(NF)07KV271#		175	225	270	10,0	455	1200	500	N/A	13,0	380	9,0	4,3	11,0	7,0	
S(NF)10K175#	S(NF)10KV271#		175	225	270	25,0	455	2500	1500	N/A	28,0	720	12,5	4,9	14,0	7,6	
*S(NF)14K175#	*S(NF)14KV271#		175	225	270	50,0	455	4500	3000	6.0kV/3.0kA	46,0	1380	16,5	4,9	17,5	7,6	
*S(NF)20K175#	*S(NF)20KV271#		175	225	270	100,0	455	8000	3000	6.0kV/3.0kA	98,0	2600	22,5	5,3	23,5	8,0	
S(NF)05K210#	S(NF)05KV331#	210	270	330	5,0	550	400	150	N/A	7,0	155	7,0	4,2	9,0	7,0		
S(NF)07K210#	S(NF)07KV331#	210	270	330	10,0	550	1200	500	N/A	15,0	340	9,0	4,2	11,0	7,0		
S(NF)10K210#	S(NF)10KV331#	210	270	330	25,0	550	2500	1500	N/A	34,0	635	12,0	5,0	14,0	7,7		
*S(NF)14K210#	*S(NF)14KV331#	210	270	330	50,0	550	4500	3000	6.0kV/3.0kA	55,0	1250	15,5	5,0	17,5	7,7		
*S(NF)20K210#	*S(NF)20KV331#	210	270	330	100,0	550	8000	3000	6.0kV/3.0kA	120,0	2300	21,5	5,4	23,5	8,1		
S(NF)05K230#	S(NF)05KV361#	230	300	360	5,0	595	400	150	N/A	7,2	140	7,0	4,8	9,0	7,0		
S(NF)07K230#	S(NF)07KV361#	230	300	360	10,0	595	1200	500	N/A	17,0	300	9,0	4,8	11,0	7,0		
S(NF)10K230#	S(NF)10KV361#	230	300	360	25,0	595	2500	1500	N/A	36,0	550	12,5	5,4	14,0	7,7		
*S(NF)14K230#	*S(NF)14KV361#	230	300	360	50,0	595	4500	3000	6.0kV/3.0kA	60,0	1100	16,5	5,5	17,5	7,7		
*S(NF)20K230#	*S(NF)20KV361#	230	300	360	100,0	595	8000	3000	6.0kV/3.0kA	130,0	2000	22,5	5,9	23,5	8,1		

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Typical AC Mains Supply voltages are indicated
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (5 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max}	s _{max}	b _{max}	s _{max}	
S(NF)05K250#	S(NF)05KV391#	120	250	320	390	5,0	650	400	150	N/A	8,2	120	7,0	4,2	9,0	7,2	
S(NF)07K250#	S(NF)07KV391#		250	320	390	10,0	650	1200	500	N/A	19,0	240	9,0	4,2	11,0	7,2	
S(NF)10K250#	S(NF)10KV391#		250	320	390	25,0	650	2500	1500	N/A	38,0	480	12,0	4,8	14,0	7,8	
*S(NF)14K250#	*S(NF)14KV391#		250	320	390	50,0	650	4500	3000	6.0kV/3.0kA	65,0	940	15,5	4,8	17,5	7,8	
*S(NF)20K250#	*S(NF)20KV391#		250	320	390	100,0	650	8000	3000	6.0kV/3.0kA	140,0	1800	21,5	5,3	23,5	8,3	
S(NF)05K275#	S(NF)05KV431#			275	350	430	5,0	710	400	150	N/A	8,6	120	7,0	4,3	9,0	7,3
S(NF)07K275#	S(NF)07KV431#			275	350	430	10,0	710	1200	500	N/A	21,0	210	9,0	4,4	11,0	7,4
S(NF)10K275#	S(NF)10KV431#			275	350	430	25,0	710	2500	1500	N/A	43,0	440	12,0	5,0	14,0	8,0
*S(NF)14K275#	*S(NF)14KV431#			275	350	430	50,0	710	4500	3000	6.0kV/3.0kA	71,0	900	15,5	5,0	17,5	8,0
*S(NF)20K275#	*S(NF)20KV431#		275	350	430	100,0	710	8000	3000	6.0kV/3.0kA	151,0	1800	21,5	5,4	23,5	8,4	
S(NF)05K300#	S(NF)05KV471#	230/240	300	385	470	5,0	775	400	150	N/A	9,6	110	7,0	4,5	9,0	7,5	
S(NF)07K300#	S(NF)07KV471#		300	385	470	10,0	775	1200	500	N/A	23,0	170	9,0	4,5	11,0	7,5	
S(NF)10K300#	S(NF)10KV471#		300	385	470	25,0	775	2500	1500	N/A	47,0	360	12,0	5,1	14,0	8,1	
*S(NF)14K300#	*S(NF)14KV471#		300	385	470	50,0	775	4500	3000	6.0kV/3.0kA	76,0	780	15,5	5,2	17,5	8,2	
*S(NF)20K300#	*S(NF)20KV471#		300	385	470	100,0	775	8000	3000	6.0kV/3.0kA	173,0	1500	21,5	5,6	23,5	8,6	
S(NF)05K320#	S(NF)05KV511#			320	420	510	10,0	845	400	150	N/A	10,5	105	7,0	4,6	9,0	7,6
S(NF)07K320#	S(NF)07KV511#			320	420	510	25,0	845	1200	500	N/A	25,0	155	9,0	4,6	11,0	7,6
S(NF)10K320#	S(NF)10KV511#			320	420	510	25,0	845	2500	1500	N/A	50,0	340	12,0	5,4	14,0	8,4
*S(NF)14K320#	*S(NF)14KV511#			320	420	510	50,0	845	4500	3000	6.0kV/3.0kA	84,0	680	15,5	5,4	17,5	8,4
*S(NF)20K320#	*S(NF)20KV511#		320	420	510	100,0	845	8000	3000	6.0kV/3.0kA	184,0	1300	21,5	5,8	23,5	8,8	

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- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (6 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max}	s _{max}	b _{max}	s _{max}	
S(NF)05K350#	S(NF)05KV561#	230/240	350	460	560	5,0	910	400	150	N/A	12,0	50	7,0	6,0	9,0	8,0	
S(NF)07K350#	S(NF)07KV561#		350	460	560	10,0	910	1200	500	N/A	24,0	75	9,0	6,0	11,0	8,0	
S(NF)10K350#	S(NF)10KV561#		350	460	560	25,0	910	2500	1500	N/A	45,0	160	12,5	6,6	14,0	8,5	
*S(NF)14K350#	*S(NF)14KV561#		350	460	560	50,0	910	4500	3000	6.0kV/3.0kA	82,0	260	16,5	6,6	17,5	8,6	
*S(NF)20K350#	*S(NF)20KV561#		350	460	560	100,0	910	8000	3000	6.0kV/3.0kA	145,0	650	22,5	7,2	23,5	9,2	
S(NF)05K385#	S(NF)05KV621#			385	505	620	5,0	1025	400	150	N/A	13,0	100	7,0	5,1	9,0	8,1
S(NF)07K385#	S(NF)07KV621#			385	505	620	10,0	1025	1200	500	N/A	28,0	150	9,0	5,2	11,0	8,2
S(NF)10K385#	S(NF)10KV621#			385	505	620	25,0	1025	2500	1500	N/A	40,0	320	12,5	5,8	14,0	8,8
*S(NF)14K385#	*S(NF)14KV621#			385	505	620	50,0	1025	4500	3000	6.0kV/3.0kA	80,0	670	15,5	5,9	17,5	8,9
*S(NF)20K385#	*S(NF)20KV621#			385	505	620	100,0	1025	8000	3000	6.0kV/3.0kA	150,0	1250	21,5	6,3	23,5	9,3
S(NF)05K420#	S(NF)05KV681#			420	560	680	5,0	1120	400	150	N/A	14,0	90	7,0	5,4	9,0	8,4
S(NF)07K420#	S(NF)07KV681#			420	560	680	10,0	1120	1200	500	N/A	32,0	140	9,0	5,4	11,0	8,4
S(NF)10K420#	S(NF)10KV681#			420	560	680	25,0	1120	2500	1500	N/A	45,0	290	12,5	6,1	14,0	9,1
*S(NF)14K420#	*S(NF)14KV681#			420	560	680	50,0	1120	4500	3000	6.0kV/3.0kA	90,0	600	15,5	6,1	17,5	9,1
*S(NF)20K420#	*S(NF)20KV681#			420	560	680	100,0	1120	8000	3000	6.0kV/3.0kA	175,0	1100	21,5	6,5	23,5	9,5
S(NF)05K440#	S(NF)05KV721#			440	585	715	5,0	1180	400	150	N/A	16,0	75	7,0	5,5	9,0	8,5
S(NF)07K440#	S(NF)07KV721#			440	585	715	10,0	1180	1200	500	N/A	34,0	130	9,0	5,5	11,0	8,5
S(NF)10K440#	S(NF)10KV721#		440	585	715	25,0	1180	2500	1500	N/A	47,0	280	12,5	6,2	14,0	9,2	
*S(NF)14K440#	*S(NF)14KV721#		440	585	715	50,0	1180	4500	3000	6.0kV/3.0kA	95,0	540	15,5	6,3	17,5	9,3	
*S(NF)20K440#	*S(NF)20KV721#		440	585	715	100,0	1180	8000	3000	6.0kV/3.0kA	185,0	1000	21,5	6,7	23,5	9,7	

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (7 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max}	s _{max}	b _{max}	s _{max}	
S(NF)05K460#	S(NF)05KV751#	230/240	460	615	750	5	1240	400	150	N/A	18,0	80	7,0	5,7	9,0	8,7	
S(NF)07K460#	S(NF)07KV751#		460	615	750	10	1240	1200	500	N/A	36,0	120	9,0	5,7	11,0	8,7	
S(NF)10K460#	S(NF)10KV751#		460	615	750	25	1240	2500	1500	N/A	50,0	250	12,0	6,3	14,0	9,3	
*S(NF)14K460#	*S(NF)14KV751#		460	615	750	50	1240	4500	3000	6.0kV/3.0kA	100,0	570	15,5	6,4	17,5	9,4	
*S(NF)20K460#	*S(NF)20KV751#		460	615	750	100	1240	8000	3000	6.0kV/3.0kA	195,0	1100	21,5	6,8	23,5	9,8	
S(NF)07K510#	S(NF)07KV821#	380	510	670	820	10	1355	1200	500	N/A	40,0	110	9	8,1	11,0	10,0	
S(NF)10K510#	S(NF)10KV821#		510	670	820	25	1355	2500	1500	N/A	55,0	220	12,0	6,7	14,0	9,7	
*S(NF)14K510#	*S(NF)14KV821#		510	670	820	50	1355	4500	3000	6.0kV/3.0kA	110,0	460	15,5	6,8	17,5	9,8	
*S(NF)20K510#	*S(NF)20KV821#		510	670	820	100	1355	6500	3000	8.0kV/4.0kA	190,0	900	21,5	7,1	23,5	10,1	
S(NF)07K550#	S(NF)07KV911#		550	745	910	10	1500	1200	500	N/A	42,0	100	9	8	11,0	10,4	
S(NF)10K550#	S(NF)10KV911#		550	745	910	25	1500	2500	1500	N/A	60,0	200	12,0	7,1	14,0	10,1	
*S(NF)14K550#	*S(NF)14KV911#		550	745	910	50	1500	4500	3000	6.0kV/3.0kA	120,0	350	15,5	7,2	17,5	10,2	
*S(NF)20K550#	*S(NF)20KV911#		550	745	910	100	1500	6500	3000	8.0kV/4.0kA	210,0	700	21,5	7,5	23,5	10,5	
S(NF)07K625#	S(NF)07KV102#		625	825	1000	10	1650	1200	500	N/A	44,0	90	9	7,5	11,0	10,5	
S(NF)10K625#	S(NF)10KV102#		625	825	1000	25	1650	2500	1500	N/A	68,0	180	12,0	7,5	14,0	10,5	
*S(NF)14K625#	*S(NF)14KV102#	625	825	1000	50	1650	4500	3000	6.0kV/3.0kA	130,0	320	15,5	7,5	17,5	10,5		
*S(NF)20K625#	*S(NF)20KV102#	625	825	1000	100	1650	6500	3000	8.0kV/4.0kA	230,0	650	21,5	7,5	23,5	10,9		
S(NF)10K680#	S(NF)10KV112#	680	895	1100	25	1815	2500	1500	N/A	72,0	150	12,0	7,9	14,0	10,9		
*S(NF)14K680#	*S(NF)14KV112#	680	895	1100	50	1815	4500	3000	6.0kV/3.0kA	140,0	280	15,5	8,0	17,5	11,0		
*S(NF)20K680#	*S(NF)20KV112#	680	895	1100	100	1815	6500	3000	8.0kV/4.0kA	250,0	600	21,5	8,4	23,5	11,4		
*S(NF)14K1000	*S(NF)14KV182	690	1100	1465	1800	50	2970	4500	3000	6.0kV/3.0kA	230,0	200	15,5	11,0	17,5	14,0	
*S(NF)20K1000	*S(NF)20KV182	690	1100	1465	1800	100	2970	6500	3000	8.0kV/4.0kA	410,0	400	21,5	11,4	23,5	14,4	

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "***" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (8 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)	
S(NF)05K11E2	S(NF)05KV180E2		11	14	18	1,0	36	250	55	N/A	0,4	3000	7,0	3,5	9,0	6,5	
S(NF)07K11E2	S(NF)07KV180E2		11	14	18	2,5	36	500	110	N/A	0,9	7000	9,0	3,5	11,0	6,5	
S(NF)10K11E2	S(NF)10KV180E2		11	14	18	5,0	36	1000	250	N/A	2,2	15000	12,0	4,1	14,0	7,1	
S(NF)14K11E2	S(NF)14KV180E2		11	14	18	10,0	36	2000	500	N/A	4,3	35000	15,5	4,1	17,5	7,1	
S(NF)20K11E2	S(NF)20KV180E2		11	14	18	20,0	36	3000	1000	N/A	12,0	70000	21,5	4,5	23,5	7,5	
S(NF)05K14E2	S(NF)05KV220E2		14	18	22	1,0	43	250	55	N/A	0,5	2500	7,0	3,6	9,0	6,6	
S(NF)07K14E2	S(NF)07KV220E2		14	18	22	2,5	43	500	110	N/A	1,1	5500	9,0	3,6	11,0	6,6	
S(NF)10K14E2	S(NF)10KV220E2		14	18	22	5,0	43	1000	250	N/A	2,6	12000	12,0	4,2	14,0	7,2	
S(NF)14K14E2	S(NF)14KV220E2		14	18	22	10,0	43	2000	500	N/A	5,3	30000	15,5	4,2	17,5	7,2	
S(NF)20K14E2	S(NF)20KV220E2		14	18	22	20,0	43	3000	1000	N/A	14,0	60000	21,5	4,6	23,5	7,6	
S(NF)05K17E2	S(NF)05KV270E2		17	22	27	1,0	53	250	55	N/A	0,7	2000	7,0	3,7	9,0	6,7	
S(NF)07K17E2	S(NF)07KV270E2		17	22	27	2,5	53	500	110	N/A	1,3	4000	9,0	3,7	11,0	6,7	
S(NF)10K17E2	S(NF)10KV270E2		17	22	27	5,0	53	1000	250	N/A	3,2	8000	12,0	4,4	14,0	7,4	
S(NF)14K17E2	S(NF)14KV270E2		17	22	27	10,0	53	2000	500	N/A	6,5	20000	15,5	4,4	17,5	7,4	
S(NF)20K17E2	S(NF)20KV270E2		17	22	27	20,0	53	3000	1000	N/A	17,0	45000	21,5	4,8	23,5	7,8	
S(NF)05K20E2	S(NF)05KV330E2		20	26	33	1,0	65	250	55	N/A	0,8	1800	7,0	3,9	9,0	6,9	
S(NF)07K20E2	S(NF)07KV330E2		20	26	33	2,5	65	500	110	N/A	1,6	3000	9,0	3,9	11,0	6,9	
S(NF)10K20E2	S(NF)10KV330E2	20	26	33	5,0	65	1000	250	N/A	4,0	6000	12,0	4,5	14,0	7,5		
S(NF)14K20E2	S(NF)14KV330E2	20	26	33	10,0	65	2000	500	N/A	7,9	15000	15,5	4,6	17,5	7,6		
S(NF)20K20E2	S(NF)20KV330E2	20	26	33	20,0	65	3000	1000	N/A	21,0	35000	21,5	5,1	23,5	8,1		
S(NF)05K25E2	S(NF)05KV390E2	25	31	39	1,0	77	250	55	N/A	0,9	1000	7,0	3,6	9,0	6,6		
S(NF)07K25E2	S(NF)07KV390E2	25	31	39	2,5	77	500	110	N/A	1,9	2500	9,0	3,7	11,0	6,7		
S(NF)10K25E2	S(NF)10KV390E2	25	31	39	5,0	77	1000	250	N/A	4,7	5000	12,0	4,3	14,0	7,3		
S(NF)14K25E2	S(NF)14KV390E2	25	31	39	10,0	77	2000	500	N/A	9,4	12000	15,5	4,4	17,5	7,4		
S(NF)20K25E2	S(NF)20KV390E2	25	31	39	20,0	77	3000	1000	N/A	25,0	30000	21,5	4,8	23,5	7,8		

(1) For explanation of style reference number, see clause 1.5.

(2) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

Table (9 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
S(NF)05K30E2	S(NF)05KV470E2	-	30	38	47	1,0	93	250	55	N/A	1,1	1500	7,0	3,8	9,0	6,8
S(NF)07K30E2	S(NF)07KV470E2		30	38	47	2,5	93	500	110	N/A	2,3	3000	9,0	3,8	11,0	6,8
S(NF)10K30E2	S(NF)10KV470E2		30	38	47	5,0	93	1000	250	N/A	5,6	6000	12,0	4,4	14,0	7,4
S(NF)14K30E2	S(NF)14KV470E2		30	38	47	10,0	93	2000	500	N/A	11,0	11000	15,5	4,5	17,5	7,5
S(NF)20K30E2	S(NF)20KV470E2		30	38	47	20,0	93	3000	1000	N/A	30,0	25000	21,5	5,0	23,5	8,0
S(NF)05K35E2	S(NF)05KV560E2		35	45	56	1,0	110	250	55	N/A	1,3	1250	7,0	3,9	9,0	6,9
S(NF)07K35E2	S(NF)07KV560E2		35	45	56	2,5	110	500	110	N/A	2,7	2300	9,0	3,9	11,0	6,9
S(NF)10K35E2	S(NF)10KV560E2		35	45	56	5,0	110	1000	250	N/A	6,7	4500	12,0	4,5	14,0	7,5
S(NF)14K35E2	S(NF)14KV560E2		35	45	56	10,0	110	2000	500	N/A	13,0	9000	15,5	4,7	17,5	7,7
S(NF)20K35E2	S(NF)20KV560E2		35	45	56	20,0	110	3000	1000	N/A	36,0	20000	21,5	5,2	23,5	8,2
S(NF)05K40E2	S(NF)05KV680E2		40	56	68	1,0	135	250	55	N/A	1,6	1200	7,0	4,1	9,0	7,1
S(NF)07K40E2	S(NF)07KV680E2		40	56	68	2,5	135	500	110	N/A	3,3	1900	9,0	4,1	11,0	7,1
S(NF)10K40E2	S(NF)10KV680E2		40	56	68	5,0	135	1000	250	N/A	8,2	3600	12,0	4,8	14,0	7,8
S(NF)14K40E2	S(NF)14KV680E2		40	56	68	10,0	135	2000	500	N/A	16,0	6000	15,5	4,9	17,5	7,9
S(NF)20K40E2	S(NF)20KV680E2		40	56	68	20,0	135	3000	1000	N/A	44,0	10000	21,5	5,4	23,5	8,4
S(NF)05K50E2	S(NF)05KV820E2		50	65	82	5,0	135	800	280	N/A	2,5	900	7,0	3,5	9,0	6,5
S(NF)07K50E2	S(NF)07KV820E2		50	65	82	10,0	135	1750	600	N/A	5,0	1800	9,0	3,5	11,0	6,5
S(NF)10K50E2	S(NF)10KV820E2		50	65	82	25,0	135	3500	1500	N/A	10,0	3400	12,0	4,1	14,0	7,1
*S(NF)14K50E2	*S(NF)14KV820E2		50	65	82	50,0	135	6000	3000	6.0kV/3.0kA	20,0	5400	15,5	4,1	17,5	7,1
*S(NF)20K50E2	*S(NF)20KV820E2		50	65	82	100,0	135	10000	3000	6.0kV/3.0kA	40,0	9000	21,5	4,5	23,5	7,5
S(NF)05K60E2	S(NF)05KV101E2	60	85	100	5,0	165	800	280	N/A	3,0	600	7,0	3,5	9,0	6,5	
S(NF)07K60E2	S(NF)07KV101E2	60	85	100	10,0	165	1750	600	N/A	6,0	1000	9,0	3,5	11,0	6,5	
S(NF)10K60E2	S(NF)10KV101E2	60	85	100	25,0	165	3500	1500	N/A	12,0	2000	12,0	4,1	14,0	7,1	
*S(NF)14K60E2	*S(NF)14KV101E2	60	85	100	50,0	165	6000	3000	6.0kV/3.0kA	25,0	3400	15,5	4,2	17,5	7,2	
*S(NF)20K60E2	*S(NF)20KV101E2	60	85	100	100,0	165	10000	3000	6.0kV/3.0kA	50,0	6000	21,5	4,6	23,5	7,6	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

Table 1 (10 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	bmax (mm)	Smax (mm)
S(NF)05K75E2	S(NF)05KV121E2	-	75	100	120	5,0	200	800	280	N/A	3,5	420	7,0	3,6	9,0	6,6
S(NF)07K75E2	S(NF)07KV121E2		75	100	120	10,0	200	1750	600	N/A	7,0	790	9,0	3,6	11,0	6,6
S(NF)10K75E2	S(NF)10KV121E2		75	100	120	25,0	200	3500	1500	N/A	14,5	1600	12,0	4,2	14,0	7,2
*S(NF)14K75E2	*S(NF)14KV121E2		75	100	120	50,0	200	6000	3000	6.0kV/3.0kA	30,0	3000	15,5	4,2	17,5	7,2
*S(NF)20K75E2	*S(NF)20KV121E2		75	100	120	100,0	200	10000	3000	6.0kV/3.0kA	60,0	5000	21,5	4,6	23,5	7,6
S(NF)05K95E2	S(NF)05KV151E2		95	125	150	5,0	250	800	280	N/A	4,5	350	7,0	3,6	9,0	6,6
S(NF)07K95E2	S(NF)07KV151E2		95	125	150	10,0	250	1750	600	N/A	9,0	700	9,0	3,6	11,0	6,6
S(NF)10K95E2	S(NF)10KV151E2		95	125	150	25,0	250	3500	1500	N/A	18,0	1400	12,0	4,2	14,0	7,2
*S(NF)14K95E2	*S(NF)14KV151E2		95	125	150	50,0	250	6000	3000	6.0kV/3.0kA	37,5	2500	15,5	4,2	17,5	7,2
*S(NF)20K95E2	*S(NF)20KV151E2		95	125	150	100,0	250	10000	3000	6.0kV/3.0kA	75,0	4500	21,5	4,6	23,5	7,6
S(NF)05K115E2#	S(NF)05KV181E2#		115	150	180	5,0	300	800	280	N/A	4,5	300	7,0	3,6	9,0	6,6
S(NF)07K115E2#	S(NF)07KV181E2#		115	150	180	10,0	300	1750	600	N/A	9,0	640	9,0	3,6	11,0	6,6
S(NF)10K115E2#	S(NF)10KV181E2#		115	150	180	25,0	300	3500	1500	N/A	18,5	1200	12,5	4,2	14,0	7,2
*S(NF)14K115E2#	*S(NF)14KV181E2#		115	150	180	50,0	300	6000	3000	6.0kV/3.0kA	35,0	2200	15,5	4,2	17,5	7,2
*S(NF)20K115E2#	*S(NF)20KV181E2#		115	150	180	100,0	300	10000	3000	6.0kV/3.0kA	75,0	4000	21,5	4,6	23,5	7,6
S(NF)05K130E2#	S(NF)05KV201E2#		130	170	205	5,0	340	800	280	N/A	6,0	240	7,0	3,9	9,0	6,9
S(NF)07K130E2#	S(NF)07KV201E2#		130	170	205	10,0	340	1750	600	N/A	12,5	580	9,0	3,9	11,0	6,9
S(NF)10K130E2#	S(NF)10KV201E2#		130	170	205	25,0	340	3500	1500	N/A	25,0	1050	12,0	4,5	14,0	7,5
*S(NF)14K130E2#	*S(NF)14KV201E2#		130	170	205	50,0	340	6000	3000	6.0kV/3.0kA	50,0	1900	15,5	4,6	17,5	7,6
*S(NF)20K130E2#	*S(NF)20KV201E2#		130	170	205	100,0	340	10000	3000	6.0kV/3.0kA	100,0	3500	21,5	5,0	23,5	8,0
S(NF)05K140E2#	S(NF)05KV221E2#		140	180	220	5,0	360	800	280	N/A	6,5	220	7,0	4,0	9,0	7,0
S(NF)07K140E2#	S(NF)07KV221E2#	140	180	220	10,0	360	1750	600	N/A	13,5	550	9,0	4,0	11,0	7,0	
S(NF)10K140E2#	S(NF)10KV221E2#	140	180	220	25,0	360	3500	1500	N/A	27,5	980	12,0	4,6	14,0	7,6	
*S(NF)14K140E2#	*S(NF)14KV221E2#	140	180	220	50,0	360	6000	3000	6.0kV/3.0kA	55,0	1750	15,5	4,7	17,5	7,7	
*S(NF)20K140E2#	*S(NF)20KV221E2#	140	180	220	100,0	360	10000	3000	6.0kV/3.0kA	110,0	3250	21,5	5,1	23,5	8,1	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Typical AC Mains Supply voltages are indicated.

(4) All types marked with "#" may be followed by suffix "T7".

Table 1 (11 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
S(NF)05K150E2#	S(NF)05KV241E2#	120	150	200	240	5,0	395	800	280	N/A	7,5	200	7,0	4,1	9,0	7,1
S(NF)07K150E2#	S(NF)07KV241E2#		150	200	240	10,0	395	1750	600	N/A	15,0	520	9,0	4,1	11,0	7,1
S(NF)10K150E2#	S(NF)10KV241E2#		150	200	240	25,0	395	3500	1500	N/A	30,0	900	12,0	4,7	14,0	7,7
*S(NF)14K150E2#	*S(NF)14KV241E2#		150	200	240	50,0	395	6000	3000	6.0kV/3.0kA	60,0	1600	15,5	4,8	17,5	7,8
*S(NF)20K150E2#	*S(NF)20KV241E2#		150	200	240	100,0	395	10000	3000	6.0kV/3.0kA	120,0	3000	21,5	5,2	23,5	8,2
S(NF)05K175E2#	S(NF)05KV271E2#		175	225	270	5,0	455	800	280	N/A	8,0	170	7,0	4,3	9,0	7,3
S(NF)07K175E2#	S(NF)07KV271E2#		175	225	270	10,0	455	1750	600	N/A	17,0	380	9,0	4,3	11,0	7,3
S(NF)10K175E2#	S(NF)10KV271E2#		175	225	270	25,0	455	3500	1500	N/A	35,0	720	12,0	4,9	14,0	7,9
*S(NF)14K175E2#	*S(NF)14KV271E2#		175	225	270	50,0	455	6000	3000	6.0kV/3.0kA	70,0	1380	15,5	4,9	17,5	7,9
*S(NF)20K175E2#	*S(NF)20KV271E2#		175	225	270	100,0	455	10000	3000	6.0kV/3.0kA	135,0	2600	21,5	5,3	23,5	8,3
S(NF)05K210E2#	S(NF)05KV331E2#		210	270	330	5,0	545	800	280	N/A	9,5	155	7,0	4,2	9,0	7,2
S(NF)07K210E2#	S(NF)07KV331E2#		210	270	330	10,0	545	1750	600	N/A	20,0	340	9,0	4,2	11,0	7,2
S(NF)10K210E2#	S(NF)10KV331E2#		210	270	330	25,0	545	3500	1500	N/A	42,0	635	12,0	5,0	14,0	8,0
*S(NF)14K210E2#	*S(NF)14KV331E2#		210	270	330	50,0	545	6000	3000	6.0kV/3.0kA	80,0	1250	15,5	5,0	17,5	8,0
*S(NF)20K210E2#	*S(NF)20KV331E2#		210	270	330	100,0	545	10000	3000	6.0kV/3.0kA	160,0	2300	21,5	5,4	23,5	8,4
S(NF)05K230E2#	S(NF)05KV361E2#		230	300	360	5,0	595	800	280	N/A	11,0	140	7,0	4,4	9,0	7,4
S(NF)07K230E2#	S(NF)07KV361E2#		230	300	360	10,0	595	1750	600	N/A	23,0	300	9,0	4,4	11,0	7,4
S(NF)10K230E2#	S(NF)10KV361E2#		230	300	360	25,0	595	3500	1500	N/A	45,0	550	12,0	5,0	14,0	8,0
*S(NF)14K230E2#	*S(NF)14KV361E2#		230	300	360	50,0	595	6000	3000	6.0kV/3.0kA	90,0	1100	15,5	5,1	17,5	8,1
*S(NF)20K230E2#	*S(NF)20KV361E2#		230	300	360	100,0	595	10000	3000	6.0kV/3.0kA	180,0	2000	21,5	5,5	23,5	8,5
S(NF)05K250E2#	S(NF)05KV391E2#	250	320	390	5,0	650	800	280	N/A	12,0	120	7,0	4,5	9,0	7,5	
S(NF)07K250E2#	S(NF)07KV391E2#	250	320	390	10,0	650	1750	600	N/A	25,0	240	9,0	4,5	11,0	7,5	
S(NF)10K250E2#	S(NF)10KV391E2#	250	320	390	25,0	650	3500	1500	N/A	50,0	480	12,0	5,2	14,0	8,2	
*S(NF)14K250E2#	*S(NF)14KV391E2#	250	320	390	50,0	650	6000	3000	6.0kV/3.0kA	100,0	940	15,5	5,2	17,5	8,2	
*S(NF)20K250E2#	*S(NF)20KV391E2#	250	320	390	100,0	650	10000	3000	6.0kV/3.0kA	195,0	1800	21,5	5,7	23,5	8,7	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Typical AC Mains Supply voltages are indicated.

(4) All types marked with "#" may be followed by suffix "T7"

Table 1 (12 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
S(NF)05K275E2#	S(NF)05KV431E2#	120	275	350	430	5,0	710	800	280	N/A	13,5	120	7,0	4,6	9,0	7,6
S(NF)07K275E2#	S(NF)07KV431E2#		275	350	430	10,0	710	1750	600	N/A	27,5	210	9,0	4,6	11,0	7,6
S(NF)10K275E2#	S(NF)10KV431E2#		275	350	430	25,0	710	3500	1500	N/A	55,0	440	12,0	5,4	14,0	8,4
*S(NF)14K275E2#	*S(NF)14KV431E2#		275	350	430	50,0	710	6000	3000	6.0kV/3.0kA	110,0	900	15,5	5,4	17,5	8,4
*S(NF)20K275E2#	*S(NF)20KV431E2#		275	350	430	100,0	710	10000	3000	6.0kV/3.0kA	215,0	1800	21,5	5,8	23,5	8,8
S(NF)05K300E2#	S(NF)05KV471E2#	230/240	300	385	470	5,0	775	800	280	N/A	15,0	110	7,0	4,7	9,0	7,7
S(NF)07K300E2#	S(NF)07KV471E2#		300	385	470	10,0	775	1750	600	N/A	30,0	170	9,0	4,7	11,0	7,7
S(NF)10K300E2#	S(NF)10KV471E2#		300	385	470	25,0	775	3500	1500	N/A	60,0	360	12,0	5,6	14,0	8,6
*S(NF)14K300E2#	*S(NF)14KV471E2#		300	385	470	50,0	775	6000	3000	6.0kV/3.0kA	125,0	780	15,5	5,6	17,5	8,6
*S(NF)20K300E2#	*S(NF)20KV471E2#		300	385	470	100,0	775	10000	3000	6.0kV/3.0kA	250,0	1500	21,5	6,1	23,5	9,1
S(NF)07K320E2#	S(NF)07KV511E2#		320	420	510	10,0	845	1750	600	N/A	32,0	155	9,0	4,6	11,0	7,6
S(NF)10K320E2#	S(NF)10KV511E2#		320	420	510	25,0	845	3500	1500	N/A	67,0	340	12,0	5,8	14,0	8,8
*S(NF)14K320E2#	*S(NF)14KV511E2#		320	420	510	50,0	845	6000	3000	6.0kV/3.0kA	136,0	680	15,5	5,8	17,5	8,8
*S(NF)20K320E2#	*S(NF)20KV511E2#		320	420	510	100,0	845	10000	3000	6.0kV/3.0kA	273,0	1300	21,5	6,2	23,5	9,2
S(NF)07K350E2#	S(NF)07KV561E2#			350	455	560	10	930	1750	600	N/A	32,0	140	9	5,7	11,0
S(NF)10K350E2#	S(NF)10KV561E2#	350		455	560	25,0	930	3500	1500	N/A	55,0	330	12,0	6,9	14,0	8,9
*S(NF)14K350E2#	*S(NF)14KV561E2#	350		455	560	50,0	930	5000	3000	6.0kV/3.0kA	110,0	675	15,5	6,9	17,5	8,9
*S(NF)20K350E2#	*S(NF)20KV561E2#	350		455	560	100,0	930	10000	3000	6.0kV/3.0kA	200,0	1270	21,5	7,4	23,5	9,4
S(NF)07K385E2#	S(NF)07KV621E2#			385	505	620	10	1025	1750	600	N/A	38,0	130	9	6,6	11,0
S(NF)10K385E2#	S(NF)10KV621E2#		385	505	620	25,0	1025	3500	1500	N/A	67,0	320	12,0	7,1	14,0	10,1
*S(NF)14K385E2#	*S(NF)14KV621E2#		385	505	620	50,0	1025	5000	3000	6.0kV/3.0kA	136,0	670	15,5	7,1	17,5	10,1
*S(NF)20K385E2#	*S(NF)20KV621E2#		385	505	620	100,0	1025	10000	3000	6.0kV/3.0kA	273,0	1250	21,5	7,6	23,5	10,6
S(NF)07K420E2#	S(NF)07KV681E2#			420	560	680	10	1120	1750	600	N/A	57,0	120	9	7	11,0
S(NF)10K420E2#	S(NF)10KV681E2#	420		560	680	25,0	1120	3500	1500	N/A	67,0	290	12,0	7,4	14,0	10,4
*S(NF)14K420E2#	*S(NF)14KV681E2#	420		560	680	50,0	1120	5000	3000	6.0kV/3.0kA	136,0	600	15,5	7,5	17,5	10,5
*S(NF)20K420E2#	*S(NF)20KV681E2#	420		560	680	100,0	1120	10000	3000	6.0kV/3.0kA	273,0	1100	21,5	7,9	23,5	10,9

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (13 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
S(NF)10K460E2#	S(NF)10KV751E2#	230/240	460	615	750	25,0	1240	3500	1500	N/A	70,0	250	12,0	7,7	14,0	10,7
*S(NF)14K460E2#	*S(NF)14KV751E2#		460	615	750	50,0	1240	5000	3000	6.0kV/3.0kA	150,0	570	15,5	7,8	17,5	10,8
*S(NF)20K460E2#	*S(NF)20KV751E2#		460	615	750	100,0	1240	10000	3000	6.0kV/3.0kA	300,0	1100	21,5	8,2	23,5	11,2
S(NF)10K510E2#	S(NF)10KV821E2#	380	510	670	820	25,0	1355	3500	1500	N/A	80,0	220	12,0	8,0	14,0	11,0
*S(NF)14K510E2#	*S(NF)14KV821E2#		510	670	820	50,0	1355	5000	3000	6.0kV/3.0kA	165,0	460	15,5	8,1	17,5	11,1
*S(NF)20K510E2#	*S(NF)20KV821E2#		510	670	820	100,0	1355	10000	3000	8.0kV/4.0kA	325,0	900	21,5	8,6	23,5	11,6
S(NF)10K550E2#	S(NF)10KV911E2#		550	745	910	25,0	1500	3500	1500	N/A	90,0	200	12,0	8,4	14,0	11,4
*S(NF)14K550E2#	*S(NF)14KV911E2#		550	745	910	50,0	1500	5000	3000	6.0kV/3.0kA	180,0	350	15,5	8,5	17,5	11,5
*S(NF)20K550E2#	*S(NF)20KV911E2#		550	745	910	100,0	1500	10000	3000	8.0kV/4.0kA	360,0	700	21,5	9,0	23,5	12,0
S(NF)10K625E2#	S(NF)10KV102E2#		625	825	1000	25,0	1650	3500	1500	N/A	100,0	180	12,0	8,8	14,0	11,8
*S(NF)14K625E2#	*S(NF)14KV102E2#		625	825	1000	50,0	1650	5000	3000	6.0kV/3.0kA	200,0	320	15,5	8,9	17,5	11,9
*S(NF)20K625E2#	*S(NF)20KV102E2#		625	825	1000	100,0	1650	10000	3000	8.0kV/4.0kA	400,0	650	21,5	9,4	23,5	12,4
S(NF)10K680E2#	S(NF)10KV112E2#		680	895	1100	25,0	1815	3500	1500	N/A	110,0	150	12,0	9,3	14,0	12,2
*S(NF)14K680E2#	*S(NF)14KV112E2#		680	895	1100	50,0	1815	5000	3000	6.0kV/3.0kA	220,0	280	15,5	9,4	17,5	12,3
*S(NF)20K680E2#	*S(NF)20KV112E2#		680	895	1100	100,0	1815	10000	3000	8.0kV/4.0kA	440,0	600	21,5	9,9	23,5	12,8
S(NF)10K880E2	S(NF)10KV142E2	690	880	1244	1450	25,0	2300	3500	1500	N/A	136,0	130	13,5	12,4	15,5	15,4
S(NF)10K1000E2	*S(NF)10KV182E2		1100	1465	1800	25,0	2970	3500	1500	N/A	183,0	130	13,5	13,4	15,5	16,4
*S(NF)14K1000E2	*S(NF)14KV182E2		1100	1465	1800	50,0	2970	5000	3000	6.0kV/3.0kA	360,0	200	15,5	12,8	17,5	15,3
*S(NF)20K1000E2	*S(NF)20KV182E2		1100	1465	1800	100,0	2970	10000	2200	8.0kV/4.0kA	720,0	400	21,5	13,4	23,5	15,7

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (14 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	
*S14K360E3	*S14KV581E3	240	360	475	580	50	945	6500	2000	6.0kV/3.0kA	150	670	15,5	6,9	
*S20K115E3	*S20KV181E3	-	115	150	180	100,0	300	12000	5000	6.0kV/3.0kA	110	4000	22,5	4,8	
*S20K130E3	*S20KV201E3		130	170	205	100,0	340	12000	5000	6.0kV/3.0kA	130	3500	22,5	5,0	
*S20K140E3	*S20KV221E3		140	180	220	100,0	360	12000	5000	6.0kV/3.0kA	140	3250	22,5	5,1	
*S20K150E3	*S20KV241E3		120	150	200	240	100,0	395	12000	5000	6.0kV/3.0kA	150	3000	22,5	5,2
*S20K175E3	*S20KV271E3	120	175	225	270	100,0	455	12000	5000	6.0kV/3.0kA	180	2600	22,5	5,3	
*S20K210E3	*S20KV331E3		210	270	330	100,0	550	12000	5000	6.0kV/3.0kA	210	2300	22,5	5,4	
*S20K230E3	*S20KV361E3		230	300	360	100,0	595	12000	5000	6.0kV/3.0kA	220	2000	22,5	5,9	
*S20K250E3	*S20KV391E3		250	320	390	100,0	650	12000	5000	6.0kV/3.0kA	250	1800	22,5	6,1	
*S20K275E3	*S20KV431E3		275	350	430	100,0	710	12000	5000	6.0kV/3.0kA	260	1800	22,5	6,3	
*S20K300E3	*S20KV471E3		240	300	385	470	100,0	775	12000	5000	6.0kV/3.0kA	290	1500	22,5	6,6
*S20K320E3	*S20KV511E3		320	420	510	510	100,0	845	12000	5000	6.0kV/3.0kA	320	1300	22,5	6,8
*S20K350E3	*S20KV561E3		350	460	560	560	100	930	12000	5000	6.0kV/3.0kA	320	1270	22,5	7,3
*S20K385E3	*S20KV621E3	240	385	505	620	100	1025	12000	5000	6.0kV/3.0kA	320	1200	22,5	8,3	
*S20K420E3	*S20KV681E3		420	560	680	100	1120	12000	5000	6.0kV/3.0kA	320	1100	22,5	8,6	
*S20K460E3	*S20KV751E3		460	615	750	100	1240	12000	5000	6.0kV/3.0kA	370	1100	22,5	8,9	
*S20K510E3	*S20KV821E3		380	510	670	820	100	1355	10000	5000	8.0kV/4.0kA	410	900	23	9,3
*S20K550E3	*S20KV911E3		550	745	910	910	100	1500	10000	5000	8.0kV/4.0kA	450	700	23	9,8
*S20K625E3	*S20KV102E3		625	825	1000	1000	100	1650	10000	5000	8.0kV/4.0kA	500	650	23	10,3
*S20K680E3	*S20KV112E3	380	680	895	1100	100	1815	10000	5000	8.0kV/4.0kA	540	600	23	10,9	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated

(4) All types marked with "#" may be followed by suffix "T7".

Table 1 (15 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)	
																	(V)
*S(NF)10K130E2K1#	*S(NF)10KV201E2K1#	120	130	170	205	25	340	3500	2000	6.0kV/3.0kA	30	1400	12	4.7	14	7.7	
*S(NF)10K140E2K1#	*S(NF)10KV221E2K1#		140	180	220	25	360	3500	2000	6.0kV/3.0kA	32,5	1200	12	4.8	14	7.8	
*S(NF)10K150E2K1#	*S(NF)10KV241E2K1#		150	200	240	25	395	3500	2000	6.0kV/3.0kA	35	1100	12	4.9	14	7.9	
*S(NF)10K175E2K1#	*S(NF)10KV271E2K1#		175	225	270	25	455	3500	2000	6.0kV/3.0kA	40	900	12	5.1	14	8.1	
*S(NF)10K210E2K1#	*S(NF)10KV331E2K1#		210	270	330	25	545	3500	2000	6.0kV/3.0kA	47	780	12	5.4	14	8.4	
*S(NF)10K230E2K1#	*S(NF)10KV361E2K1#		230	300	360	25	595	3500	2000	6.0kV/3.0kA	50	660	12	5.6	14	8.6	
*S(NF)10K250E2K1#	*S(NF)10KV391E2K1#		250	320	390	25	650	3500	2000	6.0kV/3.0kA	55	580	12	5.7	14	8.7	
*S(NF)10K275E2K1#	*S(NF)10KV431E2K1#		275	350	430	25	710	3500	2000	6.0kV/3.0kA	60	520	12	5.9	14	8.9	
*S(NF)10K300E2K1#	*S(NF)10KV471E2K1#	240	300	385	470	25	775	3500	2000	6.0kV/3.0kA	65	430	12	6.1	14	9.1	
*S(NF)10K320E2K1#	*S(NF)10KV511E2K1#		320	420	510	25	840	3500	2000	6.0kV/3.0kA	72	400	12	6.3	14	9.3	
*S(NF)10K350E2K1#	*S(NF)10KV561E2K1#		350	460	560	25	910	3500	2000	6.0kV/3.0kA	77	390	12.5	6.7	14.5	9.7	
*S(NF)10K385E2K1#	*S(NF)10KV621E2K1#		385	505	620	25	1025	3500	2000	6.0kV/3.0kA	82	380	12.5	7.7	14.5	10.7	
*S(NF)10K420E2K1#	*S(NF)10KV681E2K1#		420	560	680	25	1120	3500	2000	6.0kV/3.0kA	87	350	12.5	8.1	14.5	11.1	
*S(NF)10K460E2K1#	*S(NF)10KV751E2K1#		460	615	750	25	1240	3500	2000	6.0kV/3.0kA	92	300	12.5	8.4	14.5	11.4	
*S(NF)10K510E2K1#	*S(NF)10KV821E2K1#		380	510	670	820	25	1355	3500	2000	8.0kV/4.0kA	92	260	13	8.8	15	11.8
*S(NF)10K550E2K1#	*S(NF)10KV911E2K1#			550	745	910	25	1500	3500	2000	8.0kV/4.0kA	97	240	13	9.3	15	12.3
*S(NF)10K625E2K1#	*S(NF)10KV102E2K1#	625		825	1000	25	1650	3500	2000	8.0kV/4.0kA	105	210	13	9.8	15	12.8	
*S(NF)10K680E2K1#	*S(NF)10KV112E2K1#	680		895	1100	25	1815	3500	2000	8.0kV/4.0kA	115	180	13	10.4	15	13.4	

(1) For explanation of style reference number, see clause 1.5.

(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.

(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

(4) All types marked with "#" may be followed by suffix "T7".

Table 1 (16 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
*S(NF)14K130E2K1#	*S(NF)14KV201E2K1#	-	130	170	205	50	340	6000	3000	6.0kV/3.0kA	60.0	2600	16	4.7	18	7.7
*S(NF)14K140E2K1#	*S(NF)14KV221E2K1#	-	140	180	220	50	360	6000	3000	6.0kV/3.0kA	65.0	2200	16	4.8	18	7.8
*S(NF)14K150E2K1#	*S(NF)14KV241E2K1#	120	150	200	240	50	395	6000	3000	6.0kV/3.0kA	70.0	2000	16	4.9	18	7.9
*S(NF)14K175E2K1#	*S(NF)14KV271E2K1#	120	175	225	270	50	455	6000	3000	6.0kV/3.0kA	80.0	1800	16	5.1	18	8.1
*S(NF)14K210E2K1#	*S(NF)14KV331E2K1#	120	210	270	330	50	545	6000	3000	6.0kV/3.0kA	95.0	1600	16	5.4	18	8.4
*S(NF)14K230E2K1#	*S(NF)14KV361E2K1#	120	230	300	360	50	595	6000	3000	6.0kV/3.0kA	105.0	1400	16	5.6	18	8.6
*S(NF)14K250E2K1#	*S(NF)14KV391E2K1#	120	250	320	390	50	650	6000	3000	6.0kV/3.0kA	115.0	1200	16	5.7	18	8.7
*S(NF)14K275E2K1#	*S(NF)14KV431E2K1#	120	275	350	430	50	710	6000	3000	6.0kV/3.0kA	130.0	1100	16	5.9	18	8.9
*S(NF)14K300E2K1#	*S(NF)14KV471E2K1#	240	300	385	470	50	775	6000	3000	6.0kV/3.0kA	140.0	1000	16	6.1	18	9.1
*S(NF)14K320E2K1#	*S(NF)14KV511E2K1#	240	320	420	510	50	840	6000	3000	6.0kV/3.0kA	150.0	900	16	6.3	18	9.3
*S(NF)14K350E2K1#	*S(NF)14KV561E2K1#	240	350	460	560	50	910	6000	3000	6.0kV/3.0kA	165.0	800	16.5	6.7	18.5	9.7
*S(NF)14K385E2K1#	*S(NF)14KV621E2K1#	240	385	505	620	50	1025	6000	3000	6.0kV/3.0kA	180.0	850	16.5	7.7	18.5	10.7
*S(NF)14K420E2K1#	*S(NF)14KV681E2K1#	240	420	560	680	50	1120	6000	3000	6.0kV/3.0kA	190.0	750	16.5	8.2	18.5	11.2
*S(NF)14K460E2K1#	*S(NF)14KV751E2K1#	240	460	615	750	50	1240	6000	3000	6.0kV/3.0kA	200.0	700	16.5	8.5	18.5	11.5
*S(NF)14K480E2K1#	*S(NF)14KV751E2K1#	240	480	640	780	50	1300	6000	3000	6.0kV/3.0kA	205.0	650	16.5	8.7	18.5	11.7
*S(NF)14K510E2K1#	*S(NF)14KV821E2K1#	380	510	670	820	50	1355	6000	3000	8.0kV/4.0kA	200.0	600	17	8.9	19	11.9
*S(NF)14K550E2K1#	*S(NF)14KV911E2K1#	380	550	745	910	50	1500	6000	3000	8.0kV/4.0kA	220.0	500	17	9.4	19	12.4
*S(NF)14K625E2K1#	*S(NF)14KV102E2K1#	380	625	825	1000	50	1650	6000	3000	8.0kV/4.0kA	240.0	450	17	9.9	19	12.9
*S(NF)14K680E2K1#	*S(NF)14KV112E2K1#	380	680	895	1100	50	1815	6000	3000	8.0kV/4.0kA	260.0	400	17	10.5	19	13.5

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (17 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max}	s _{max}	b _{max}	s _{max}
*S(NF)14K130E2K55#	*S(NF)14KV201E2K55#	-	130	170	205	50	340	6000	3000	6.0kV/3.0kA	60	2600	13	4.7	15	7.7
*S(NF)14K140E2K55#	*S(NF)14KV221E2K55#		140	180	220	50	360	6000	3000	6.0kV/3.0kA	65	2200	13	4.8	15	7.8
*S(NF)14K150E2K55#	*S(NF)14KV241E2K55#	120	150	200	240	50	395	6000	3000	6.0kV/3.0kA	70	2000	13	4.9	15	7.9
*S(NF)14K175E2K55#	*S(NF)14KV271E2K55#		175	225	270	50	455	6000	3000	6.0kV/3.0kA	80	1800	13	5.1	15	8.1
*S(NF)14K210E2K55#	*S(NF)14KV331E2K55#		210	270	330	50	545	6000	3000	6.0kV/3.0kA	95	1600	13	5.4	15	8.4
*S(NF)14K230E2K55#	*S(NF)14KV361E2K55#		230	300	360	50	595	6000	3000	6.0kV/3.0kA	105	1400	13	5.6	15	8.6
*S(NF)14K250E2K55#	*S(NF)14KV391E2K55#		250	320	390	50	650	6000	3000	6.0kV/3.0kA	115	1200	13.5	5.7	15.5	8.7
*S(NF)14K275E2K55#	*S(NF)14KV431E2K55#		275	350	430	50	710	6000	3000	6.0kV/3.0kA	130	1100	13.5	5.9	15.5	8.9
*S(NF)14K300E2K55#	*S(NF)14KV471E2K55#		300	385	470	50	775	6000	3000	6.0kV/3.0kA	140	1000	13.5	6.1	15.5	9.1
*S(NF)14K320E2K55#	*S(NF)14KV511E2K55#	240	320	420	510	50	840	6000	3000	6.0kV/3.0kA	150	900	13.5	6.3	15.5	9.3
*S(NF)14K350E2K55#	*S(NF)14KV561E2K55#		350	460	560	50	910	6000	3000	6.0kV/3.0kA	165	800	13.5	6.7	15.5	9.7
*S(NF)14K385E2K55#	*S(NF)14KV621E2K55#		385	505	620	50	1025	6000	3000	6.0kV/3.0kA	180	850	14	7.7	16	10.7
*S(NF)14K420E2K55#	*S(NF)14KV681E2K55#		420	560	680	50	1120	6000	3000	6.0kV/3.0kA	190	750	14	8.2	16	11.2
*S(NF)14K460E2K55#	*S(NF)14KV751E2K55#		460	615	750	50	1240	6000	3000	6.0kV/3.0kA	200	700	14	8.5	16	11.5

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (18 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions for S*		Dimensions for SNF*	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						b _{max} (mm)	s _{max} (mm)	b _{max} (mm)	s _{max} (mm)
*S(NF)20K130E3K1#	*S(NF)20KV201E3K1#	-	130	170	205	100	340	12000	5000	6.0kV/3.0kA	135	4700	22.5	5.1	24.5	8.1
*S(NF)20K140E3K1#	*S(NF)20KV221E3K1#	-	140	180	220	100	360	12000	5000	6.0kV/3.0kA	145	4000	22.5	5.2	24.5	8.2
*S(NF)20K150E3K1#	*S(NF)20KV241E3K1#	120	150	200	240	100	395	12000	5000	6.0kV/3.0kA	155	3700	22.5	5.3	24.5	8.3
*S(NF)20K175E3K1#	*S(NF)20KV271E3K1#	120	175	225	270	100	455	12000	5000	6.0kV/3.0kA	180	3500	22.5	5.5	24.5	8.5
*S(NF)20K210E3K1#	*S(NF)20KV331E3K1#	120	210	270	330	100	545	12000	5000	6.0kV/3.0kA	215	3000	22.5	5.8	24.5	8.8
*S(NF)20K230E3K1#	*S(NF)20KV361E3K1#	120	230	300	360	100	595	12000	5000	6.0kV/3.0kA	235	2400	22.5	6	24.5	9
*S(NF)20K250E3K1#	*S(NF)20KV391E3K1#	120	250	320	390	100	650	12000	5000	6.0kV/3.0kA	255	2300	22.5	6.1	24.5	9.1
*S(NF)20K275E3K1#	*S(NF)20KV431E3K1#	120	275	350	430	100	710	12000	5000	6.0kV/3.0kA	280	2200	22.5	6.5	24.5	9.5
*S(NF)20K300E3K1#	*S(NF)20KV471E3K1#	240	300	385	470	100	775	12000	5000	6.0kV/3.0kA	305	1800	22.5	6.8	24.5	9.8
*S(NF)20K320E3K1#	*S(NF)20KV511E3K1#	240	320	420	510	100	840	12000	5000	6.0kV/3.0kA	330	1600	22.5	6.9	24.5	9.9
*S(NF)20K350E3K1#	*S(NF)20KV561E3K1#	240	350	460	560	100	910	12000	5000	6.0kV/3.0kA	335	1550	22.5	7.3	24.5	10.3
*S(NF)20K385E3K1#	*S(NF)20KV621E3K1#	240	385	505	620	100	1025	12000	5000	6.0kV/3.0kA	370	1500	22.5	8.3	24.5	11.3
*S(NF)20K420E3K1#	*S(NF)20KV681E3K1#	240	420	560	680	100	1120	12000	5000	6.0kV/3.0kA	405	1400	22.5	8.6	24.5	11.6
*S(NF)20K460E3K1#	*S(NF)20KV751E3K1#	240	460	615	750	100	1240	12000	5000	6.0kV/3.0kA	445	1350	22.5	8.9	24.5	11.9
*S(NF)20K510E3K1#	*S(NF)20KV821E3K1#	380	510	670	820	100	1355	10000	5000	8.0kV/4.0kA	445	1100	23	9.3	25	12.3
*S(NF)20K550E3K1#	*S(NF)20KV911E3K1#	380	550	745	910	100	1500	10000	5000	8.0kV/4.0kA	490	900	23	9.8	25	12.8
*S(NF)20K625E3K1#	*S(NF)20KV102E3K1#	380	625	825	1000	100	1650	10000	5000	8.0kV/4.0kA	540	800	23	10.3	25	13.3
*S(NF)20K680E3K1#	*S(NF)20KV112E3K1#	380	680	895	1100	100	1815	10000	5000	8.0kV/4.0kA	595	750	23	10.9	25	13.9

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (19 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions	
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)
*Q14K130#	*Q14KV201#	120	130	170	205	65	340	8000	3000	6.0kV/3.0kA	75	2800	16,5	5,0
*Q14K140#	*Q14KV221#		140	180	220	65	360	8000	3000	6.0kV/3.0kA	80	2570	16,5	5,1
*Q14K150#	*Q14KV241#		150	200	240	65	395	8000	3000	6.0kV/3.0kA	85	2370	16,5	5,2
*Q14K175#	*Q14KV271#		175	225	270	65	455	8000	3000	6.0kV/3.0kA	100	2140	16,5	5,3
*Q14K210#	*Q14KV331#		210	270	330	65	550	8000	3000	6.0kV/3.0kA	115	1710	16,5	5,4
*Q14K230#	*Q14KV361#		230	300	360	65	595	8000	3000	6.0kV/3.0kA	130	1570	16,5	5,5
*Q14K250#	*Q14KV391#		250	320	390	65	650	8000	3000	6.0kV/3.0kA	140	1430	16,5	5,7
*Q14K275#	*Q14KV431#		275	350	430	65	710	8000	3000	6.0kV/3.0kA	150	1340	16,5	5,8
*Q14K300#	*Q14KV471#	240	300	385	470	65	775	8000	3000	6.0kV/3.0kA	175	1230	16,5	6,1
*Q14K320#	*Q14KV511#		320	420	510	65	840	8000	3000	6.0kV/3.0kA	185	1110	16,5	6,3
*Q14K350#	*Q14KV561#		350	460	560	65	910	8000	3000	6.0kV/3.0kA	200	1030	16,5	7,3
*Q14K385#	*Q14KV621#		385	505	620	65	1025	8000	3000	6.0kV/3.0kA	225	930	16,5	7,6
*Q14K420#	*Q14KV681#		420	560	680	65	1120	8000	3000	6.0kV/3.0kA	245	870	16,5	7,9
*Q14K440#	*Q14KV721#		440	585	715	65	1180	8000	3000	6.0kV/3.0kA	260	830	16,5	8,1
*Q14K460#	*Q14KV751#		460	615	750	65	1240	8000	3000	6.0kV/3.0kA	270	790	16,5	8,2
*Q14K510#	*Q14KV821#	380	510	670	820	65	1355	6000	3000	8.0kV/4.0kA	240	710	16,5	8,6
*Q14K550#	*Q14KV911#		550	745	910	65	1500	6000	3000	8.0kV/4.0kA	260	660	16,5	9,0
*Q14K625#	*Q14KV102#		625	825	1000	65	1650	6000	3000	8.0kV/4.0kA	290	580	16,5	9,4
*Q14K680#	*Q14KV112#		680	895	1100	65	1815	6000	3000	8.0kV/4.0kA	320	520	16,5	9,9

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (20 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	
*Q20K130#	*Q20KV201#	-	130	170	205	130	340	15000	5000	6.0kV/3.0kA	100	5560	22,5	5,0	
*Q20K140#	*Q20KV221#		140	180	220	130	360	15000	5000	6.0kV/3.0kA	110	5130	22,5	5,1	
*Q20K150#	*Q20KV241#	120	150	200	240	130	395	15000	5000	6.0kV/3.0kA	120	4700	22,5	5,2	
*Q20K175#	*Q20KV271#		175	225	270	130	455	15000	5000	6.0kV/3.0kA	135	4280	22,5	5,3	
*Q20K210#	*Q20KV331#		210	270	330	130	550	15000	5000	6.0kV/3.0kA	165	3420	22,5	5,4	
*Q20K230#	*Q20KV361#		230	300	360	130	595	15000	5000	6.0kV/3.0kA	180	3140	22,5	5,5	
*Q20K250#	*Q20KV391#		250	320	390	130	650	15000	5000	6.0kV/3.0kA	195	2850	22,5	5,7	
*Q20K275#	*Q20KV431#		275	350	430	130	710	15000	5000	6.0kV/3.0kA	215	2650	22,5	5,8	
*Q20K300#	*Q20KV471#		240	300	385	470	130	775	15000	5000	6.0kV/3.0kA	235	2420	22,5	6,1
*Q20K320#	*Q20KV511#	320		420	510	130	840	15000	5000	6.0kV/3.0kA	255	2220	22,5	6,3	
*Q20K350#	*Q20KV561#	350		460	560	130	910	15000	5000	6.0kV/3.0kA	280	1970	22,5	7,3	
*Q20K385#	*Q20KV621#	385		505	620	130	1025	15000	5000	6.0kV/3.0kA	315	1800	22,5	7,6	
*Q20K420#	*Q20KV681#	420		560	680	130	1120	15000	5000	6.0kV/3.0kA	340	1680	22,5	7,9	
*Q20K440#	*Q20KV721#	440		585	715	130	1180	15000	5000	6.0kV/3.0kA	365	1600	22,5	8,1	
*Q20K460#	*Q20KV751#	460		615	750	130	1240	15000	5000	6.0kV/3.0kA	380	1510	22,5	8,2	
*Q20K510#	*Q20KV821#	380		510	670	820	130	1355	13000	5000	8.0kV/4.0kA	360	1370	22,5	8,6
*Q20K550#	*Q20KV911#			550	745	910	130	1500	13000	5000	8.0kV/4.0kA	390	1280	22,5	9,0
*Q20K625#	*Q20KV102#			625	825	1000	130	1650	13000	5000	8.0kV/4.0kA	430	1110	22,5	9,4
*Q20K680#	*Q20KV112#		680	895	1100	130	1815	13000	5000	8.0kV/4.0kA	470	1000	22,5	9,9	

- (1) For explanation of style reference number, see clause 1.5.
- (2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q.
- (3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.
- (4) All types marked with "#" may be followed by suffix "T7".

Table 1 (21 of 21)

Style (1)	Equivalent KV type (1)	Supply voltage (3)	Maximum continuous voltage		Voltage at 1 mA (V)	Voltage at class current (8/20µs)		Max. peak current (8/20µs, 1 time) (A)	Max. peak current (8/20µs, 10 time) (A)	Max. peak current (8/20µs, combination pulse, 10 times) (A)	Rated energy (2 ms, 1 time) (J)	Maximum capacitance (pF)	Dimensions		
			r.m.s. (V)	d.c. (V)		Class current(A)	Max. volt (V)						bmax (mm)	smax (mm)	
*S25K115E4R12	*S25KV181E4R12	-	115	150	180	150	300	20000	10000	6.0kV/3.0kA	165	8000	27.5	5.6	
*S25K130E4R12	*S25KV201E4R12		130	170	205	150	340	20000	10000	6.0kV/3.0kA	185	7000	27.5	5.7	
*S25K140E4R12	*S25KV221E4R12		140	180	220	150	360	20000	10000	6.0kV/3.0kA	195	6500	27.5	5.8	
*S25K150E4R12	*S25KV241E4R12	120	150	200	240	150	395	20000	10000	6.0kV/3.0kA	215	6000	27.5	5.9	
*S25K175E4R12	*S25KV271E4R12		175	225	270	150	455	20000	10000	6.0kV/3.0kA	245	5200	27.5	6.1	
*S25K210E4R12	*S25KV331E4R12		210	270	330	150	545	20000	10000	6.0kV/3.1kA	280	4600	27.5	6.2	
*S25K230E4R12	*S25KV361E4R12		230	300	360	150	595	20000	10000	6.0kV/3.0kA	315	4000	27.5	6.7	
*S25K250E4R12	*S25KV391E4R12		250	320	390	150	650	20000	10000	6.0kV/3.0kA	345	3600	27.5	6.9	
*S25K275E4R12	*S25KV431E4R12		275	350	430	150	710	20000	10000	6.0kV/3.0kA	375	3600	27.5	7.2	
*S25K300E4R12	*S25KV471E4R12		240	300	385	470	150	775	20000	10000	6.0kV/3.0kA	410	3000	27.5	7.4
*S25K320E4R12	*S25KV511E4R12	320		420	510	150	840	20000	10000	6.0kV/3.0kA	445	2600	27.5	7.6	
*S25K350E4R12	*S25KV561E4R12	350		460	560	150	910	20000	10000	6.0kV/3.0kA	460	2540	27.5	8	
*S25K385E4R12	*S25KV621E4R12	385		505	620	150	1025	20000	10000	6.0kV/3.0kA	600	2500	27.5	8.3	
*S25K420E4R12	*S25KV681E4R12	420		560	680	150	1120	20000	10000	6.0kV/3.0kA	700	2200	27.5	8.6	
*S25K440E4R12	*S25KV721E4R12	440		585	715	150	1180	20000	10000	6.0kV/3.0kA	710	2200	27.5	8.9	
*S25K460E4R12	*S25KV751E4R12	460		615	750	150	1240	20000	10000	6.0kV/3.0kA	720	2200	27.5	9.1	
*S25K510E4R12	*S25KV821E4R12	380		510	670	820	150	1355	20000	10000	8.0kV/4.0kA	750	1800	27.5	9.5
*S25K550E4R12	*S25KV911E4R12			550	745	910	150	1500	20000	10000	8.0kV/4.0kA	780	1092	27.5	10
*S25K580E4R12	*S25KV941E4R12			580	780	940	150	1580	20000	10000	8.0kV/4.0kA	800	1120	27.5	10.2
*S25K625E4R12	*S25KV102E4R12		625	825	1000	150	1650	20000	10000	8.0kV/4.0kA	855	1197	27.5	10.6	
*S25K680E4R12	*S25KV112E4R12		680	895	1100	150	1815	20000	10000	8.0kV/4.0kA	940	1316	27.5	11.2	
*S25K750E4R12	*S25KV122E4R12		750	1060	1200	150	2000	20000	10000	8.0kV/4.0kA	1025	1435	27.5	11.7	

- (1) For explanation of style reference number, see clause 1.5.
(2) All types marked with "*" are covered by IEC 62368-1 G.8.1 and IEC 60950-1 Annex Q
(3) Acc. to IEC 62368-1 G.8.1 and IEC60950-1, Annex Q: Maximum continuous voltage of the Varistors should be at least 1.25 times rated voltage of equipment/ rated voltage range. Only typical AC Mains Supply voltages are indicated.

1.4 Marking

The varistors are marked with their:

- style reference (includes style – 05 and 07 without S, NF, tolerance, max. continuous r.m.s. voltage; alternatively style – 05 and 07 without S, NF, tolerance, varistor voltage at 1 mA)

They are distinguished as follows: no underline under the S..., S...(Standard); an additional underline under the S..., S...(for type series AdvanceD – E2) or a line above the S..., S...(for type series SuperioR – E3), or a line above and under the S...(for type series SuperioR – E4)

S20 K275	<u>S20</u> K275	<u>S20</u> K275	<u>S25</u> K275
StandarD	AdvanceD	SuperioR	SuperioR
S10 K300	<u>S10</u> K300	<u>SNF20</u> K300	
StandarD	AdvanceD	SuperioR	

- Manufacturer's code or trade mark
- Date of manufacture

1.5 Ordering information

Orders for varistors covered by this specification shall contain, in clear or in coded form, the following minimum information

Example:

S 05 K 275 (V431) A (B,C) E2 G GX A S R B C D Z U H M
P K K8 K9 W I VB
 :

<u>S</u>	Style - (S: round disc; Q: square disc; NF: Nonflammable disc;)
<u>05</u>	Disc size (S: diameter of ceramic disc; Q: length of each side)
<u>K</u>	Tolerance ± 10 % of voltage at 1 mA (J: ± 5 %; L: ± 15 %; M: ± 20 %; S: special tolerance)
<u>275</u>	Max. continuous r.m.s. voltage
<u>V431</u>	Alternative type designation with varistor voltage at 1 mA instead of max. cont. r.m.s voltage (code: 43×10^1)
<u>A (B,C)</u>	designation for special types
<u>E2</u> <u>E3</u> <u>E4</u>	High energy series
<u>G</u>	Taping according IEC 60286, part 2. May be followed by numbers
<u>GX</u>	Customized packing not defined with other standard packing styles, G and X may be followed by numbers
<u>A</u>	Ammopack
<u>S</u>	Crimp-Type, is omitted when Crimp-Type Standard
<u>R</u>	Lead spacing (e): mm
<u>B</u>	Customized diameter dimension (b): mm. Not effecting IECQ specifications, all related ratings covered.
<u>C</u>	Customized thickness (s): mm. Not effecting IECQ specifications, all related ratings covered.
<u>D</u>	Customized wire diameter (d): mm. Not effecting IECQ specifications, all related ratings covered.
<u>Z</u>	Customized diagonal dimension: mm. Not effecting IECQ specifications, all related ratings covered.
<u>U1</u>	Customized insulation voltage rating: 1.0kV. "U1" is only applied to types with customized insulation voltage rating (deviant from default value acc. to 1.2.2.)
<u>H</u>	Component height (h or h_1): mm
<u>M</u>	Cut lead length (l): mm
<u>P</u>	Test requirements additionally agreed to this detail specification
<u>K</u>	Customer specific properties not defined with other codes (K1 - K99 available except for the reserved codes below)
<u>K8</u>	Special combination lead diameter - lead spacing
<u>K9</u>	Components have the same ratings but they are matched for the varistor voltage at 1 mA within one package
<u>K5*</u>	Compact version of E2K1/E3K1 series
<u>W</u>	Customer specific properties not defined with other codes (Y1 - Y99 available). Not effecting IECQ specifications, all related ratings covered.
<u>I</u>	Resistance to temperature changes - denotes that the varistor exceeds the normally defined temperature range (T1-T99 available)
(<u>z</u>)	additional numbers 00-99
<u>SIOV</u>	may be prefixed

Special varistor types with customer specific tolerances (tolerance designation S in combination with the letters A, B or C) and varistors with special geometrical specifications designated by R., H., M., B., C., D., Z. or K8. are available on request.

1.6 Certified records or released lots

Not required.

1.7 **Additional information** (not for inspection purposes)

The voltage indicated on the component is the maximum allowable steady state sinusoidal voltage at 50 - 60 Hz. When use is made of a supply voltage, the maximum continuous a.c. r.m.s. voltage = 1.1 x supply voltage. Should the varistor be subjected to voltage above the indicated voltage, it may fail by package rupture or expulsion material, causing a major problem in the equipment.

Coating information:

Material: Epoxy,
Ref. No.: CP-930-1
Supplier: Dae Joo

Material: Epoxy,
Ref. No.: PCE-282
Supplier: Pelnox

Material: Epoxy,
Ref. No.: EF-150C, EF-150
Supplier: Kaihua, Tianjin

Material: Epoxy,
Ref. No.: EF-160(AD), EF-160
Supplier: Kaihua, Tianjin

Material: Silicone (only for SNF types)
Ref. No.: CE-77
Supplier: Pelnox

Material: Silicone (only for SNF types)
Ref. No.: FC-505 A
Supplier: Fuyou, Dongguan

1.8 **Additional or increased severities or requirements to those specified in the generic and/or sectional specification**

None.

SECTION TWO – INSPECTION REQUIREMENTS

2 Inspection requirements

2.1 Procedures

2.1.1 For Qualification Approval the procedure shall be in accordance with the Sectional Specification, IEC Publication 61051-2, Sub-clause 3.2.

2.1.2 For Quality Conformance Inspection the test schedule (Table II) includes sampling, periodicity, severities and requirements. The formation of inspection lots is covered by Sub-clause 3.3.1 of the Sectional Specification.

TABLE II

- Notes
1. - Sub-clause numbers of tests and performance requirements refer to the Generic Specification, IEC Publication 61051-1.
 2. - [Number to be tested: sample size as directly allotted to the code letter for IL of IEC 61193-2 \(Single sampling plan for normal inspection\).](#)
 3. - In this table:
 - p = periodicity (in months)
 - n = sample size
 - c = acceptance criterion (permitted number of defectives)
 - D = destructive
 - ND = non-destructive
 - IL = inspection level
 4. - The bump test and shock test are considered to be alternative. The detail specification shall indicate which test is to be performed.
 5. - Where d.c. has been applied to the varistor, the reference voltage shall be measured in the same direction.
 7. - The manufacturer shall only be required to perform one of these tests.

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	IL	n	c	Performance requirements (see Note 1)
<u>GROUP A INSPECTION</u> (lot-by-lot)			II	See note 2)	0	
<u>Sub-group A1</u> 6.4.1 Visual examination 6.4.2 Marking	ND					As in 6.4.1 Legible marking and as specified in 1.4 of this specification
<u>Sub-group A2</u> 6.6 Voltage	ND	Voltage at specified current	II	See note 2)	0	As specified in 1.2.2 of this specification
<u>Sub-group A3</u> 6.4.3 Dimensions (gauging)	ND	Not applicable	S-4	See note 2)	0	As specified in 1.2.1 of this specification
<u>GROUP B INSPECTION</u> (lot-by-lot)			S-3	See note 2)	0	
<u>Sub-group B1</u> 6.17.2 Robustness of terminations	D	IEC 60068-2-21, Test Ua1 F = 10 N (d ≤ 0.8 mm) F = 20 N (d = 1 mm) Visual examination Voltage at specified current				No visible damage
6.19 Solderability (if applicable)		IEC 60068-2-20, Test Ta, Method 1 Soldering bath conditions: Pb- free solder: 245±3°C, 3s				$\left \frac{\Delta U}{U} \right \leq 10\%$
6.27 Solvent resistance of the marking (if applicable)		IEC 60068-2-45, Test XA (3.1.1, Method 1): T = 23±5°C, t = 5±0,5 min Solvent mixture (70±5% Diethylglycoldibutylether, 30±5% 2-propanol). Rubbing material: Cotton wool F = 5±0,5 N, 10 strokes. Visual examination				The terminations shall be uniformly tinned Legible marking

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	IL	n	c	Performance requirements (see Note 1)
<u>Sub-group B2</u> 6.11 Clamping voltage 6.9 Voltage proof	D	At class current: See table 1. Metal balls method (6.9.3) 2500 V, 60 s	S-2	See note 2)	0	As specified in the detail specification As in 6.9

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	Sample size & criterion of acceptability (see Note 3)			Performance requirements (see Note 1)
			p	n	c	
<u>GROUP C INSPECTION</u> (periodic) <u>Sub-group C1</u> 6.13 Maximum peak current	D	<u>Pulse current</u> 10 pulses 8/20 μs at 2 per min in one direction (current according table 1 and 1.2.3) Visual examination Voltage at specified current <u>Combination pulse</u> 10 pulses (combination pulse), in one direction, 1 per min Visual examination Leakage current or voltage at specified current	6	13	1	No visible damage $\left \frac{\Delta U}{U} \right \leq 10\%$
<u>Sub-group C2</u> 6.15 Rated Energy	D	Single current pulse with 2 ms rectangular wave shape or 10 μs /1 000 μs wave shape (current according table 1 and 1.2.3) Visual examination Voltage at specified current	12	13	1	No visible damage $\left \frac{\Delta U}{U} \right \leq 10\%$

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	Sample size & criterion of acceptability (see Note 3)			Performance requirements (see Note 1)
			p	n	c	
<u>Sub-group C3A</u> Part of sample of Sub-group C3 6.8 Capacitance 6.18 Resistance to soldering heat (if applicable) 6.28 Component solvent resistance (if applicable) 6.20 Rapid change of temperature	D	f = 1 kHz Signal level ≤ 1V Zero bias IEC 60068-2-20, Test Tb, Method 1A T = 260±5°C, d = 10±1s Visual examination Voltage at specified current IEC 60068-2-45, Test XA (3.1.1, Method 2): T = 23±5°C t = 5±0,5 min Solvent mixture: 70±5% Diethylglycoldibutylether, 30±5% 2-propanol. Recovery: 48h Visual examination Voltage at specified current IEC 60068-2-14, Test Na N = 5 cycles, d = 30 min θ _A = -40±3°C θ _B = UCT±2°C Visual examination Voltage at specified current	12	7		As specified in 1.2.2 of this specification No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$ No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$ No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	Sample size & criterion of acceptability (see Note 3)			Performance requirements (see Note 1)
			p	n	c	
<u>Sub-group C3B</u> Other part of sample of Sub-group C3 6.21 Shock		IEC 60068-2-27, Test Ea Pulse shape: half-sine a = 500 m/s ² , d = 11ms N = 6 x 3 shocks. (The mounting shall be such that there shall be no parasitic vibration) Visual examination Voltage at specified current	12	6		No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$
6.21 Repetitive Shock		IEC 60068-2-27, Test Ea Pulse shape: half sine. a = 400 m/s ² , d = 6 ms N = 6 x 5000 shocks. (The mounting shall be such that there shall be no parasitic vibration) Visual examination Voltage at specified current				No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$
6.22 Vibration		IEC 60068-2-6, Test Fc, Method B4 Frequency range: 10 Hz to 55 Hz a = 0,75 mm or 98 m/s ² (whichever is the less) d = 3x2 h (The mounting shall be such that there shall be no parasitic vibration) Visual examination Voltage at specified current				No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 5\%$

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	Sample size & criterion of acceptability (see Note 3)			Performance requirements (see Note 1)
			p	n	c	
<u>Sub-group C3</u> Combined sample of specimens of Sub-groups C3A and C3B 6.23 Climatic sequence - Dry heat - Damp heat, cyclic, Test Db, first cycle - Cold - Damp heat, cyclic, Test Db, remaining cycles - Final measurement	D	(Low air pressure test not applicable) IEC 60068-2-2, Test Ba 16±2h, T = UCT±2°C; IEC 60068-2-30, Test Db 24h, T = 55±2°C; IEC 60068-2-1, Test Aa 2h, T = -40±3°C; IEC 60068-2-30, Test Db 24h, T = 55±2°C; Visual examination Voltage at specified current Insulation resistance U = 500V (Insulated varistors only) Voltage proof (Insulated varistors only)	12	13	1	No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 10\%$ $\geq 100 \text{ M}\Omega$ No breakdown or flashover
<u>Sub-group C4</u> 6.26 Endurance at upper category temperature	D	T = UCT±2°C, Duration: 1000 h Voltage: max. a.c. voltage Examination at 48 h, 500 h and 1000 h: Visual examination Voltage at specified current Examination at 1000 h: Voltage at class current Insulation resistance U = 500V (Insulated varistors only)	12	13	1	No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 10\%$ 1,1 x the initial limit $\geq 1 \text{ G}\Omega$

Sub-clause number and Test (see Note 1)	D or ND	Conditions of test (see Note 1)	Sample size & criterion of acceptability (see Note 3)			Performance requirements (see Note 1)
			p	n	c	
<u>GROUP D INSPECTION</u> <u>Sub-group D1</u> 6.24 Damp heat, steady state	D	IEC 60068-2-78, Test Ca T = 40±2°C, RH = 93(±2)%, 56d <u>4 specimens:</u> No voltage applied <u>Other 4 specimens:</u> Applied voltage: 10% of the max. d.c. voltage Visual examination Voltage at specified current Insulation resistance U = 500V (Insulated varistors only)	24	8	1	No visible damage Legible marking $\left \frac{\Delta U}{U} \right \leq 10\%$ $\geq 100 \text{ M}\Omega$
<u>Sub-group D2</u> 6.4.4 Dimensions (detail) 6.6 Voltage (if applicable)	ND	At specified current At following temperatures: LCT (+3/-0°C) and UCT (+0/-3°C)	24	8	1	As specified in 1.2.1 of this specification As specified in 1.2.2 of this specification $\frac{U_{25^{\circ}\text{C}} - U_{\text{LCT}}}{\Delta T} \cdot \frac{100\%}{U_{25^{\circ}\text{C}}} \leq 0,09\%K^{-1}$ $\frac{U_{25^{\circ}\text{C}} - U_{\text{UCT}}}{\Delta T} \cdot \frac{100\%}{U_{25^{\circ}\text{C}}} \leq 0,09\%K^{-1}$
<u>Sub-group D3</u> 6.25 Fire hazard (Needle flame test)	D	IEC 60695-11-5 Severity: Vertical 10 s	24	5	0	Duration of burning: 5 s max.