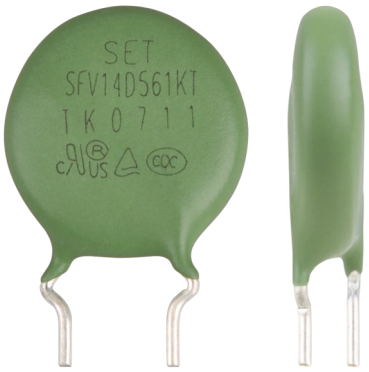
MOV
Metal Oxide Varistor

SFV14D T Series

Description

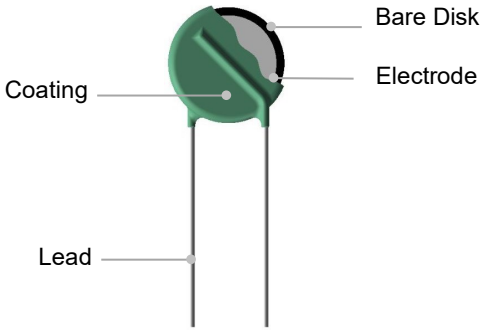


Metl Oxide Varistor (MOV) is a nonlinear resistance component with zinc oxide (ZnO) as its main constituent. The resistance of an MOV is sensitive to changes in the lied voltage. Below the threshold voltage, the MOV exhibits high resistance, allowing only a negligibly small leakage current to flow. Once the threshold voltage is exceeded, the resistance of the MOV drops sharply, enabling the conduction of a large current. This characteristic makes the MOV suitable for detecting and suppressing surge voltage and overvoltage, thereby protect the circuit from damage caused by excessive voltage.

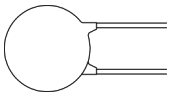
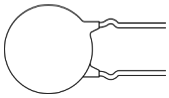
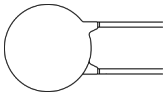
The Metal Oxide Varistor (MOV) finds wide application in various fields such as photovolt aics, communication, lightning protection, power supply, and power strips. It serves to suppress transient overvoltage and absorb surge energy within the circuit.

SETsafe | SETfuse offers Metal Oxide Varistors (MOV) with maximum peak current ratings ranging from 0.75 kA to 70 kA, and maximum continuous voltage ratings from 14VAC to 750 VAC. Safety certification Includes UL, cUL, TUV, and CQC, and comply with RoHS and REACH requirements.

Product Structure



Lead Types

Lead Types		Codes
Straight Lead		A
Outward Crimp Lead		C
Little Straight Lead		I
Inline Crimp Lead		D

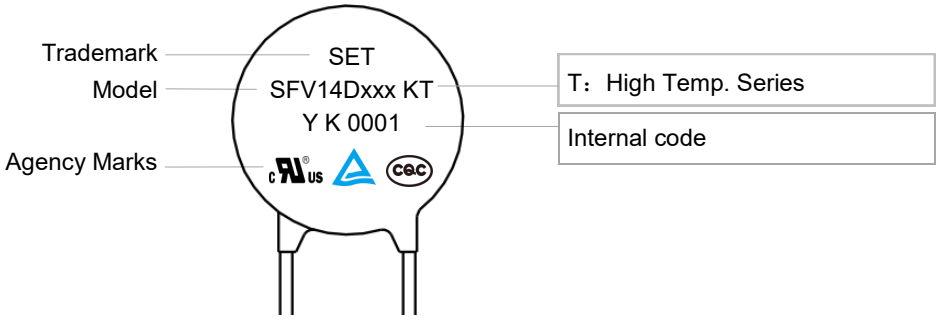
Agency Information

Agency	Standards	No.
	UL 1449 4th Edition	E322662
	CSA C22.2 NO.269.5-17	E322662
	EN IEC 61051-1:2018 EN IEC 61051-2:2021 IEC 61051-2-2:1991 Annex G.8.1 of IEC 62368-1:2018	J 50234703
	GB/T 10193-1997 GB/T 10194-1997 GB 4943.1-2022 IEC 61051-2:1991+Amd1:2009	CQC16001152394

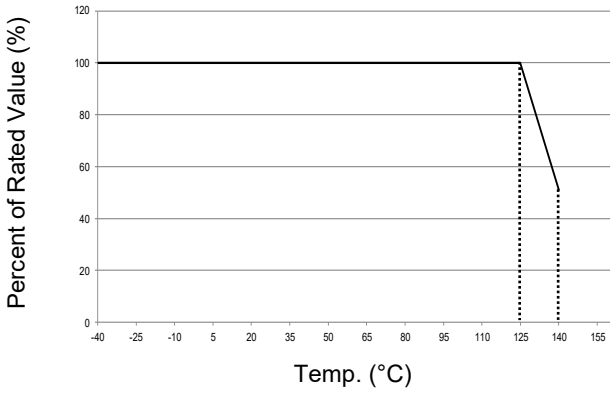
Applications

- Power Supplies
- Home Electrical Appliances
- Industrial Devices
- Surge Protectors
- Telecom Devices

Marking



Temp. Derating Curve



For High Temp. Series Products

Note:

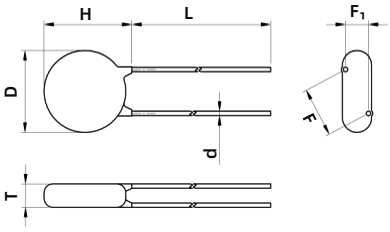
For high temp. series, when ambient temp. exceeds 125 °C, the peak surge current and energy rating should be reduced as shown in the left curve.

General Technical Data

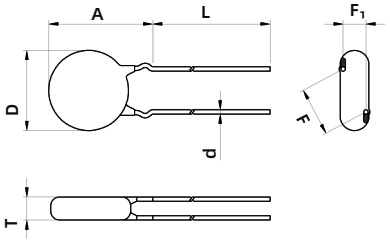
Item	Value	Unit
Operating Temperature	-40 to +125	°C
Storage Temperature	-40 to +150	°C
Voltage Proof	≥2500	V_{ac}
Insulation Resistance	≥100	MΩ

Dimensions (mm)

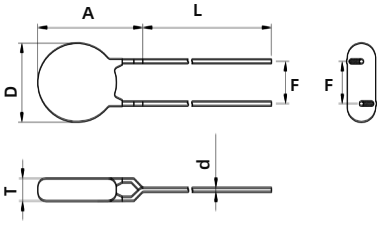
Model	L (Min.)	H (Max.)	T (Max.)	D (Max.)	d	F	F_1	A (Max.)
SFV14D220KT	7	18.5	4.9	16.5	0.80±0.05	7.5±0.5	1.1 ~ 2.5	21.5
SFV14D270KT	7	18.5	5.2	16.5	0.80±0.05	7.5±0.5	1.2 ~ 2.7	21.5
SFV14D330KT	7	18.5	5.5	16.5	0.80±0.05	7.5±0.5	1.3 ~ 2.9	21.5
SFV14D390KT	7	18.5	5.8	16.5	0.80±0.05	7.5±0.5	1.4 ~ 3.1	21.5
SFV14D470KT	7	18.5	5.0	16.5	0.80±0.05	7.5±0.5	1.2 ~ 2.7	21.5
SFV14D560KT	7	18.5	5.2	16.5	0.80±0.05	7.5±0.5	1.3 ~ 2.9	21.5
SFV14D680KT	7	18.5	5.5	16.5	0.80±0.05	7.5±0.5	1.5 ~ 3.2	21.5
SFV14D820KT	7	18.5	4.8	16.5	0.80±0.05	7.5±0.5	1.2 ~ 2.6	21.5
SFV14D101KT	7	18.5	5.0	16.5	0.80±0.05	7.5±0.5	1.3 ~ 2.8	21.5
SFV14D121KT	7	18.5	5.2	16.5	0.80±0.05	7.5±0.5	1.4 ~ 3.0	21.5
SFV14D151KT	7	18.5	5.5	16.5	0.80±0.05	7.5±0.5	1.6 ~ 3.3	21.5
SFV14D181KT	7	18.5	4.9	16.5	0.80±0.05	7.5±0.5	1.0 ~ 2.6	21.5
SFV14D201KT	7	18.5	5.0	16.5	0.80±0.05	7.5±0.5	1.1 ~ 2.7	21.5
SFV14D221KT	7	18.5	5.1	16.5	0.80±0.05	7.5±0.5	1.2 ~ 2.8	21.5
SFV14D241KT	7	18.5	5.3	16.5	0.80±0.05	7.5±0.5	1.3 ~ 2.9	21.5
SFV14D271KT	7	18.5	5.4	16.5	0.80±0.05	7.5±0.5	1.4 ~ 3.1	21.5
SFV14D301KT	7	18.5	5.6	16.5	0.80±0.05	7.5±0.5	1.5 ~ 3.2	21.5
SFV14D331KT	7	18.5	5.8	16.5	0.80±0.05	7.5±0.5	1.6 ~ 3.3	21.5
SFV14D361KT	7	18.5	6.0	16.5	0.80±0.05	7.5±0.5	1.7 ~ 3.5	21.5
SFV14D391KT	7	18.5	6.1	16.5	0.80±0.05	7.5±0.5	1.8 ~ 3.6	21.5
SFV14D431KT	7	18.5	6.4	16.5	0.80±0.05	7.5±0.5	1.8 ~ 3.8	21.5
SFV14D471KT	7	18.5	6.6	16.5	0.80±0.05	7.5±0.5	2.0 ~ 4.0	21.5
SFV14D511KT	7	18.5	6.8	16.5	0.80±0.05	7.5±0.5	2.2 ~ 4.2	21.5
SFV14D561KT	7	18.5	7.1	16.5	0.80±0.05	7.5±0.5	2.4 ~ 4.4	21.5
SFV14D621KT	7	18.5	7.5	16.5	0.80±0.05	7.5±0.5	2.7 ~ 4.7	21.5
SFV14D681KT	7	18.5	7.8	16.5	0.80±0.05	7.5±0.5	3.0 ~ 5.0	21.5
SFV14D751KT	7	18.5	8.3	16.5	0.80±0.05	7.5±0.5	3.3 ~ 5.3	21.5
SFV14D821KT	7	18.5	8.7	16.5	0.80±0.05	7.5±0.5	3.6 ~ 5.6	21.5
SFV14D911KT	7	18.5	9.2	16.5	0.80±0.05	7.5±0.5	4.0 ~ 6.0	21.5
SFV14D102KT	7	18.5	9.7	16.5	0.80±0.05	7.5±0.5	4.5 ~ 6.5	21.5
SFV14D112KT	7	18.5	10.3	16.5	0.80±0.05	7.5±0.5	4.9 ~ 6.9	21.5
SFV14D122KT	7	18.5	10.9	16.5	0.80±0.05	7.5±0.5	5.4 ~ 7.4	21.5



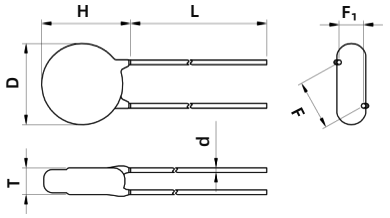
Straight Lead (A)



Outward Crimp (C)



Inline Crimp (D)



Little Straight Lead (I)

Note:
The above data is for reference only.

Part Numbering System

SFV 14 D 471 - K T K A BUL - 001

Other Options

***Packaging & Lead Length**
BUL: Bulk + Standard Lead Length (Normal L7)
C35: Bulk + Cut to 3.5 mm
(Range:2.5 mm to 6 mm)
L30: Bulk + Special Lead Length 30 mm
(28 mm to 32 mm)
(0/1)AB: Taping + Box (Hole Pitch 12.7 mm)
(0/1)EB: Taping + Box (Hole Pitch 15.0 mm)
(0/1)AR: Taping + Reel (Hole Pitch 12.7 mm)
(0/1)ER: Taping + Reel (Hole Pitch 15.0 mm)
Note:0/1 Means Product Position
0: In Middle of Two Holes; 1: Across the Hole

Lead Types
A: Straight Lead
C: Outward Crimp Lead
D: Inline Crimp Lead
I : Little Straight Lead

Surge Level
S: Normal Type
K: Standard Type
Q: Advanced Type
H: High Energy Type

Operating Temp.
T: Silicone Coating 125 °C

Voltage Tolerance
K: ±10%
J: ±5%
S: Special Tolerance

Nominal Varistor Voltage
220: 22×10^{0} = 22 V
471: 47×10^{1} = 470 V
122: 12×10^{2} = 1200 V

Disk Shape
D: Round

Bare Disk Dimension
14: 14 mm

Product Category
SETfuse Varistor

Reminder:
Part numbering system in the datasheet is only for selecting correct parameter and product features. Before placing order, please contact us for specifications and use the part number and product code in the specifications to place order to ensure the part is correct. Product code is the unique indentification.

Specification

Model	Surge Level	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20 μs)	Max. Energy (10/1000 μs)	Typical Capacitance (For reference only) @1 kHz	Agency Information			
		VAC	VDC	Min.	Max.	V_C	I_P	S		(pF)	UL	cUL	TUV	CQC
		(V)	(V)	(V)	(V)	(V)	(A)	(kA)	(J)					
SFV14D220KT	S	14	18	20	24	43	10	1	5.0	9100	○	○	●	●
SFV14D270KT	S	17	22	24	31	53	10	1	6.0	7400	○	○	●	●
SFV14D330KT	S	20	26	30	36	65	10	1	7.5	6100	○	○	●	●
SFV14D390KT	S	25	31	35	43	77	10	1	8.6	5100	○	○	●	●
SFV14D470KT	S	30	38	42	52	93	10	1	10	4300	○	○	●	●
SFV14D560KT	S	35	45	50	62	110	10	1	11	3600	○	○	●	●
SFV14D680KT	S	40	56	61	75	135	10	1	14	2900	○	○	●	●
SFV14D820KT	S	50	65	74	90	135	50	4.5	22	2400	●	●	●	●
SFV14D101KT	S	60	85	90	110	165	50	4.5	28	2000	●	●	●	●
SFV14D121KT	S	75	100	108	132	200	50	4.5	32	1700	●	●	●	●
SFV14D151KT	S	95	125	135	165	250	50	4.5	40	1300	●	●	●	●
SFV14D181KT	S	115	150	162	198	300	50	4.5	50	1100	●	●	●	●
SFV14D201KT	S	130	170	180	220	340	50	4.5	57	1000	●	●	●	●
SFV14D221KT	S	140	180	198	242	360	50	4.5	60	900	●	●	●	●
SFV14D241KT	S	150	200	216	264	395	50	4.5	63	830	●	●	●	●
SFV14D271KT	S	175	225	243	297	455	50	4.5	70	740	●	●	●	●
SFV14D301KT	S	190	250	270	330	500	50	4.5	77	670	●	●	●	●
SFV14D331KT	S	210	275	297	363	550	50	4.5	85	610	●	●	●	●
SFV14D361KT	S	230	300	324	396	595	50	4.5	93	560	●	●	●	●
SFV14D391KT	S	250	320	351	429	650	50	4.5	100	510	●	●	●	●
SFV14D431KT	S	275	350	387	473	710	50	4.5	115	460	●	●	●	●
SFV14D471KT	S	300	385	423	517	775	50	4.5	125	430	●	●	●	●
SFV14D511KT	S	320	415	459	561	845	50	4.5	125	390	●	●	●	●
SFV14D561KT	S	350	460	504	616	925	50	4.5	125	360	●	●	●	●
SFV14D621KT	S	385	505	558	682	1025	50	4.5	125	320	●	●	●	●
SFV14D681KT	S	420	560	612	748	1120	50	4.5	130	290	●	●	●	●
SFV14D751KT	S	460	615	675	825	1240	50	4.5	143	270	●	●	●	●
SFV14D821KT	S	510	670	738	902	1355	50	4.5	157	240	●	●	●	●
SFV14D911KT	S	550	745	819	1001	1500	50	4.5	175	220	●	●	●	●
SFV14D102KT	S	625	825	900	1100	1650	50	4.5	190	200	●	●	●	●
SFV14D112KT	S	680	895	990	1210	1815	50	4.5	213	180	●	●	●	●
SFV14D122KT	S	750	990	1080	1320	1980	50	4.5	213	150	●	●	●	●

●: Approved ○: Unauthorized ● RoHS & REACH Compliant

Specification

Model	Surge Level	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20 μs)	Max. Energy (10/1000 μs)	Typical Capacitance (For reference only) @1 kHz	Agency Information			
		VAC	VDC	Min.	Max.	V_C	I_P	K		(pF)				
		(V)	(V)	(V)	(V)	(V)	(A)	(kA)	(J)		UL	cUL	TUV	CQC
SFV14D220K	K	14	18	20	24	43	10	2	6.3	9100	○	○	●	●
SFV14D270KT	K	17	22	24	31	53	10	2	7.8	7400	○	○	●	●
SFV14D330KT	K	20	26	30	36	65	10	2	9.5	6100	○	○	●	●
SFV14D390KT	K	25	31	35	43	77	10	2	11	5100	○	○	●	●
SFV14D470KT	K	30	38	42	52	93	10	2	14	4300	○	○	●	●
SFV14D560KT	K	35	45	50	62	110	10	2	16	3600	○	○	●	●
SFV14D680KT	K	40	56	61	75	135	10	2	20	2900	○	○	●	●
SFV14D820KT	K	50	65	74	90	135	50	6	28	2400	●	●	●	●
SFV14D101KT	K	60	85	90	110	165	50	6	35	2000	●	●	●	●
SFV14D121KT	K	75	100	108	132	200	50	6	42	1700	●	●	●	●
SFV14D151KT	K	95	125	135	165	250	50	6	53	1300	●	●	●	●
SFV14D181KT	K	115	150	162	198	300	50	6	60	1100	●	●	●	●
SFV14D201KT	K	130	170	180	220	340	50	6	70	1000	●	●	●	●
SFV14D221KT	K	140	180	198	242	360	50	6	78	900	●	●	●	●
SFV14D241KT	K	150	200	216	264	395	50	6	84	830	●	●	●	●
SFV14D271KT	K	175	225	243	297	455	50	6	99	740	●	●	●	●
SFV14D301KT	K	190	250	270	330	500	50	6	108	670	●	●	●	●
SFV14D331KT	K	210	275	297	363	550	50	6	115	610	●	●	●	●
SFV14D361KT	K	230	300	324	396	595	50	6	130	560	●	●	●	●
SFV14D391KT	K	250	320	351	429	650	50	6	140	510	●	●	●	●
SFV14D431KT	K	275	350	387	473	710	50	6	155	460	●	●	●	●
SFV14D471KT	K	300	385	423	517	775	50	6	175	430	●	●	●	●
SFV14D511KT	K	320	415	459	561	845	50	6	180	390	●	●	●	●
SFV14D561KT	K	350	460	504	616	925	50	6	185	360	●	●	●	●
SFV14D621KT	K	385	505	558	682	1025	50	6	190	320	●	●	●	●
SFV14D681KT	K	420	560	612	748	1120	50	6	200	290	●	●	●	●
SFV14D751KT	K	460	615	675	825	1240	50	6	210	270	●	●	●	●
SFV14D821KT	K	510	670	738	902	1355	50	6	235	240	●	●	●	●
SFV14D911KT	K	550	745	819	1001	1500	50	6	255	220	●	●	●	●
SFV14D102KT	K	625	825	900	1100	1650	50	6	270	200	●	●	●	●
SFV14D112KT	K	680	895	990	1210	1815	50	6	280	180	●	●	●	●
SFV14D122KT	K	750	990	1080	1320	1980	50	6	310	150	●	●	●	●

●: Approved ○: Unauthorized ● RoHS & REACH Compliant

Specification

Model	Surge Level	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Max. Peak Current (1 time, 8/20 μs)	Max. Energy (8/20 μs)	Typical Capacitance (For reference only) @1 kHz	Agency Information			
		VAC	VDC	Min.	Max.	V_C	I_P	H		(pF)				
		(V)	(V)	(V)	(V)	(V)	(A)	(kA)	(J)		UL	cUL	TUV	CQC
SFV14D201KT	H	130	170	180	220	340	50	8	150	1000	●	●	●	●
SFV14D221KT	H	140	180	198	242	360	50	8	160	900	●	●	●	●
SFV14D241KT	H	150	200	216	264	395	50	8	180	830	●	●	●	●
SFV14D271KT	H	175	225	243	297	455	50	8	200	740	●	●	●	●
SFV14D301KT	H	190	250	270	330	500	50	8	220	670	●	●	●	●
SFV14D331KT	H	210	275	297	363	550	50	8	245	610	●	●	●	●
SFV14D361KT	H	230	300	324	396	595	50	8	260	560	●	●	●	●
SFV14D391KT	H	250	320	351	429	650	50	8	290	510	●	●	●	●
SFV14D431KT	H	275	350	387	473	710	50	8	320	460	●	●	●	●
SFV14D471KT	H	300	385	423	517	775	50	8	350	430	●	●	●	●
SFV14D511KT	H	320	415	459	561	845	50	8	380	390	●	●	●	●
SFV14D561KT	H	350	460	504	616	925	50	8	400	360	●	●	●	●
SFV14D621KT	H	385	505	558	682	1025	50	8	400	320	●	●	●	●
SFV14D681KT	H	420	560	612	748	1120	50	8	400	290	●	●	●	●

●: Approved ○: Unauthorized ● RoHS & REACH Compliant

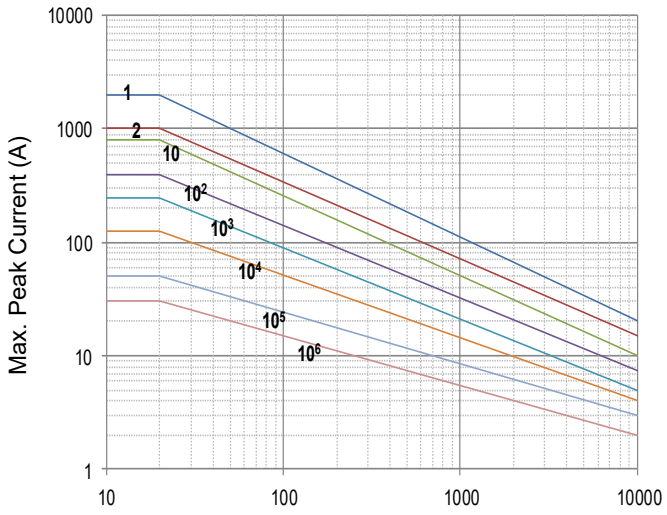
Specification

Model	Surge Level	Max. Continuous Operating Voltage		Varistor Voltage @1 mA DC		Clamping Voltage (Max.)		Pulse Impact Performance (40 times) (1.2/50 μs & 8/20 μs)	Max. Energy (10/1000 μs)	Typical Capacitance (For reference only) @1 kHz	Agency Information			
		VAC	VDC	Min.	Max.	V_C	I_P	Q		(pF)				
		(V)	(V)	(V)	(V)	(V)	(A)	(kV)	(J)		UL	cUL	TUV	CQC
SFV14D201KT	Q	130	170	180	220	340	50	6.6	70	1000	●	●	●	●
SFV14D221KT	Q	140	180	198	242	360	50	6.6	78	900	●	●	●	●
SFV14D241KT	Q	150	200	216	264	395	50	6.6	84	830	●	●	●	●
SFV14D271KT	Q	175	225	243	297	455	50	6.6	99	740	●	●	●	●
SFV14D301KT	Q	190	250	270	330	500	50	6.6	108	670	●	●	●	●
SFV14D331KT	Q	210	275	297	363	550	50	6.6	115	610	●	●	●	●
SFV14D361KT	Q	230	300	324	396	595	50	6.6	130	560	●	●	●	●
SFV14D391KT	Q	250	320	351	429	650	50	6.6	140	510	●	●	●	●
SFV14D431KT	Q	275	350	387	473	710	50	6.6	155	460	●	●	●	●
SFV14D471KT	Q	300	385	423	517	775	50	6.6	175	430	●	●	●	●
SFV14D511KT	Q	320	415	459	561	845	50	6.6	180	390	●	●	●	●
SFV14D561KT	Q	350	460	504	616	925	50	6.6	185	360	●	●	●	●
SFV14D621KT	Q	385	505	558	682	1025	50	6.6	190	320	●	●	●	●
SFV14D681KT	Q	420	560	612	748	1120	50	6.6	200	290	●	●	●	●

●: Approved ○: Unauthorized ● RoHS & REACH Compliant

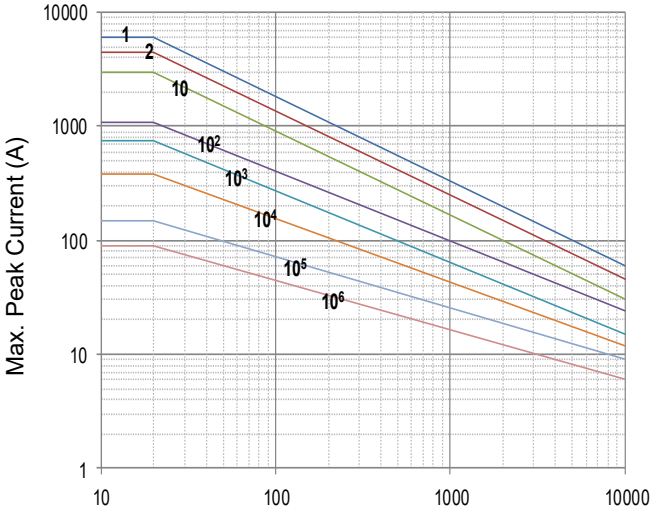
Performance Curve (For reference only)

- Max. Peak Current Derating Curves



Impulse Duration (μs)

SFV14D220K to SFV14D680K

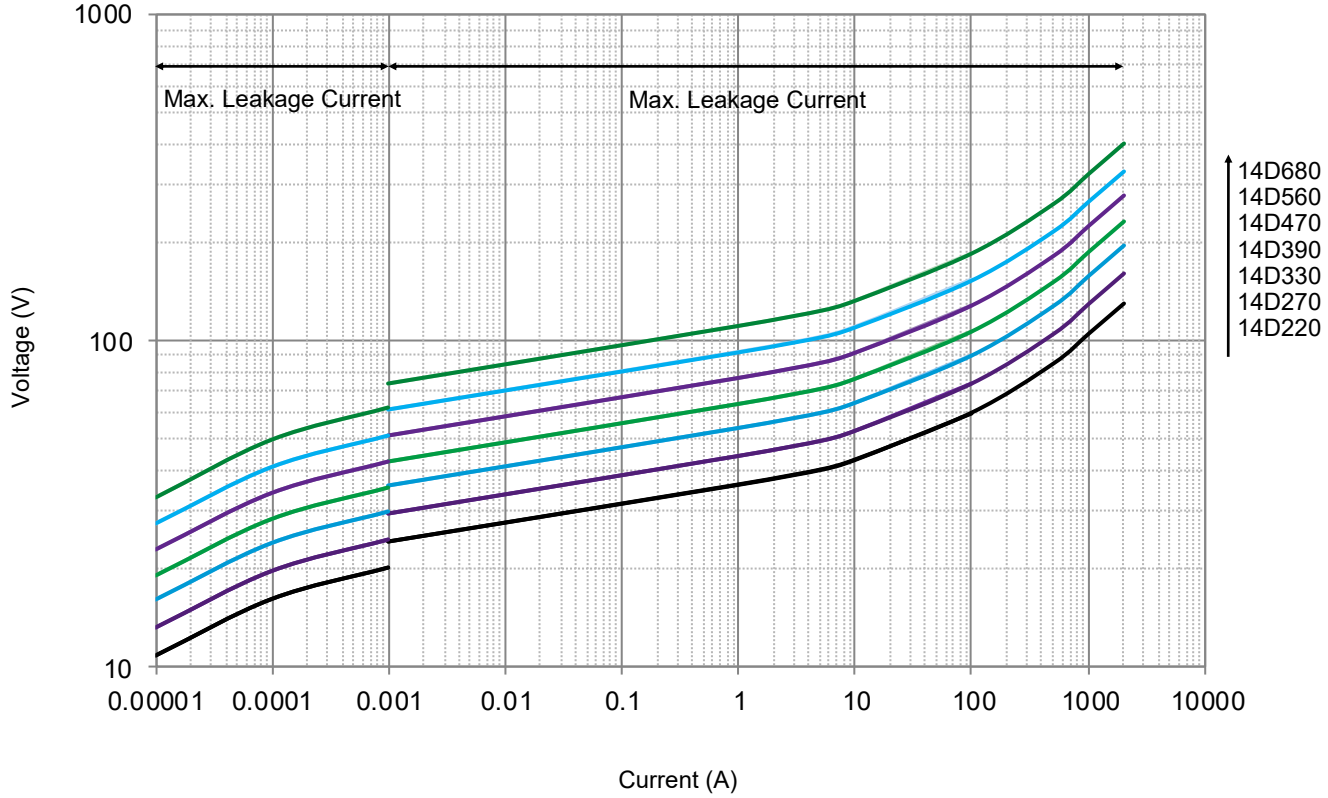


Impulse Duration (μs)

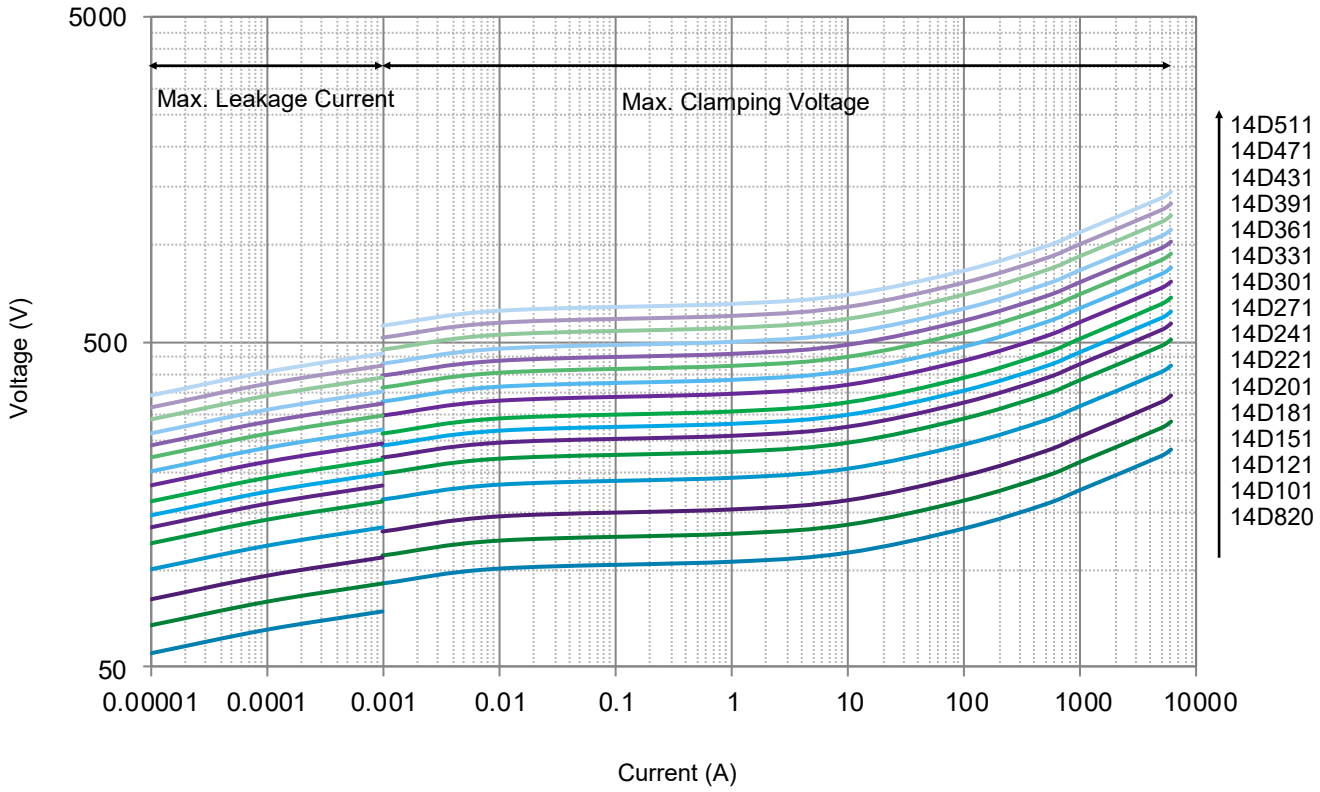
SFV14D820K to SFV14D122K

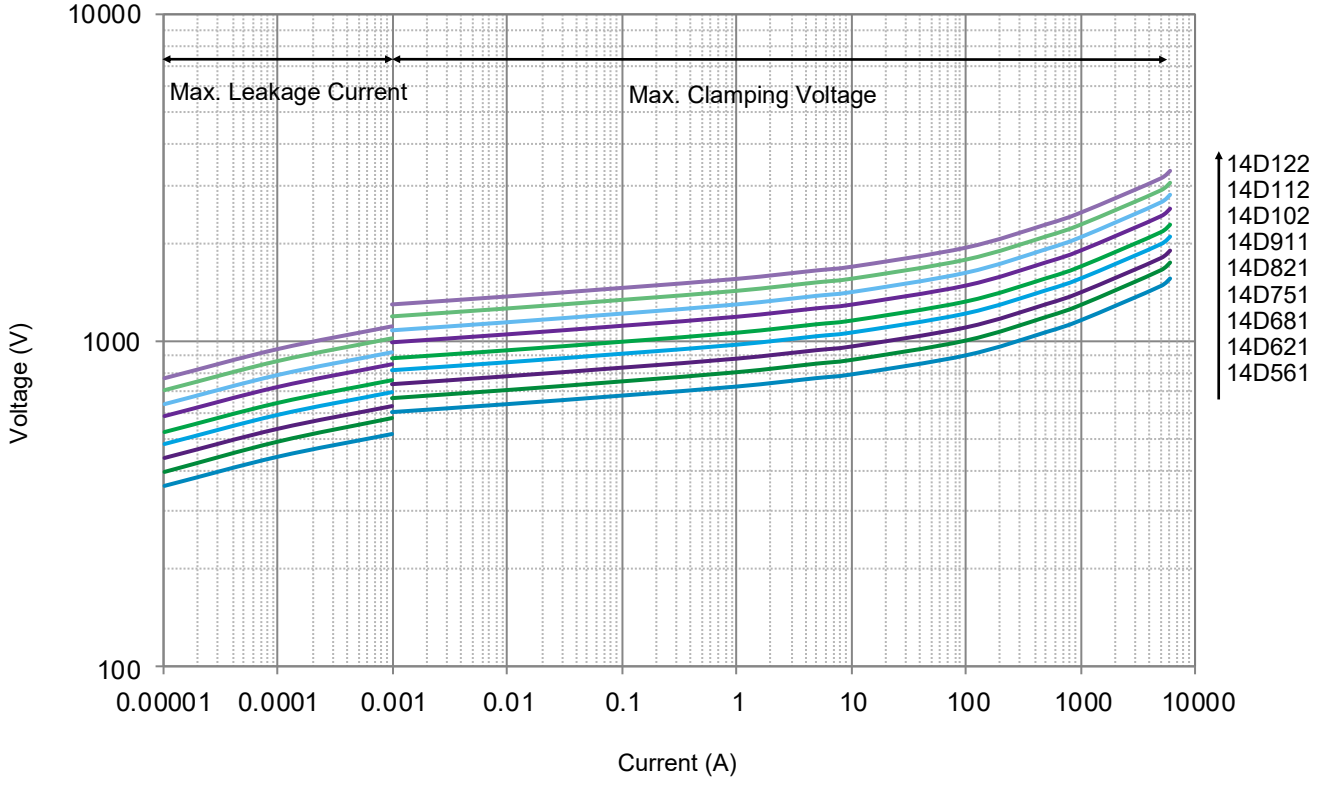
Note: 1, 2, 10, 10^2, 10^3, 10^4, 10^5, 10^6 Stand for Repetitions.

- Voltage-Current Characteristic Curves



- Voltage-Current Characteristic Curves





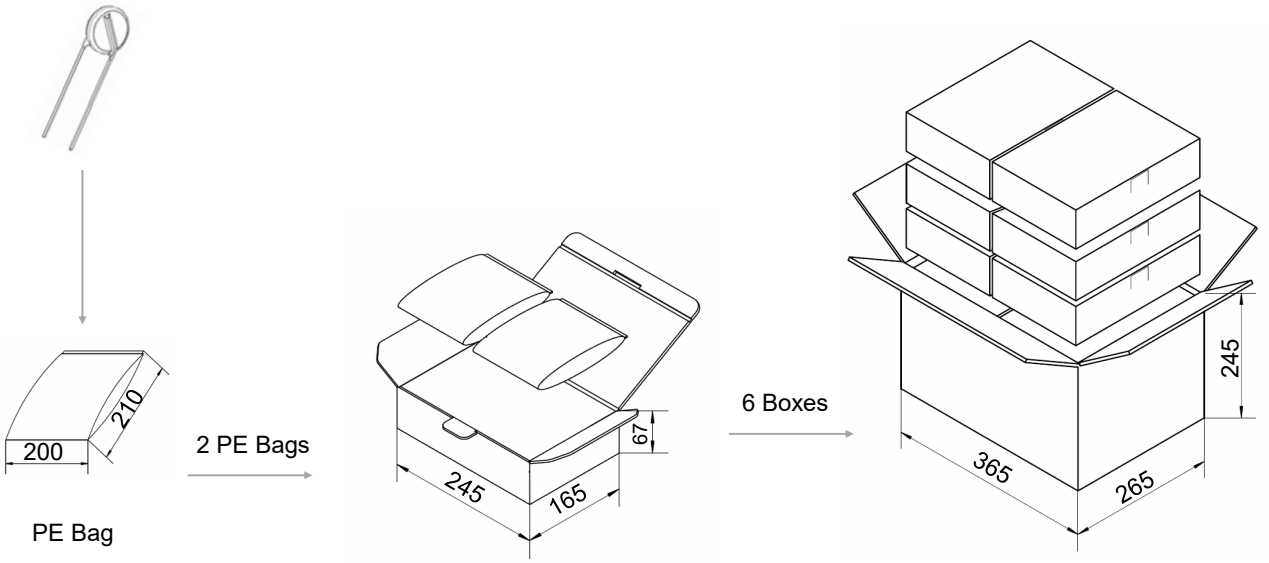
Packaging Information

- Bulk Packaging (Code: BUL)
- Bulk Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	PE Bag	Box	Carton	G. W / Carton (365 × 265 × 245)
SFV14D T Series	(V)	(PCS)	(PCS)	(PCS)	(kg)±10%
	220 ~ 361	200	400	2400	4 ~ 7
	391 ~ 621	150	300	1800	5 ~ 7
	681 ~122	100	200	1200	5 ~ 8

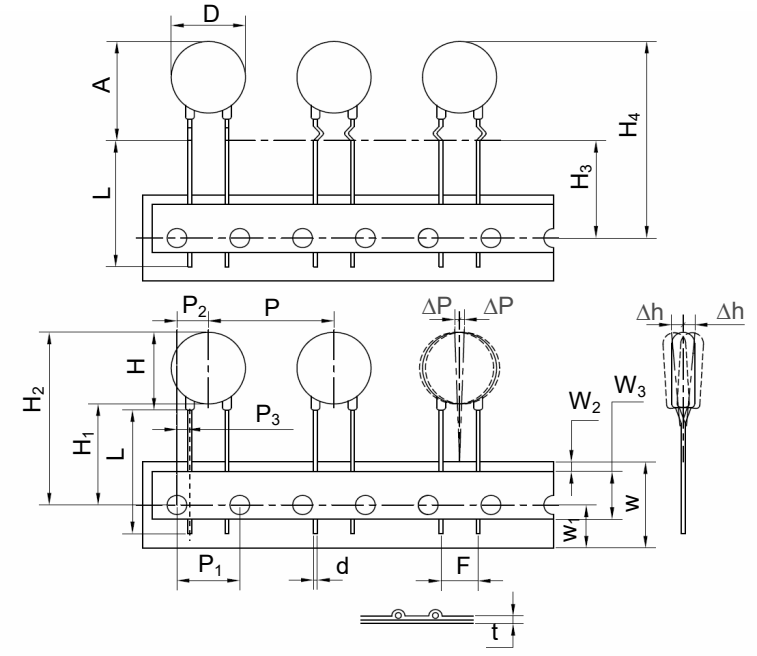
Note:
Other lead length packaging information, please contact SETsafe | SETfuse.

All Dimensions in mm



Packaging Information

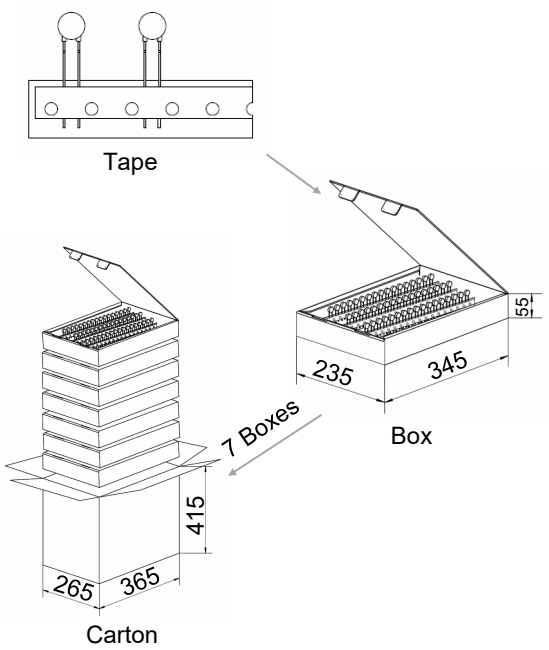
- Tape Packaging (Code: 0AB)



Dimensions (mm)	
P	25.4±1.0
P_1	12.7±0.3
P_2	6.35±1.3
P_3	2.6±0.7
ΔP(max.)	1.0
W	18.0±1.0
W_1	9.0±1.0
W_2(max.)	3.0
W_3	10.0±2.0
H(max.)	18.5
H_1	18.0
H_2(max.)	40.0 $^{+2.0}_{-0}$
H_3	18.0
H_4(max.)	42.0 $^{+2.0}_{-0}$
Δh(max.)	2.0
t (max.)	0.6
D(max.)	16.5
D_0	4.0±0.2
d	0.80±0.05
A(max.)	21.5
F	7.5±0.5
L(min.)	/

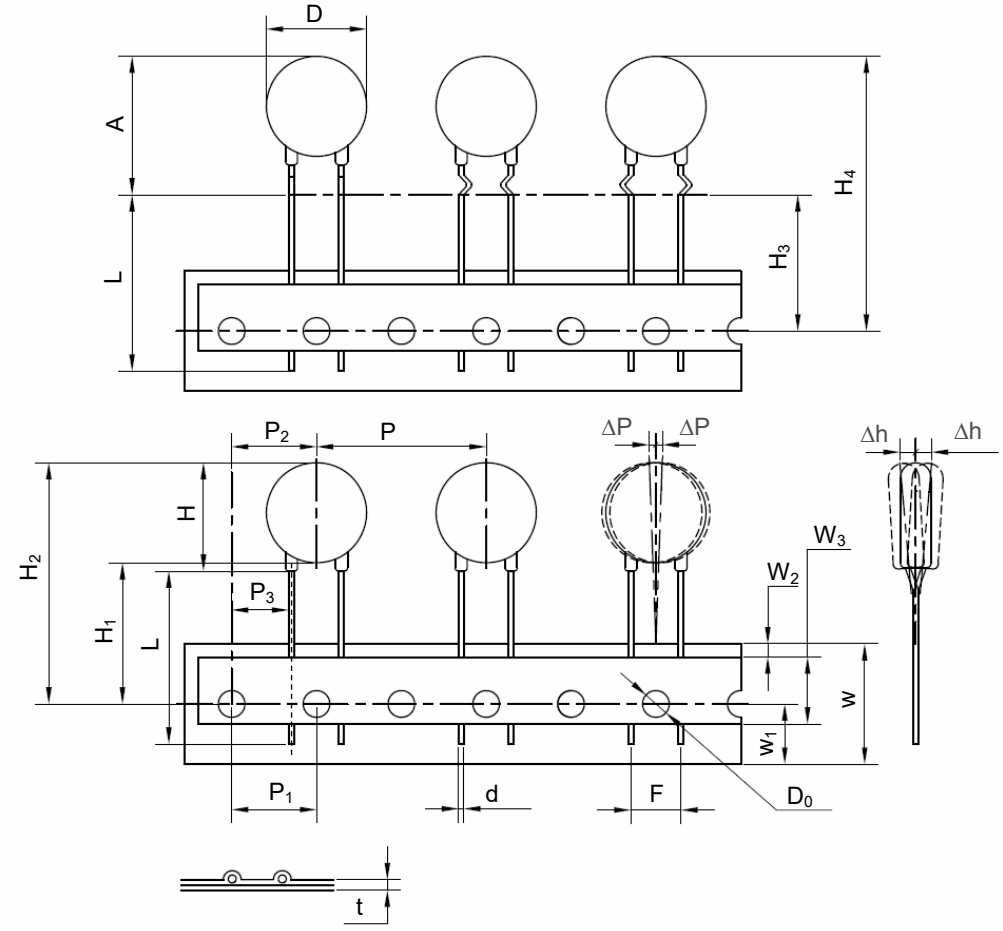
- Tape Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	Box	Carton	G. W / Carton (365 × 265 × 415)
14D	(V)	(PCS)	(PCS)	(kg)±10%
	112 ~ 122	250	1750	11 ~ 12
	681 ~ 102	300	2100	9 ~ 12
	471 ~ 621	400	2800	9 ~ 11
	301 ~ 431	500	3500	8 ~ 11
	680			8
	390 ~ 560	600	4200	8 ~ 10
	820 ~ 271			7 ~ 9
	220 ~ 330	700	4900	7 ~ 9



Packaging Information

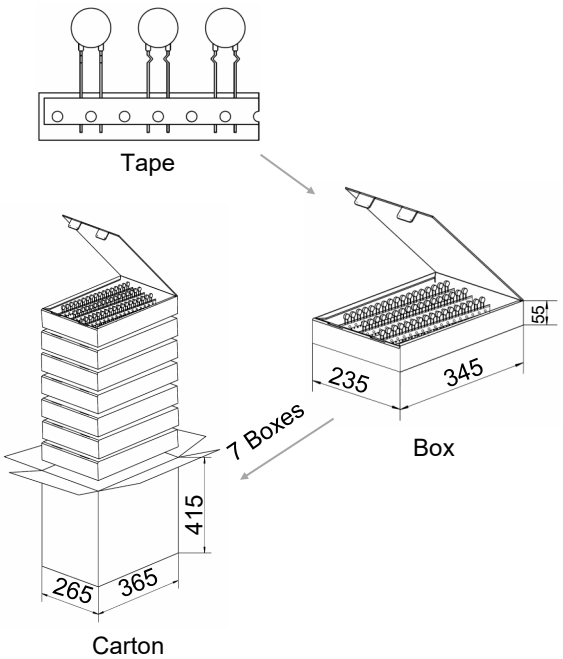
- Tape Packaging (Code: 1AB)



Dimensions (mm)	
P	25.4±1.0
P_1	12.7±0.3
P_2	12.7±1.3
P_3	8.95±0.7
ΔP(max.)	1.0
W	18.0±1.0
W_1	9.0±1.0
W_2(max.)	3.0
W_3	10.0±2.0
H(max.)	18.5
H_1	18.0
H_2(max.)	40.0 $^{+2.0}_{-0}$
H_3	18.0
H_4(max.)	42.0 $^{+2.0}_{-0}$
Δh(max.)	2.0
t (max.)	0.6
D(max.)	16.5
D_0	4.0±0.2
d	0.80±0.05
A(max.)	21.5
F	7.5±0.5
L(min.)	/

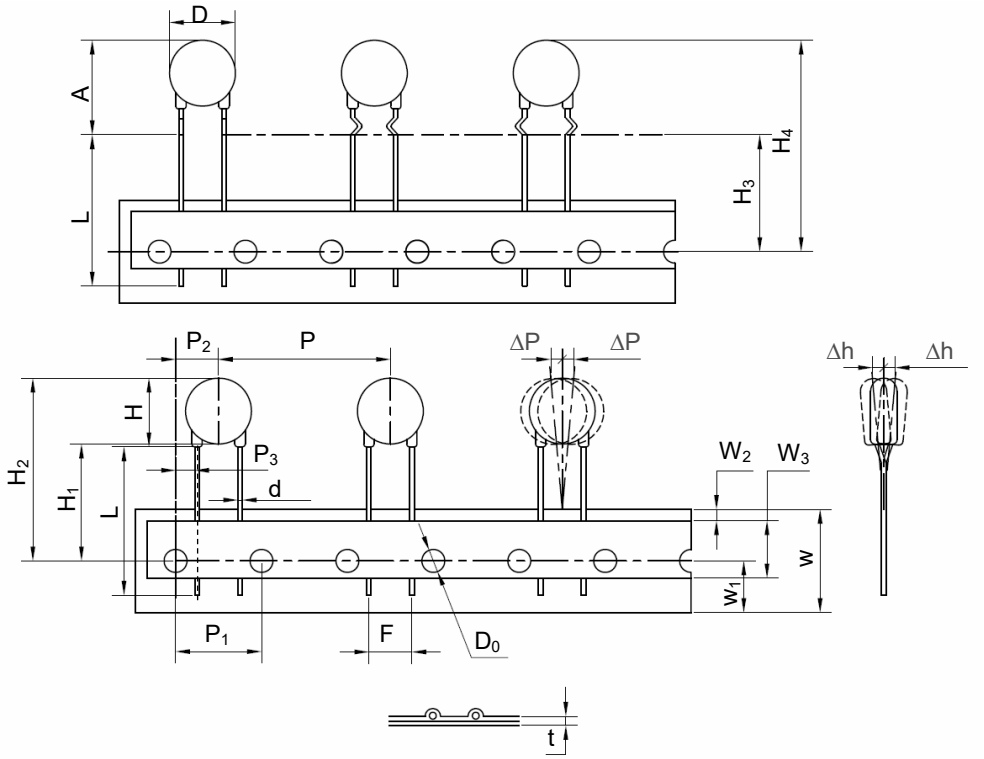
- Tape Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	Box	Carton	G. W / Carton (365 × 265 × 415)
14D	(V)	(PCS)	(PCS)	(kg)±10%
	112 ~ 122	250	1750	10 ~ 12
	681 ~ 102	300	2100	9 ~ 12
	471 ~ 621	400	2800	9 ~ 11
	301 ~ 431	500	3500	8 ~ 10
	680			9
	390 ~ 560	600	4200	7 ~ 9
	820 ~ 271			6 ~ 9
	220 ~ 330	700	4900	6 ~ 8



Packaging Information

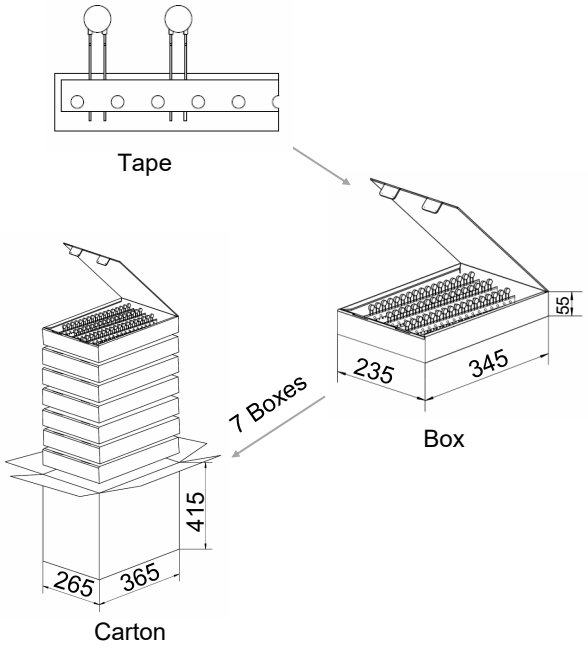
- Tape Packaging (Code: 0EB)



Dimensions (mm)	
P	30.0±1.0
P_1	15.0±0.3
P_2	7.5±1.3
P_3	3.75±0.7
ΔP(max.)	1.0
W	18.0±1.0
W_1	9.0±1.0
W_2(max.)	3.0
W_3	10.0±2.0
H(max.)	18.5
H_1	18.0
H_2(max.)	40.0 $^{+2.0}_{-0}$
H_3	18.0
H_4(max.)	42.0 $^{+2.0}_{-0}$
Δh(max.)	2.0
t (max.)	0.6
D(max.)	16.5
D_0	4.0±0.2
d	0.80±0.05
A(max.)	21.5
F	7.5±0.5
L(min.)	/

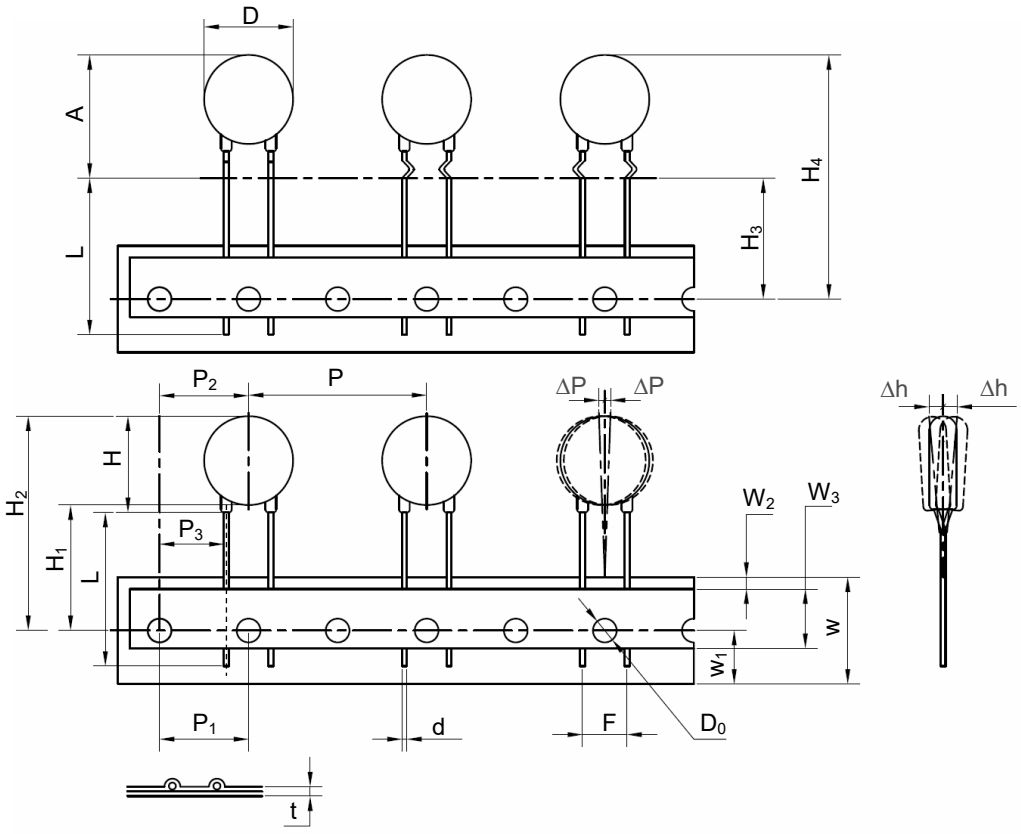
- Tape Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	Box	Carton	G. W / Carton (365 × 265 × 415)
14D	(V)	(PCS)	(PCS)	(kg)±10%
	112 ~ 122	200	1400	8 ~ 9
	821 ~ 102	250	1750	8 ~ 9
	681 ~ 751	300	2100	8 ~ 9
	511 ~ 621	350	2450	8 ~ 9
	391 ~ 471			7 ~ 9
	301 ~ 361	450	3150	7 ~ 9
	680			9
	241 ~ 271	500	3500	6 ~ 7
	151			7
	470 ~ 560			6 ~ 8
	181 ~ 221	550	3850	6 ~ 7
	101 ~ 121			
	330 ~ 390			
	820	600	4200	6
	220 ~ 270			5 ~ 6



Packaging Information

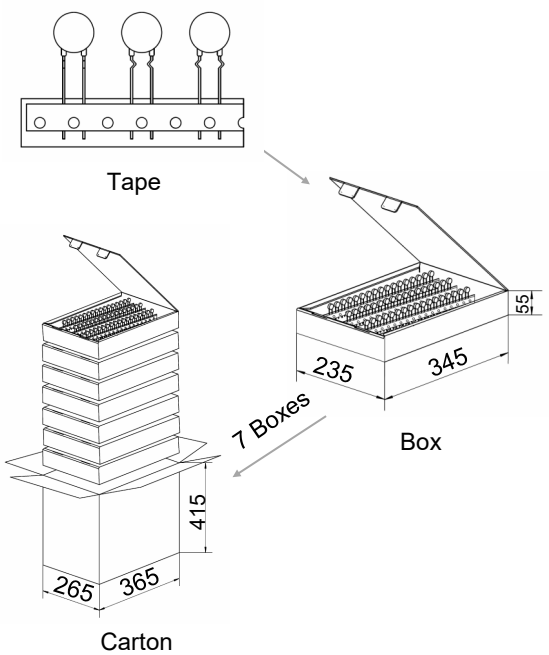
- Tape Packaging (Code: 1EB)



Dimensions (mm)	
P	30.0±1.0
P_1	15.0±0.3
P_2	15.0±1.3
P_3	11.25±0.7
ΔP(max.)	1.0
W	18.0±1.0
W_1	9.0±1.0
W_2(max.)	3.0
W_3	10.0±2.0
H(max.)	18.5
H_1	18.0
H_2(max.)	40.0 $^{+2.0}_{-0}$
H_3	18.0
H_4(max.)	42.0 $^{+2.0}_{-0}$
Δh(max.)	2.0
t (max.)	0.6
D(max.)	16.5
D_0	4.0±0.2
d	0.80±0.05
A(max.)	21.5
F	7.5±0.5
L(min.)	/

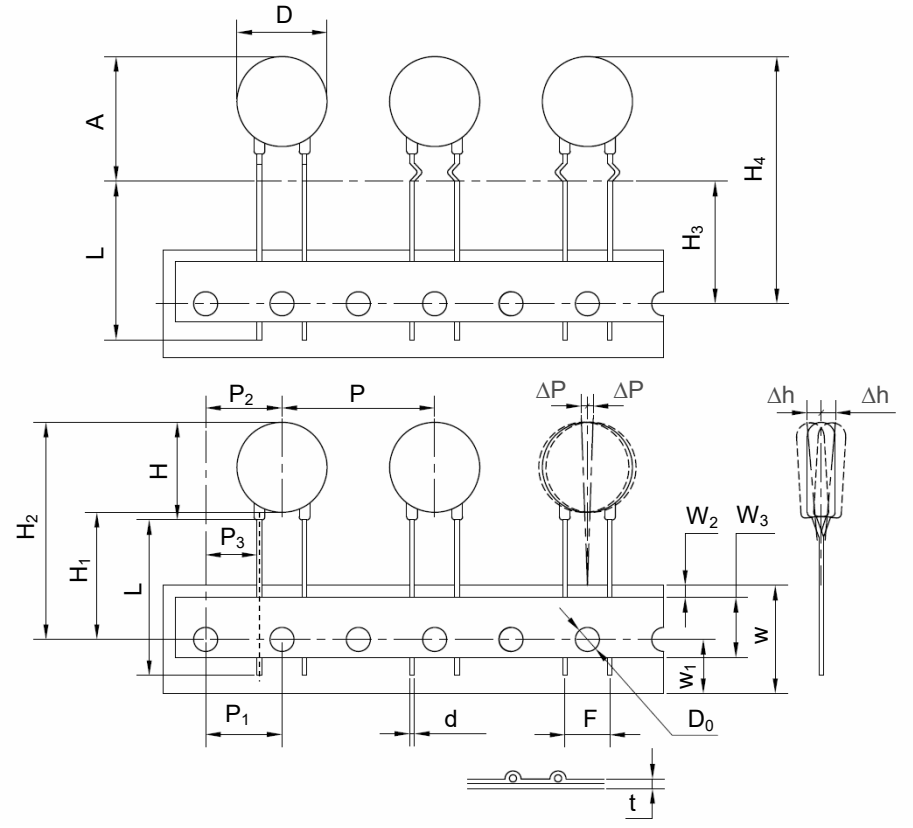
- Tape Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	Box	Carton	G. W / Carton (365 × 265 × 415)
14D	(V)	(PCS)	(PCS)	(kg)±10%
	112 ~ 122	200	1400	8 ~ 9
	821 ~ 102	250	1750	8 ~ 9
	681 ~ 751	300	2100	8 ~ 9
	511 ~ 621	350	2450	8 ~ 9
	391 ~ 471			7 ~ 9
	301 ~ 361	450	3150	7 ~ 9
	680			9
	241 ~ 271	500	3500	6 ~ 7
	151			7
	470 ~ 560			6 ~ 8
	181 ~ 221	550	3850	6 ~ 7
	101 ~ 121			
	330 ~ 390			
	820	600	4200	6
	220 ~ 270			5 ~ 6



Packaging Information

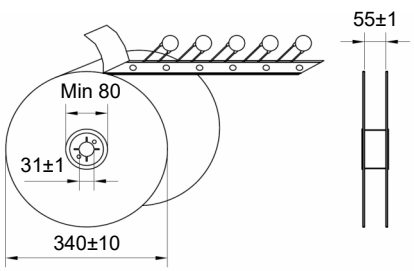
- Tape Packaging (Code: 1AR)

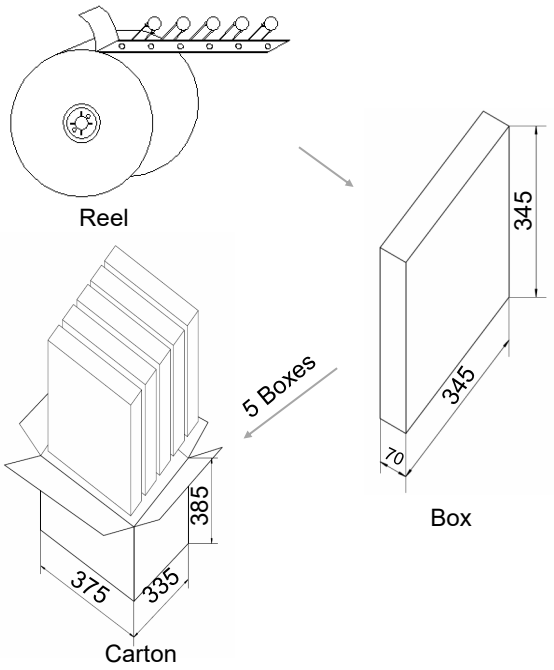


Dimensions (mm)	
P	25.4±1.0
P_1	12.7±0.3
P_2	12.7±1.3
P_3	8.95±0.7
ΔP(max.)	1.0
W	18.0±1.0
W_1	9.0±1.0
W_2(max.)	3.0
W_3	10.0±2.0
H(max.)	18.5
H_1	18.0
H_2(max.)	40.0 $^{+2.0}_{-0}$
H_3	18.0
H_4(max.)	42.0 $^{+2.0}_{-0}$
Δh(max.)	2.0
t (max.)	0.6
D(max.)	16.5
D_0	4.0±0.2
d	0.80±0.05
A(max.)	21.5
F	7.5±0.5
L(min.)	/

- Tape Packaging Quantity & Weight.

Series	Nominal Varistor Voltage	Box	Carton	G. W / Carton (375 × 335 × 385)
14D	(V)	(PCS)	(PCS)	(kg)±10%
	220 ~ 301	650	3250	4 ~ 8
	331 ~ 681	400	2000	4 ~ 8
	751 ~ 122	250	1250	5 ~ 8





Installation

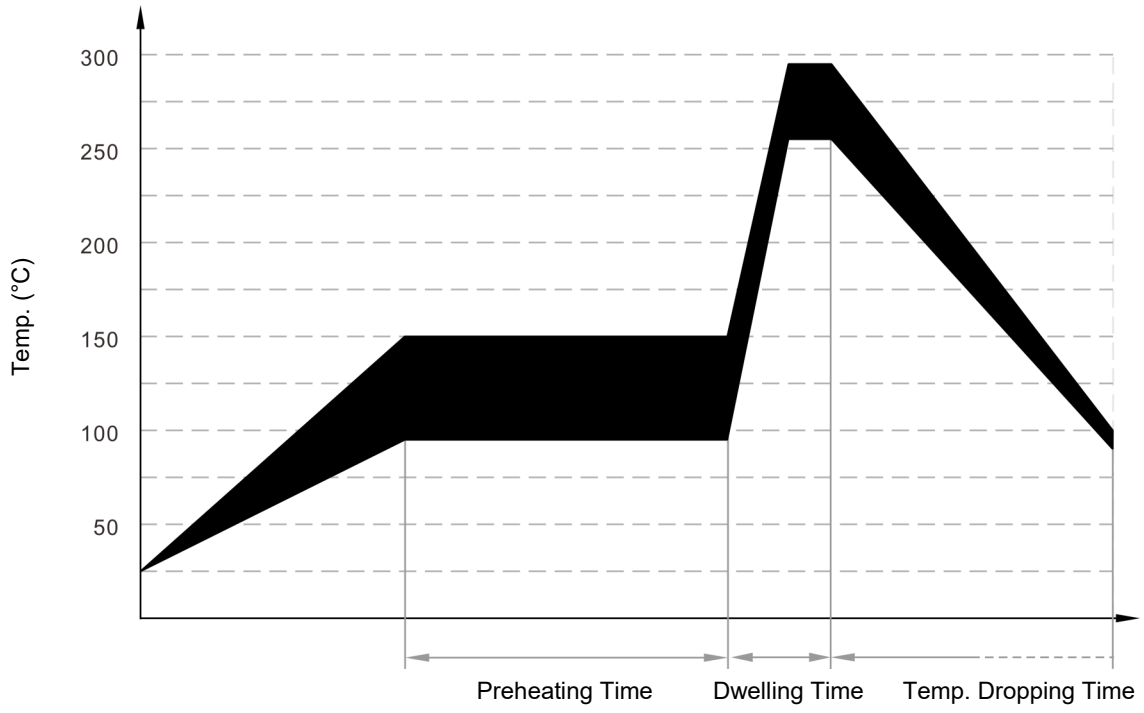
Mechanical Stress

Do not knock MOV when installing, to avoid mechanical damage.

Soldering Parameters

Wave Soldering Parameters

The wave soldering parameters are for reference only. When MOV is for practice use, some related validation is recommended.



Wave Soldering Curve

Item	Temp. (°C)	Time (s)
Preheating	90 to 150	<150
Dwelling	255 to 290	3 to 10

Recommended Hand-Soldering Parameters

Item	Condition
Temp. of Solder Head	350 °C (max.)
Soldering Time	4 seconds (max.)

Glossary

Item	Description
V_N	**Nominal Varistor Voltage** Voltage, at specified D.C. current used as a reference point in the component characteristics. — (GB 18802.331) — (IEC 61051-1)
I_L	**Leakage Current** Measuring at 75% of varistor voltage. — (GB/T 10193) — (IEC 61051-1)
UCT	**Upper Category Temp.** Max. ambient temp. for which a varistor has been designed to operate continuously. — (GB/T 10193) — (IEC 61051-1)
LCT	**Lower Category Temp.** Minimum ambient temp. at which a varistor has been designed to operate continuously. — (GB/T 10193) — (IEC 61051-1)
Max. Peak Current	**Max. Peak Current** Max. current per pulse, which may be passed by a varistor at an ambient temp. of 25 °C, for a given number of pulses. — (GB/T 10193) — (IEC 61051-1)
V_C	**Clamping Voltage** Peak voltage developed across the varistor terminations under standard atmospheric conditions, when passing an 8/20 μs class current pulse. — (GB 18802.331) — (IEC 61051-1)
Voltage Proof	**Voltage Proof** Max. peak voltage, which may be applied under continuous operating conditions between the varistor terminations and any conducting mounting surface (Applicable only to insulated varistors). — (GB/T 10193) — (IEC 61051-1)
C_V	**Capacitance** Capacitance across the MOV measured at a specified frequency and voltage. — (GB 18802.331) — (IEC 61051-1)
V_{ac}	**Max. Continuous a.c. Voltage** Max. a.c. r.m.s. voltage of a substantially sinusoidal waveform (less than 5% total harmonic distortion) which can be applied to the component under continuous operating conditions at 25 °C. — (GB/T 10193) — (IEC 61051-1)
V_{dc}	**Max. Continuous d.c. Voltage** Max. d.c. voltage (with less than 5% ripple) which can be applied to the component under continuous operating conditions at an ambient temp. of 25 °C. — (GB/T 10193) — (IEC 61051-1)
I_{max}	**Max. Discharge Current** Crest value of a current through the SPD having an 8/20 μs waveshape and magnitude according to the manufacturers specification. I_{max} is equal to or greater than I_n. — (GB 18802.1) — (IEC 61643-11)

ATTENTION

Usage

1. Varistor must operated in the specified ambient temp.
2. Do not clean the varistor with strong polar solvent such as ketone, esters, benzene and halogenated hydrocarbon.
3. Please do not apply severe vibration, shock or pressure to MOV.
4. Please fix lead wires when bending or cutting. The distance between the bending point and the sealing of MOV shall be greater than 2 mm.

Replacement

If varistor is visually damaged,please replace it.

Storage

1. Storage Temp. Range: (-40 to +125) °C.
2. Relative Humidity : ≤75% RH.
3. Altitude: <2000 m.
4. Do not store the MOV at the high temp., high humidity or corrosive gas environment, to avoid influencing the solder-ability of the lead wires, the product shall be used up within 1 year after receiving the goods.

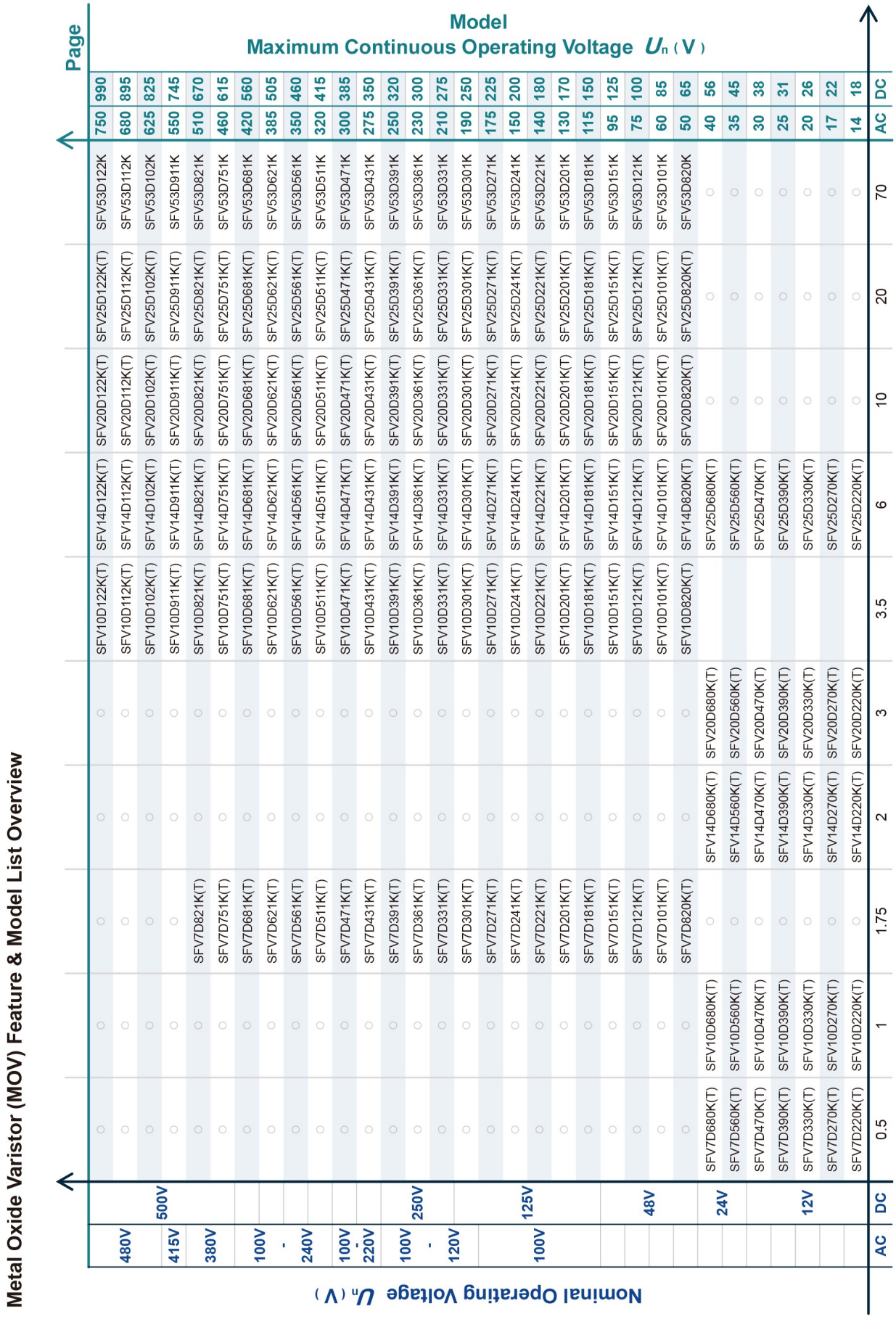
Environmental Conditions

1. Varistor should neither be exposed to the open air, nor direct sunshine.
2. Varistor should avoid rain, water vapor or other condition of high temp. and high humidity.
3. Varistor should avoid sand dust, salt spray, or other harmful gases.

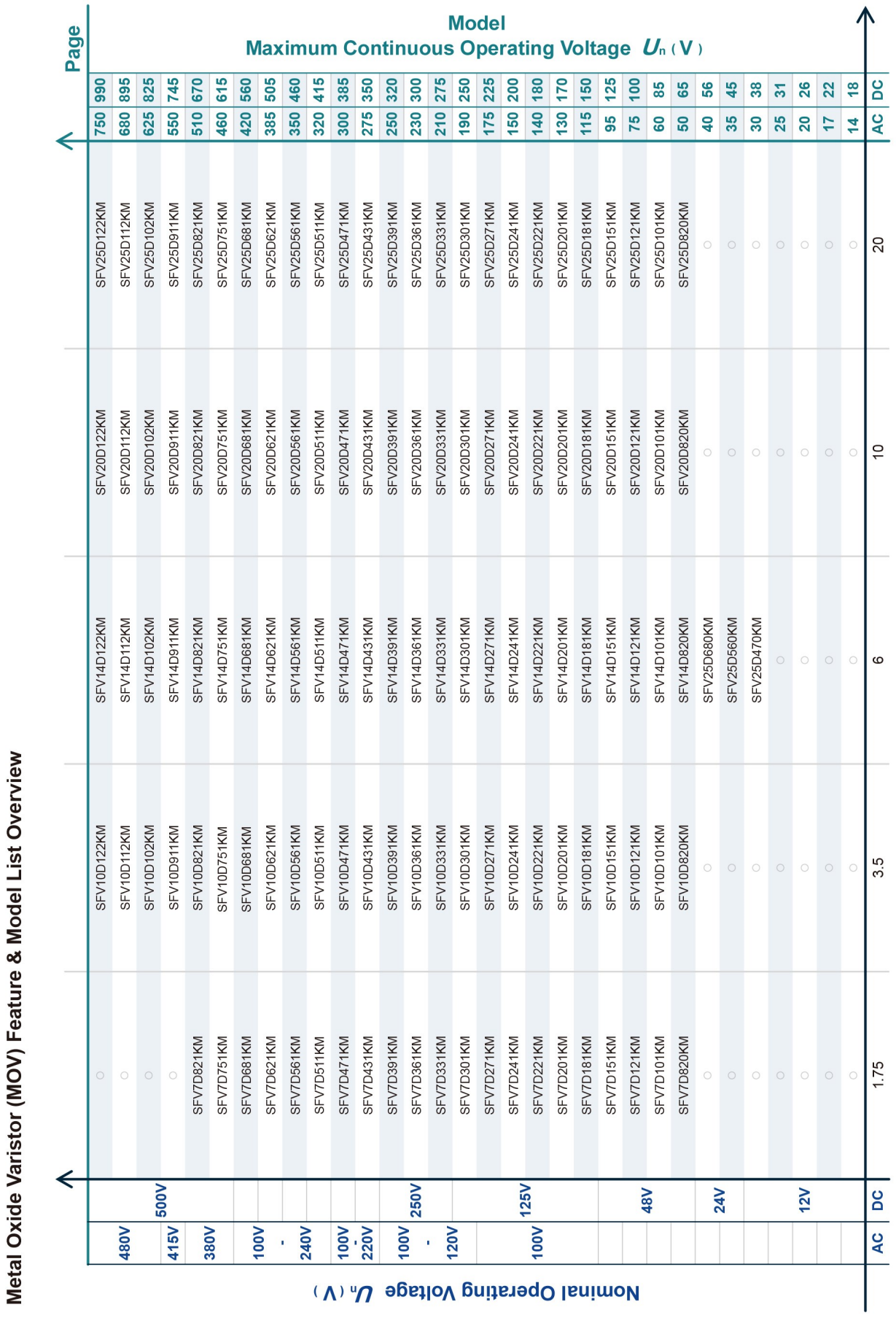
Max. Typical Capacitance of Varistor

The typical capacitance of varistor is listed in the specifications. Designers may refer to it when designing MOV in high frequency circuit.

Metal Oxide Varistor (MOV) Feature & Model List Overview



Metal Oxide Varistor (MOV) Feature & Model List Overview



Metal Oxide Varistor (MOV) Feature & Model List Overview