

METAL OXIDE VARISTOR (MOV)

How to Order

SR	241	K	10	D	S	40	X
Type code	Varistor Voltage	Tolerance	Disk Size Code	Disk Type	Lead Type or Taping Code	Lead Cutting	Special Request
SR: Walsin Varistor	(DC volt) (From 180 to 112) Two significant digits Followed by no. of zeros 180=18volt 101=100volt 102=1000volt	J:±5% K:±10%	05 : 5mm 07 : 7mm 10 : 10mm 14 : 14mm 18 : 18mm 20 : 20mm 25 : 25mm	D : Standard disk type E : High energy disk type V : Super high energy series	S : Straight Lead L : Inline Crimped O : Outward Crimped I : Inward Crimped Taping Code : Please refer to page 12 for taping codes.	Lead Cutting for Bulk Packing: 40=4.0±1.0mm 65=6.5±1.0mm P1=11±1.0mm No code ≥ 25mm	•Special lead cutting tolerance •Special leadspacing (Please see below) •Special varistor voltage range...etc

Varistor Special Request

F: 0.5mm lead length tolerance for short lead cutting
X: 7.5mm lead spacing for 20D and 20E (lead wire is 0.8mm diameter)
Z: 5mm lead spacing for 10D(E), 14D(E)
H: Special request

Varistor Part Number Examples :

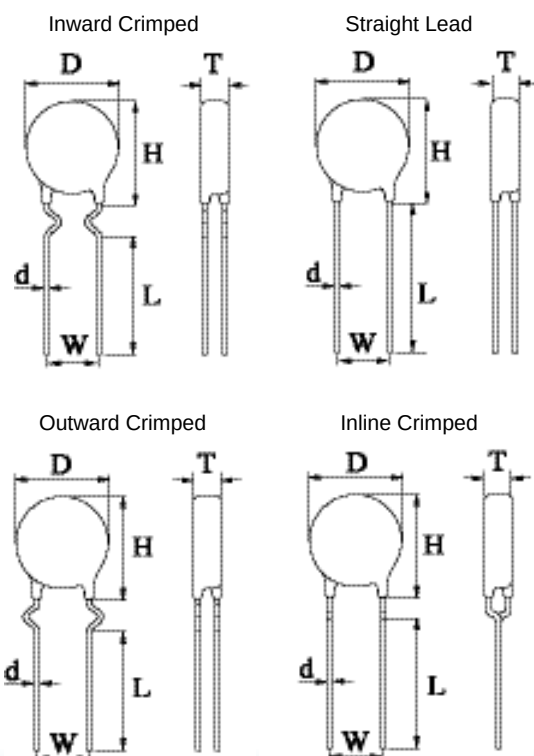
- Ex.1. SR241K07DIT14: 7mm, 241K, inward crimped lead and reel taped.
Ex.2. SR361K10DI45: 10mm, 361K, bulk packing, inward crimped lead, lead cutting length 4.5 ±1.0mm
Ex.3. SR621K20EOP2: 20mm, 621K, high energy, bulk, outward crimped lead, lead spacing 12mm±1.0mm.
Ex.4. SR271K20DO65X: 20mm, 271K, bulk, outward crimped lead, lead spacing 7.5 mm, lead cutting 6.5 ± 1.0mm
Ex.5. SR241K10DS40F: 10mm, 241K, bulk, straight lead, lead cutting 4.0 ± 0.5mm.

Dimensions Quick Reference : If specific item's dimensions, please contact sales

Series	5D,5E	7D,7E	10D,10E	14D,14E	18E	20D,20E	25D
Dmax	7.0	9.5	14.0	17.5	21.0	24.0	28.5
d*	0.6	0.6	0.8	0.8	0.8	1.0	1.0
W**	5.0	5.0	7.5	7.5	7.5	10.0	12.7
Hmax	10.0	12.0	17.0	20.5	24.0	28.0	34
Tmax	4.9	4.9	8.5	8.5	9.0	9.0	9.5

*±0.02 **±1.0

(Unit: mm)



Remark:

The lead length (L) is 25mm minimum unless requested by customers; please refer to lead cutting code in "How to Order".

METAL OXIDE VARISTOR (MOV)

Characteristics

- High performance transient voltage suppression
- Short response time to surge voltage
- Low standby power dissipation
- Excellent clamping characteristics
- High performance withstanding surge currents
- High reliability
- UL, CSA, VDE and CQC recognized

Definition of Varistor Terms

Rated RMS Voltage, Rated DC Voltage :

The maximum designated values of power system voltage that may be applied continuously between the terminals of a device.

Varistor Voltage :

Test characteristic that is used to classify varistors by type.

A test current of 1mA DC is typically used to determine varistor voltage classification type. Varistor voltage clamping characteristics can be defined at various test levels.

Rated Peak Single Pulse Transient Current :

Maximum surge current, 8/20 μ s waveform which a varistor is rated to withstand for a single surge.

Rated Single Pulse Transient Energy :

Maximum allowable energy for a single impulse (see specified waveforms).

Maximum Clamping Voltage :

Measured peak voltage across the device terminals when a current impulse of specified amplitude and waveform is conducted through the varistor.

Typical Capacitance :

Typical capacitance values are measured at a test frequency of 1kHz. Capacitance values are only for reference purpose only, not subject to outgoing inspection.

Applications

- Surge protection in:
 - Consumer electronics
 - Industrial electronics
 - Communication electronics
 - Measuring and controlling systems
 - Electronic home appliances
- Protection against surges induced by lightning striking incoming power lines.
- Suppression of surges caused by switching inductive loads such as transformers, relays and coils.
- Protection of rectification diodes, SCRs, power transistors, semiconductor devices, etc.

General Characteristics

Storage Temperature : -55°C to $+125^{\circ}\text{C}$

Operating Surface Temperature : 125°C

Operating Ambient Temperature : -55°C to $+85^{\circ}\text{C}$ (without derating)

Maximum Voltage-Temperature Coefficient : $< -0.05\% / ^{\circ}\text{C}$

Insulation Resistance : 1000 Mega-ohm minimum

Hi Pot (Leads To Case, 1 Min.) : 2500 VDC

Typical Response Time : < 15 Nano-seconds

Epoxy Rating : 94V-0

Current / Energy Derating ($> 85^{\circ}\text{C}$) : $-2.5\% / ^{\circ}\text{C}$

DC Leakage Current : 200 μ A maximum (at rated DC working voltage)

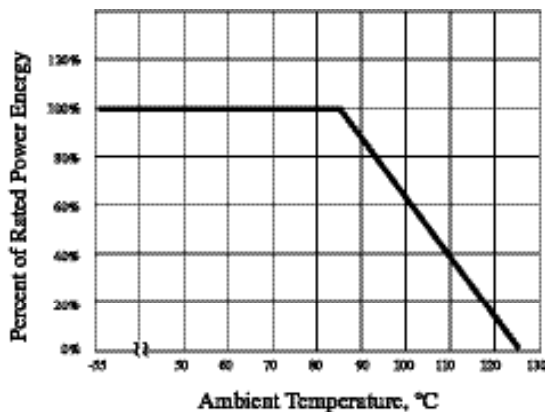
Solderability : MIL-STD-202F

Power Dissipation Ratings(P, in-watts) :

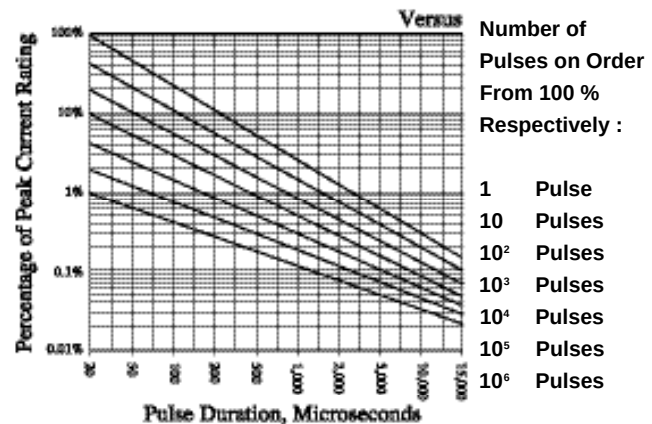
Disc Size	11Vac~40Vac	50Vac~680Vac
5mm	0.01	0.15
7mm	0.02	0.25
10mm	0.05	0.4
14mm	0.1	0.6
18mm	—	0.8
20mm	0.2	1.0
25mm	—	1.2
32mm	—	1.6
34mm(single)	—	2.1
34mm(dual)	—	2.73
40mm	—	2.1
53mm	—	2.5

All definitions are according to IEEE specifications C62.33.

Energy Derating Versus Temperature



Peak Current Per Pulse Versus Pulse Duration



VARISTORS – 5E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μs)	Max.Clamping Voltage (8/20 μs)		Maximum Energy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000μs	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K05E □□	50	66	74	90	800	135	5	3.5	355	○△
SR181K05E □□	120	160	170	207	800	320	5	8.0	130	○
SR201K05E □□	130	175	185	225	800	340	5	8.5	120	○△□☆
SR221K05E □□	140	180	198	242	800	360	5	9.0	110	○△□☆
SR241K05E □□	150	200	216	264	800	395	5	10.5	100	○△□☆
SR271K05E □□	180	230	255	311	800	475	5	11.0	90	○△□☆
SR301K05E □□	195	250	270	330	800	525	5	12.0	84	□
SR331K05E □□	210	275	297	363	800	540	5	13.0	75	○△□☆
SR361K05E □□	230	300	324	396	800	595	5	16.0	69	○ □☆
SR391K05E □□	250	330	351	429	800	650	5	17.0	63	○ □☆
SR431K05E □□	275	370	387	473	800	710	5	20.0	57	○ □☆
SR471K05E □□	300	385	423	517	800	775	5	21.0	50	○△□☆
SR511K05E □□	320	420	459	561	800	865	5	22.0	35	□
SR561K05E □□	360	470	522	638	800	960	5	23.0	32	□
SR621K05E □□	390	505	558	682	800	1040	5	25.0	30	□
SR681K05E □□	420	560	612	748	800	1120	5	26.0	27	□

VARISTORS – 7E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μs)	Max.Clamping Voltage (8/20 μs)		Maximum Energy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000μs	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K07E □□	50	66	74	90	1750	135	10	7.0	790	○△ ◇
SR181K07E □□	120	160	170	207	1750	320	10	16.0	210	○ ◇
SR201K07E □□	130	175	185	225	1750	340	10	17.5	200	○△□☆◇
SR221K07E □□	140	180	198	242	1750	360	10	19.0	190	○△□☆◇
SR241K07E □□	150	200	216	264	1750	395	10	21.0	170	○△□☆◇
SR271K07E □□	180	230	255	311	1750	475	10	24.0	150	○△□☆◇
SR301K07E □□	195	250	270	330	1750	525	10	26.0	140	□ ◇
SR331K07E □□	210	275	297	363	1750	540	10	28.0	130	○△□☆◇
SR361K07E □□	230	300	324	396	1750	595	10	32.0	123	○ □☆◇
SR391K07E □□	250	330	351	429	1750	650	10	35.0	116	○ □☆◇
SR431K07E □□	275	370	387	473	1750	710	10	40.0	108	○ □☆◇
SR471K07E □□	300	385	423	517	1750	775	10	42.0	100	○△□☆◇
SR511K07E □□	320	420	459	561	1750	865	10	46.0	78	□ ◇
SR561K07E □□	360	470	522	638	1750	960	10	47.0	75	□ ◇
SR611K07E □□	390	505	558	682	1750	1040	10	51.0	72	□ ◇
SR681K07E □□	420	560	612	748	1750	1120	10	57.0	69	□ ◇

Remark :

- : Suffix adding; please refer “How to Order” for details.
- All parts approved for 5E~20E as follows:
 - : **UL 1449** recognized (File # E172311).
 - △ : **UL 497B** recognized (File # E199593).
 - : **UL 1414** recognized (File # E182369).
 - ☆ : **CSA22.2 #1** certified (Certificate # 1129226).
 - ◇ : **VDE/CECC 42000/42200/42201** (Certificate # 40003435), VDE approval of O5E and 20E series is pending.
 - CQC** recognized for all E series (CQC04001010926 ~ CQC04001010932).
- ☆ Varistor voltage: All series are measured at @ 1mA DC pulse current.

VARISTORS – 10E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μ s)	Max.Clamping Voltage (8/20 μ s)		Maximum Energy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000 μ s	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K10E □□	50	66	74	90	3500	135	25	14.0	1780	○△◇
SR181K10E □□	120	160	170	207	3500	320	25	33.0	460	○◇
SR201K10E □□	130	175	185	225	3500	340	25	35.0	430	○△□☆◇
SR221K10E □□	140	180	198	242	3500	360	25	39.0	410	○△□☆◇
SR241K10E □□	150	200	216	264	3500	395	25	42.0	380	○△□☆◇
SR271K10E □□	180	230	255	311	3500	475	25	49.0	350	○△□☆◇
SR301K10E □□	195	250	270	330	3500	525	25	53.0	320	□◇
SR331K10E □□	210	275	297	363	3500	540	25	58.0	300	○△□☆◇
SR361K10E □□	230	300	324	396	3500	595	25	65.0	285	○□☆◇
SR391K10E □□	250	330	351	429	3500	650	25	70.0	270	○□☆◇
SR431K10E □□	275	370	387	473	3500	710	25	80.0	255	○□☆◇
SR471K10E □□	300	385	423	517	3500	775	25	85.0	230	○△□☆◇
SR511K10E □□	320	420	459	561	3500	865	25	92.0	210	○△□☆◇
SR561K10E □□	360	470	522	638	3500	960	25	97.0	170	○□☆◇
SR621K10E □□	390	505	558	682	3500	1040	25	107.0	146	□☆◇
SR681K10E □□	420	560	612	748	3500	1120	25	110.0	136	□☆◇
SR751K10E □□	460	615	675	825	3500	1240	25	115.0	124	□☆◇
SR781K10E □□	485	640	702	858	3500	1290	25	120.0	120	□☆◇
SR821K10E □□	510	675	738	902	3500	1350	25	125.0	110	○△□☆◇
SR911K10E □□	550	745	819	1001	3500	1400	25	130.0	90	○□☆◇
SR102K10E □□	625	725	900	1100	3500	1620	25	145.0	80	□◇
SR112K10E □□	680	895	962	1175	3500	1815	25	155.0	70	○□◇

VARISTORS – 14E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μ s)	Max.Clamping Voltage (8/20 μ s)		Maximum Energy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000 μ s	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K14E □□	50	66	74	90	6000	135	50	28.0	3310	○△◇
SR181K14E □□	120	160	170	207	6000	320	50	56.0	800	○◇
SR201K14E □□	130	175	185	225	6000	340	50	70.0	770	○△□☆◇
SR221K14E □□	140	180	198	242	6000	360	50	78.0	740	○△□☆◇
SR241K14E □□	150	200	216	264	6000	395	50	84.0	700	○△□☆◇
SR271K14E □□	180	230	255	311	6000	475	50	99.0	640	○△□☆◇
SR301K14E □□	195	250	270	330	6000	525	50	107.0	620	□◇
SR331K14E □□	210	275	297	363	6000	540	50	115.0	580	○△□☆◇
SR361K14E □□	230	300	324	396	6000	595	50	140.0	540	○□☆◇
SR391K14E □□	250	330	351	429	6000	650	50	150.0	500	○□☆◇
SR431K14E □□	275	370	387	473	6000	710	50	165.0	460	○□☆◇
SR471K14E □□	300	385	423	517	6000	775	50	175.0	400	○△□☆◇
SR511K14E □□	320	420	459	561	6000	865	50	190.0	350	○△□☆◇
SR561K14E □□	360	470	522	638	6000	960	50	210.0	320	○□☆◇
SR621K14E □□	390	505	558	682	6000	1040	50	215.0	270	□☆◇
SR681K14E □□	420	560	612	748	6000	1120	50	225.0	250	□☆◇
SR751K14E □□	460	615	675	825	6000	1240	50	230.0	230	□☆◇
SR781K14E □□	485	640	702	858	6000	1290	50	235.0	210	□☆◇
SR821K14E □□	510	675	738	902	6000	1350	50	240.0	190	○△□☆◇
SR911K14E □□	550	745	819	1001	6000	1400	50	255.0	170	○□☆◇
SR102K14E □□	625	725	900	1100	6000	1620	50	290.0	165	□◇
SR112K14E □□	680	895	962	1175	6000	1815	50	310.0	140	○□◇

VARISTORS – 18E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μs)	Max.Clamping Voltage (8/20 μs)		Maximum Engergy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000μs	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K18E □□	50	66	74	90	8000	135	75	46	3500	○ ◇
SR181K18E □□	120	160	170	207	9000	320	75	70	1600	○ ◇
SR201K18E □□	130	175	185	225	9000	340	75	130	1270	○△□☆◇
SR221K18E □□	140	180	198	242	9000	360	75	135	1220	○△□☆◇
SR241K18E □□	150	200	216	264	9000	395	75	140	1200	○△□☆◇
SR271K18E □□	180	230	255	311	9000	475	75	150	1050	○△□☆◇
SR301K18E □□	195	250	270	330	9000	525	75	170	1010	□☆◇
SR331K18E □□	210	275	297	363	9000	540	75	190	950	○△□☆◇
SR361K18E □□	230	300	324	396	9000	595	75	215	870	○△□☆◇
SR391K18E □□	250	330	351	429	9000	650	75	240	800	○△□☆◇
SR431K18E □□	275	370	387	473	9000	710	75	260	730	○△□☆◇
SR471K18E □□	300	385	423	517	9000	775	75	290	660	○△□☆◇
SR511K18E □□	320	420	459	561	9000	865	75	314	570	○△□☆◇
SR561K18E □□	360	470	522	638	9000	960	75	320	520	○△□☆◇
SR621K18E □□	390	505	558	682	9000	1040	75	330	470	○△□☆◇
SR681K18E □□	420	560	612	748	9000	1120	75	340	430	○△□☆◇
SR751K18E □□	460	615	675	825	9000	1240	75	360	390	○△□☆◇
SR781K18E □□	485	640	702	858	9000	1290	75	365	370	○△□☆◇
SR821K18E □□	510	675	738	902	9000	1350	75	388	310	○△□☆◇
SR911K18E □□	550	745	819	1001	9000	1400	75	405	280	○ □☆◇
SR102K18E □□	625	725	900	1100	9000	1620	75	450	250	○ □☆◇
SR112K18E □□	680	895	962	1175	9000	1815	75	500	230	○ □☆◇

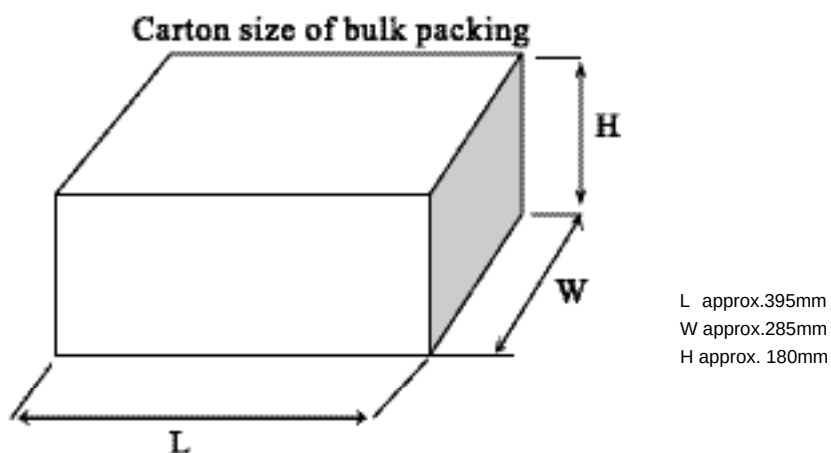
VARISTORS – 20E SERIES

Part Number	Maximum Allowable Voltage		Varistor Voltage		Withstanding Surge Current (8/20 μs)	Max.Clamping Voltage (8/20 μs)		Maximum Energy	Typical Capacitance	Safety Approval
	ACrms	DC	DC Volts		1 time	Vc	Ip	10/1000μs	@1kHz	
	Volts	Volts	Min	Max	Amps	Volts	Amps	Joules	PF	
SR820K20E □□	50	66	74	90	10000	135	100	56	5300	○△ ◇
SR181K20E □□	120	160	170	207	12000	320	100	135	1800	○ ◇
SR201K20E □□	130	175	185	225	12000	340	100	140	1700	○△□ ◇
SR221K20E □□	140	180	198	242	12000	360	100	155	1600	○△□☆◇
SR241K20E □□	150	200	216	264	12000	395	100	170	1500	○△□☆◇
SR271K20E □□	180	230	255	311	12000	455	100	190	1300	○△□☆◇
SR301K20E □□	195	250	270	330	12000	505	100	210	1200	○ □☆◇
SR331K20E □□	210	275	297	363	12000	545	100	228	1100	○△□☆◇
SR361K20E □□	230	300	324	396	12000	595	100	275	1050	○ □☆◇
SR391K20E □□	250	330	351	429	12000	650	100	305	1000	○ □☆◇
SR431K20E □□	275	370	387	473	12000	710	100	330	950	○ □☆◇
SR471K20E □□	300	385	423	517	12000	775	100	350	900	○△□☆◇
SR511K20E □□	320	420	459	561	12000	840	100	382	800	○△□☆◇
SR561K20E □□	360	470	522	638	12000	910	100	395	760	○ □☆◇
SR621K20E □□	390	505	558	682	12000	1025	100	410	710	○ □☆◇
SR681K20E □□	420	560	612	748	12000	1120	100	423	670	○ □☆◇
SR751K20E □□	460	615	675	825	12000	1240	100	435	620	○ □☆◇
SR781K20E □□	485	640	702	858	12000	1240	100	450	580	○ □☆◇
SR821K20E □□	510	675	738	902	12000	1350	100	460	530	○△□☆◇
SR911K20E □□	550	745	819	1001	12000	1400	100	510	470	○ □☆◇
SR102K20E □□	625	725	900	1100	12000	1620	100	560	425	○ □☆◇
SR112K20E □□	680	895	962	1175	12000	1800	100	620	380	○ □☆◇

PACKING METHOD (5 ϕ - 25 ϕ SERIES)

A. Bulk Packing :

Disk size mm	Voltage BDV	Q'ty pcs/bag	Q'ty pcs/Carton
Diameter 05	All	1000	10000
Diameter 07	All	500	5000
Diameter 10	180K-471K	500	5000
	Above 511K	300	3000
Diameter 14	180K-751K	300	3000
	Above 781K	200	2000
Diameter 18	All	200	2000
Diameter 20	180K-621K	100	1000
	Above 681K	50	500
Diameter 25	180K-621K	50	500
	Above 681K	30	300



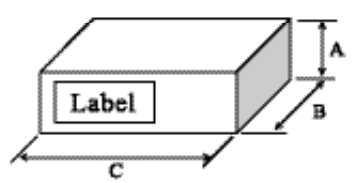
B. Tape and Reel :

Disk size	Varistor Voltage	AMMO BOX		REEL		
		PCS / BOX	BOX / CARTON	PCS / REEL	REELS / BOX	BOX / CARTON
5 ϕ	$\leq 431K$	1500	10	1500	2	5
5 ϕ	$\geq 471K$	1000	10	1000	2	5
7 ϕ	$\leq 431K$	1500	10	1500	2	5
7 ϕ	$\geq 471K$	1000	10	1000	2	5
10 ϕ	$\leq 431K$	500	10	500	2	5
10 ϕ	$\geq 471K$	300	10	300	2	5
14 ϕ	$\leq 431K$	500	10	500	2	5
14 ϕ	$\geq 471K$	300	10	300	2	5
18 ϕ	$\leq 431K$	500	10	500	2	5
18 ϕ	$\geq 471K$	300	10	300	2	5
20 ϕ	$\leq 431K$	500	10	500	2	5
20 ϕ	$\geq 471K$	300	10	300	2	5

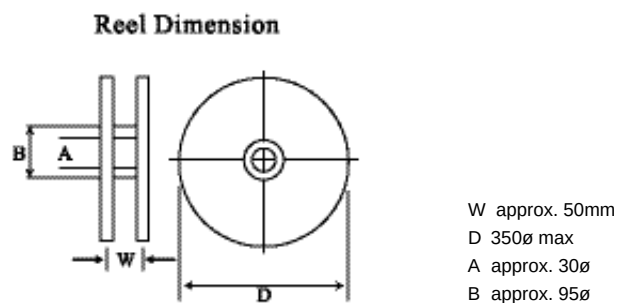
Note: Ammo box and reel quantities may vary. Please contact sales for details.

■ Dimensions of Ammo Box and Reel :

Ammo Dimension



Disk size	A (max.)	B (max.)	C (max.)
5 ϕ	50mm	270mm	350mm
7 ϕ	50mm	270mm	350mm
10 ϕ	70mm	270mm	370mm
14 ϕ	70mm	270mm	370mm
18 ϕ , 20 ϕ	70mm	270mm	370mm

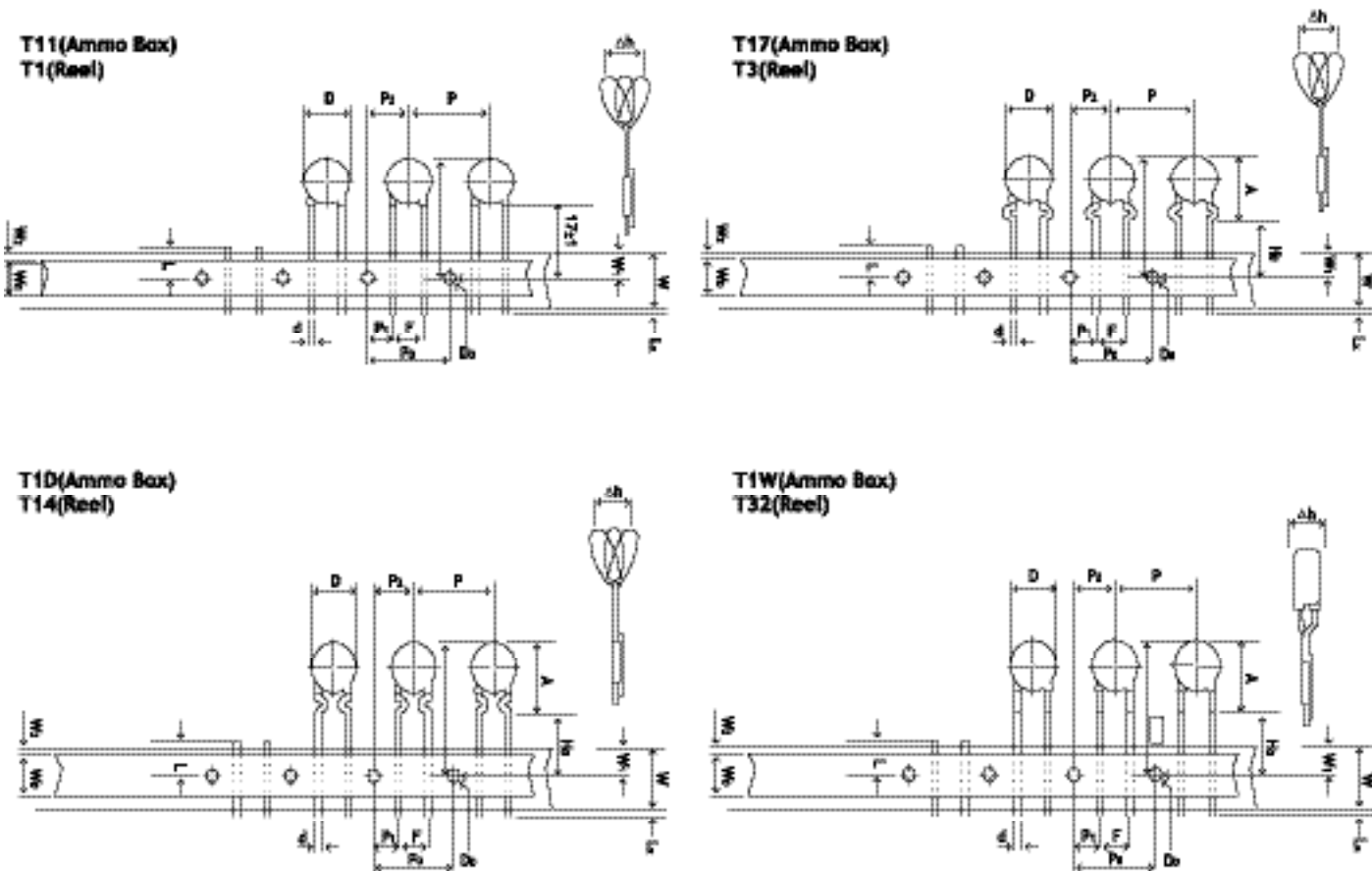


■ Taping Code :

Varistor series	Lead spacing	Packing type	Lead type			
			Straight	Outward crimped	Inward crimped	Inline crimped
5D, 5E	5 mm	Ammo Reel	T11	T17	T1D	T1W
			T1	T3	T14	T32
7D, 7E	5 mm	Ammo Reel	T11	T17	T1D	T1W
			T1	T3	T14	T32
10D, 10E	7.5 mm	Ammo Reel	T36	T1U	T8	T43
			T19	T1N	T16	T4
14D, 14E	7.5 mm	Ammo Reel	T36	T1U	T8	T43
			T19	T1N	T16	T4
20D, 20E (18E)	7.5 mm	Ammo Reel	T44	T45	T40	T2
			T1H	T1X	T4X	T25
	10 mm	Ammo Reel	T5	T50	T35	T60
			T30	T2X	T2D	T3X

For 18E Series, we provide 7.5mm lead spacing only.

TAPING SPECIFICATIONS - 5ø AND 7ø



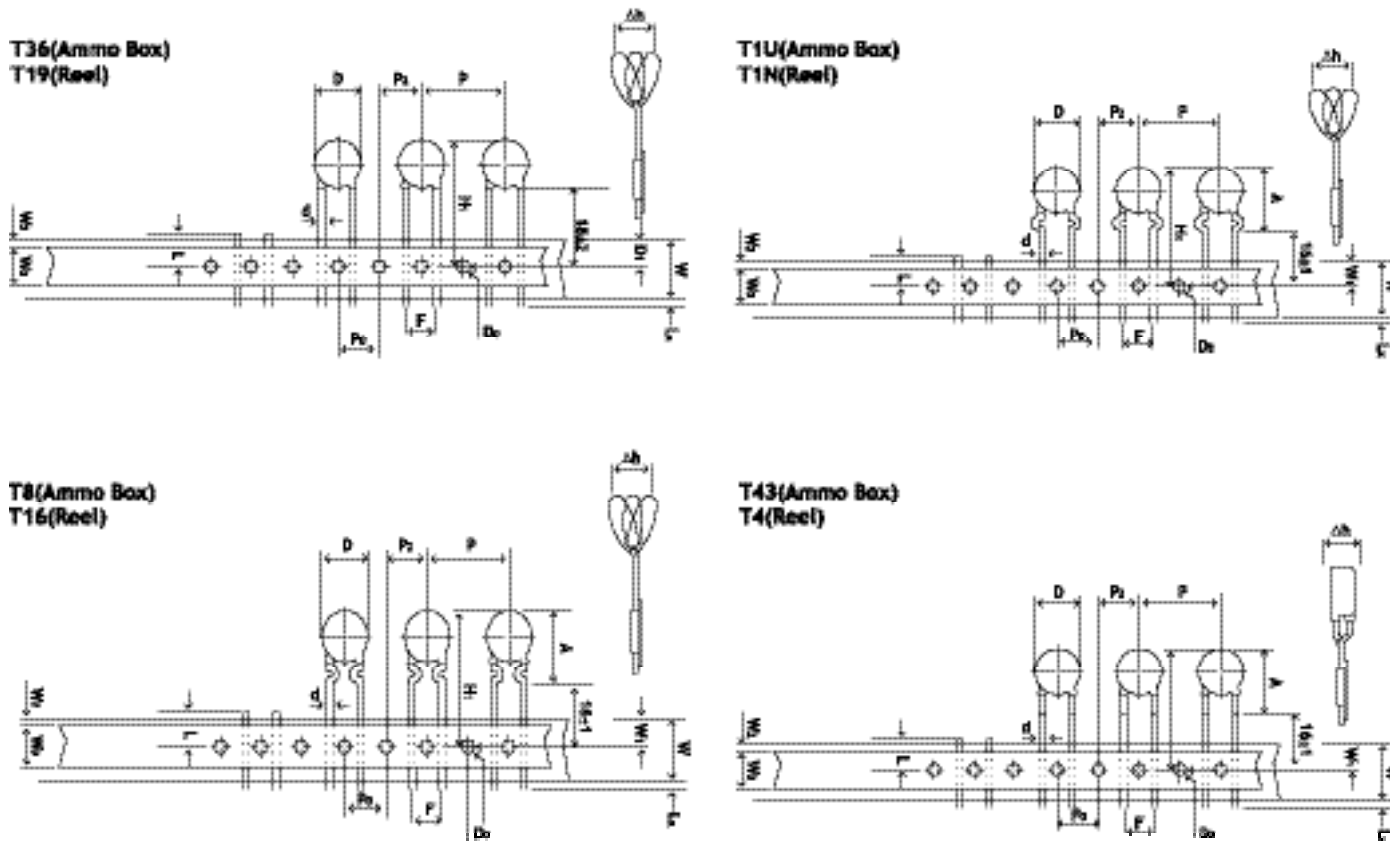
Item		Disk Size					
		5ø (5D, 5E)			7ø (7D, 7E)		
Taping Code		T11, T1	T17, T3, T14, T1D	T32, T1W	T11, T1	T17, T3, T14, T1D	T32, T1W
Body Diameter	D	7Max	7Max	7Max	9Max	9Max	9Max
Lead Wire Diameter	d	0.6	0.6	0.6	0.6	0.6	0.6
Pitch of Component	P	12.7 ± 1	12.7 ± 1	12.7 ± 1	12.7 ± 1	12.7 ± 1	12.7 ± 1
Feed Hole Pitch	P ₀	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3
Feed Hole Center to Lead	P ₁	3.85 ± 0.7	3.85 ± 0.7	3.85 ± 0.7	3.85 ± 0.7	3.85 ± 0.7	3.85 ± 0.7
Lead to Lead Distance (Center to Center)	F	5.0 ± 0.8	5.0 ± 0.8	5.0 ± 0.8	5.0 ± 0.8	5.0 ± 0.8	5.0 ± 0.8
Component Alignment	Δh	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max
Base paper Tape Width	W	18*	18*	18*	18*	18*	18*
Adhesive Tape Width	W ₀	10Min	10Min	10Min	10Min	10Min	10Min
Hole Position	W ₁	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5
Adhesive Tape Border	W ₂	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max
Component Height	H ₁	30Max	30Max	30Max	32Max	32Max	30Max
Lead-Wire Clinch Height	H ₀	—	16 ± 0.5	16 ± 0.5	—	16 ± 0.5	16 ± 0.5
Lead-Wire Protrusion	L _x	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max
Feed Hole Diameter	D ₀	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2
Total Tape Thickness	t	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Length of Clipped Lead	L	11Max	11Max	11Max	11Max	11Max	11Max
Component Height from Seating Plane	A	—	13Max	13Max	—	15Max	15Max
Hole Center to Component Center	P ₂	6.35 ± 0.7	6.35 ± 0.7	6.35 ± 0.7	6.35 ± 0.7	6.35 ± 0.7	6.35 ± 0.7

Based on EIA-468-B Specification

All dimensions are in millimeters.

* Tolerances are +1.0 and -0.5

TAPING SPECIFICATIONS - 10ø AND 14ø



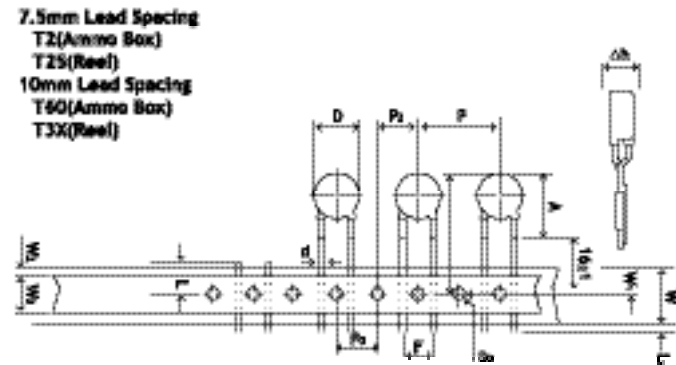
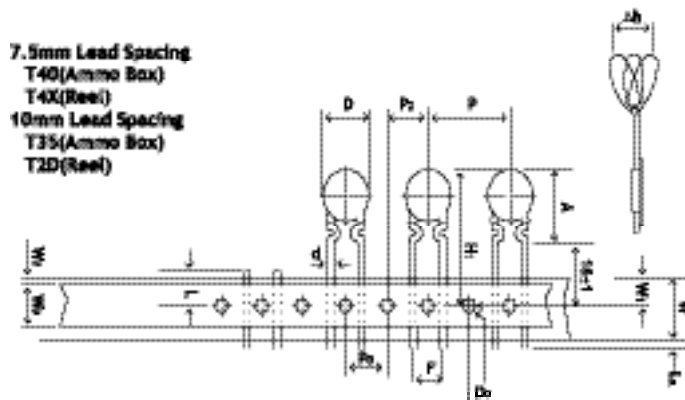
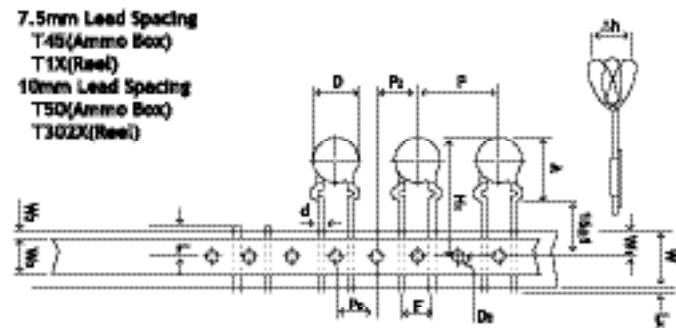
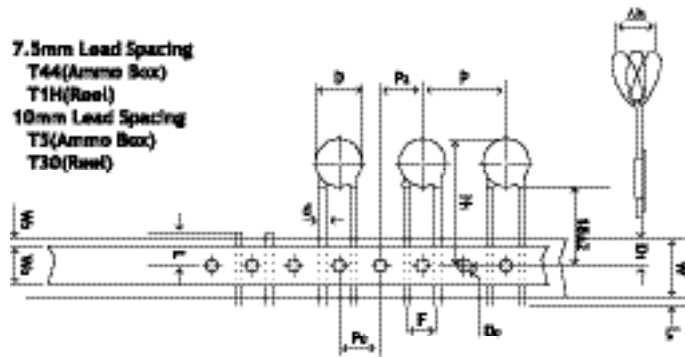
Item		Disk Size					
		10ø (10D, 10E)			14ø (14D, 14E)		
Taping Code		T19, T36	T1N, T1U, T8, T16	T43, T4	T19, T36	T1N, T1U, T8, T16	T43, T4
Body Diameter	D	14Max	14Max	14Max	17.5Max	17.5Max	17.5Max
Lead Wire Diameter	d	0.8 ± 0.05	0.8 ± 0.05	0.8 ± 0.05	0.8 ± 0.05	0.8 ± 0.05	0.8 ± 0.05
Pitch of Component	P	25.4 ± 1	25.4 ± 1	25.4 ± 1	25.4 ± 1	25.4 ± 1	25.4 ± 1
Hole Center to Component Center	P ₂	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3
Feed Hole Pitch	P ₀	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.3
Lead to Lead Distance (Center to Center)	F	7.5 ± 0.8	7.5 ± 0.8	7.5 ± 0.8	7.5 ± 0.8	7.5 ± 0.8	7.5 ± 0.8
Component Alignment	Δ h	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max
Base paper Tape Width	W	18*	18*	18*	18*	18*	18*
Adhesive Tape Width	W ₀	10Min	10Min	10Min	10Min	10Min	10Min
Hole Position	W ₁	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5
Adhesive Tape Border	W ₂	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max
Component Height	H ₁	33Max	38.5Max	35.5Max	37Max	40Max	40Max
Lead-Wire Protrusion	L _x	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max
Feed Hole Diameter	D ₀	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2	4 ± 0.2
Total Tape Thickness	t	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Length of Clipped Lead	L	11Max	11Max	11Max	11Max	11Max	11Max
Component Height from Seating Plane	A	—	19.5Max	19.5Max	—	22.5Max	22.5Max

Based on EIA-468-B Specification

All dimensions are in millimeters.

* Tolerances are +1 and -0.5

TAPING SPECIFICATIONS - 18 ϕ AND 20 ϕ



Item		Disk Size					
		20 ϕ (20D, 20E), 18 ϕ (18E)			20 ϕ (20D, 20E)		
		Lead Spacing 7.5 mm			Lead Spacing 10.0 mm		
Taping Code		T44, T1H	T45, T1X, T40, T4X	T2, T25	T5, T30	T50, T2X, T35, T2D	T60, T3X
Body Diameter	D	24Max**	24Max**	24Max**	24Max	24Max	24Max
Lead Wire Diameter	d	0.8 $\pm$ 0.1	0.8 $\pm$ 0.1	0.8 $\pm$ 0.1	1.0 $\pm$ 0.1	1.0 $\pm$ 0.1	1.0 $\pm$ 0.1
Pitch of Component	P	25.4 $\pm$ 1	25.4 $\pm$ 1	25.4 $\pm$ 1	25.4 $\pm$ 1	25.4 $\pm$ 1	25.4 $\pm$ 1
Feed Hole Pitch	P0	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3
Hole Center to Component Center	P2	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3	12.7 $\pm$ 0.3
Lead to Lead Distance (Center to Center)	F	7.5 $\pm$ 0.8	7.5 $\pm$ 0.8	7.5 $\pm$ 0.8	10.0 $\pm$ 1.0	10.0 $\pm$ 1.0	10.0 $\pm$ 1.0
Component Alignment	Δh	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max	2.0Max
Base paper Tape Width	W	18*	18*	18*	18*	18*	18*
Adhesive Tape Width	W0	10Min	10Min	10Min	10Min	10Min	10Min
Hole Position	W1	9 $\pm$ 0.5	9 $\pm$ 0.5	9 $\pm$ 0.5	9 $\pm$ 0.5	9 $\pm$ 0.5	9 $\pm$ 0.5
Adhesive Tape Border	W2	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max	1.5Max
Component Height	H1	48Max**	48Max**	48Max**	48Max	48Max	48Max
Lead-Wire Protrusion	LX	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max	1.0Max
Feed Hole Diameter	D0	4 $\pm$ 0.2	4 $\pm$ 0.2	4 $\pm$ 0.2	4 $\pm$ 0.2	4 $\pm$ 0.2	4 $\pm$ 0.2
Total Tape Thickness	t	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Length of Clipped Lead	L	11Max	11Max	11Max	11Max	11Max	11Max
Component Height from Seating Plane	A	—	29Max**	28Max**	—	29Max	28Max

Based on EIA-468-B Specification

All dimensions are in millimeters.

* Tolerances are +1 and -0.5

** For 18 ϕ , D=22max, H₁=46max and A=26max.