Metal Oxide Varistor：TVT Series

Thermally Protected Varistor Series

■ Features

1. RoHS compliant
2. Halogen-free series are available
3. Two-Terminal or Three-Terminal thermally protected metal oxide varistors, Three-Terminal type is available for failure indication.
4. Body size: 14, 20, 25, and 34*34 mm
5. Working voltage: 130Vac ~ 750Vac
6. Operating temperature range: -40°C ~ +85°C
   Storage temperature range: -40°C ~ +110°C
7. Agency approval:
   - TVT14 and TVT20 Series: UL1449 4th & cUL/TUV/CQC
   - TVT25 and TVT34 Series: UL1449 4th & cUL/TUV
8. UL1449 4th SPD Type: Type 4 Assemblies
9. Suitable for wave flow soldering

■ Recommended Applications

1. TVSS modules
2. Uninterruptible power supplies
3. Power supplies
4. Lighting products
5. Communication products
6. Smart meter
7. Photovoltaic industry

■ Part Number Code

T	V	T	1	4	2	4	1	K	A	K	G	B			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Product Type	
TVT	THINKING Thermally Protected Varistor TVT Series

Disc Size	
14	Φ14mm
20	Φ20mm
25	Φ25mm
34	34*34mm

Varistor Voltage(V_{1mA})	
180	$18x10^0$V=18V
241	$24x10^1$V=240V
102	$10x10^2$V=1000V

Tolerance of V_{1mA}	
K	±10%

Structure	
A	Two-Terminal, Coating Structure
B	Three-Terminal, Coating Structure
E	Two-Terminal, Potting Structure
F	Three-Terminal, Potting Structure

Appearance	
KG	Straight lead
KO	Outer kink lead
KI	Inner kink lead
AU	Flat wire (For TVT34 series)

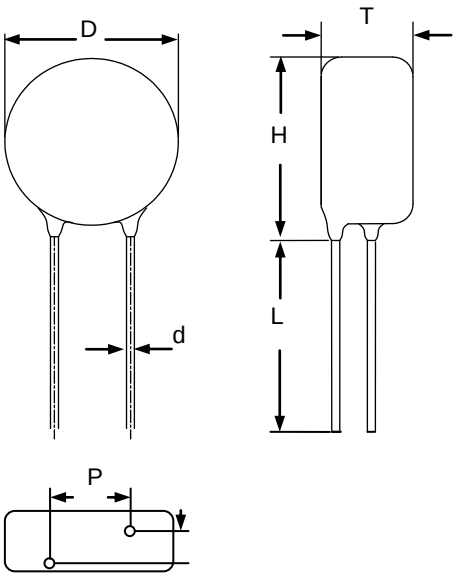
Packaging	
B	Bulk
E	Box

Optional Suffix
001~999

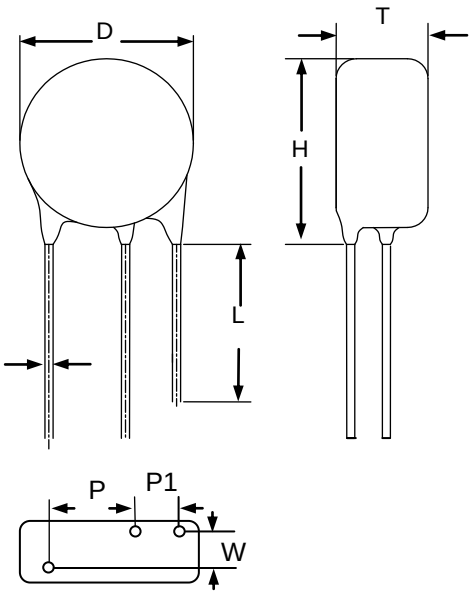
■ Structure and Dimensions

● TVT14 ~ TVT20 Series

Two-Terminal Type



Three-Terminal Type

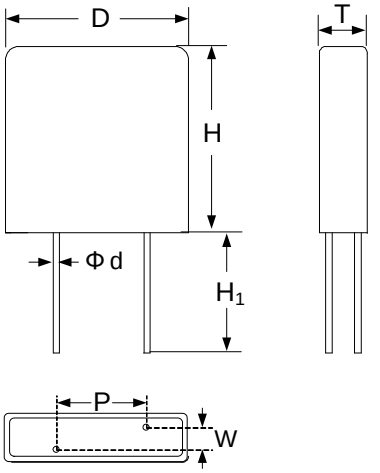


(Unit: mm)

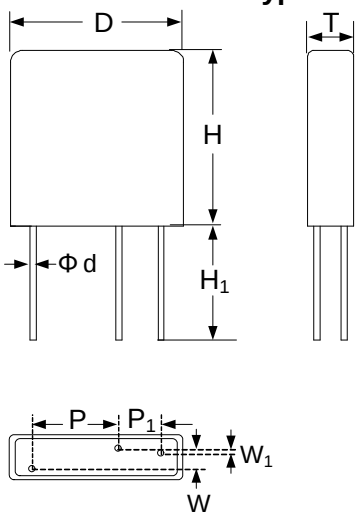
Series	Lead Type	D	P	P1	$H_{max.}$	$L_{min.}$	d	W	Tmax
TVT14201~112	Two-Terminal	15.5~18.0	7.5±1	--	22	5	0.8±0.05	Please Refer to Electrical Characteristics	
TVT14201~112	Three-Terminal	15.5~18.0	7.5±1	5.0±1	22	5	0.8±0.05		
TVT20201~681	Two-Terminal	19.5~23.5	7.5±1	--	27	5	0.8±0.05		
TVT20751~112							1.0±0.05		
TVT20201~681	Three-Terminal	19.5~23.5	7.5±1	5.0±1	27	5	0.8±0.05		
TVT20751~112							1.0±0.05		

- **TVT25 Series**

Two-Terminal Type



Three-Terminal Type

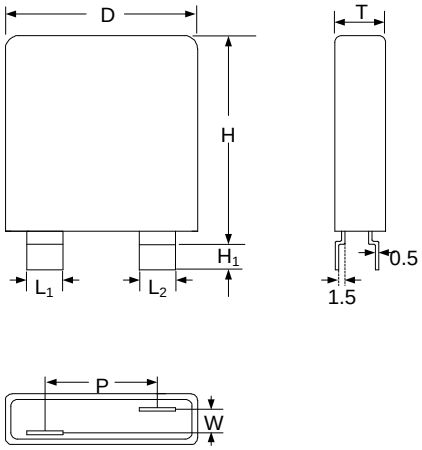


(Unit: mm)

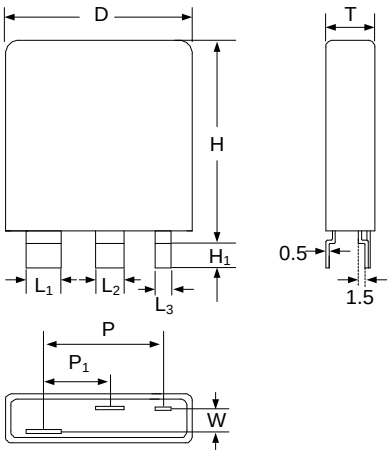
Series	Lead Type	D±1.0	H±1.0	H1min	P±1.0	P1±1.0	d±0.05	W/W1	Tmax
TVT25	Two-Terminal	33.0	33.5	15	10.0	------	1.0	Please Refer to Electrical Characteristics	
	Three-Terminal				10.0	5.0	1.0		

- **TVT34 Series**

Two-Terminal Type



Three-Terminal Type



(Unit: mm)

Series	Type	D±1.0	Hmax	H1max.	P±2.0	P1±2.0	L1±0.1	L2±0.1	L3±0.1	W	Tmax
TVT34	Two-Terminal	40.0	42.0	8	21.5	-----	6.0	6.0	-----	Please Refer to Electrical Characteristics	
	Three-Terminal				23.5	11	6.0	5.0	3.0		

■ Electrical Characteristics

14mm Series

Part No.	Varistor Voltage (@1mA DC)	Max. Continuous Voltage		Max. Clamping Voltage (8/20μs)		Max. Surge Current (8/20μs)	Rated Power	Max. Energy (10/1000μs)	Dimension	
	V_{1mA}	$V_{AC(rms)}$	V_{DC}	V_P	I_P	Imax	P	Wmax	Tmax	W±1.0
	(V)	(V)	(V)	(V)	(A)	(KA)	(W)	(J)	(mm)	
TVT14201	200 (180~220)	130	170	340	50	6	0.6	77	8.5	3.0
TVT14221	220 (198~242)	140	180	365	50	6	0.6	86	8.6	3.1
TVT14241	240 (216~264)	150	200	395	50	6	0.6	94	8.8	3.3
TVT14271	270 (243~297)	175	225	455	50	6	0.6	110	9.0	3.5
TVT14301	300 (270~330)	195	250	500	50	6	0.6	118	8.7	3.2
TVT14331	330 (297~363)	215	275	550	50	6	0.6	127	8.8	3.3
TVT14361	360 (324~396)	230	300	595	50	6	0.6	137	9.0	3.5
TVT14391	390 (351~429)	250	320	650	50	6	0.6	154	9.2	3.6
TVT14431	430 (387~473)	275	350	710	50	6	0.6	170	8.9	3.4
TVT14471	470 (423~517)	300	385	775	50	6	0.6	192	9.0	3.5
TVT14511	510 (459~561)	320	410	845	50	6	0.6	209	9.2	3.7
TVT14561	560 (504~616)	350	450	930	50	6	0.6	220	9.4	3.9
TVT14621	620 (558~682)	395	510	1025	50	6	0.6	231	9.7	4.1
TVT14681	680 (612~748)	420	560	1120	50	6	0.6	242	10.0	4.4
TVT14751	750 (675~825)	465	615	1240	50	6	0.6	247	10.3	4.7
TVT14781	780 (702~858)	485	640	1290	50	6	0.6	260	9.8	4.3
TVT14821	820 (738~902)	510	670	1355	50	6	0.6	270	9.9	4.5
TVT14911	910 (819~1001)	550	745	1500	50	6	0.6	280	10.3	4.8
TVT14951	950 (855~1045)	575	765	1570	50	6	0.6	290	10.4	4.9
TVT14102	1000 (900~1100)	625	825	1650	50	6	0.6	305	10.6	5.1
TVT14112	1100 (990~1210)	680	895	1815	50	6	0.6	340	10.8	5.4

Metal Oxide Varistor：TVT Series

Thermally Protected Varistor Series

20mm Series

Part No.	Varistor Voltage（@1mA DC）	Max. Continuous Voltage		Max. Clamping Voltage (8/20μs)		Max. Surge Current (8/20μs)	Rated Power	Max. Energy (10/1000μs)	Dimension	
	V_{1mA}	$V_{AC(rms)}$	V_{DC}	V_P	I_P	Imax	P	Wmax	Tmax	W±1.0
	(V)	(V)	(V)	(V)	(A)	(KA)	(W)	(J)	(mm)	
TVT20201	200 (180~220)	130	170	340	100	10	1.0	140	10.2	3.0
TVT20221	220 (198~242)	140	180	365	100	10	1.0	155	10.3	3.1
TVT20241	240 (216~264)	150	200	395	100	10	1.0	170	10.5	3.3
TVT20271	270 (243~297)	175	225	455	100	10	1.0	190	10.7	3.5
TVT20301	300 (270~330)	195	250	500	100	10	1.0	205	10.4	3.2
TVT20331	330 (297~363)	215	275	550	100	10	1.0	215	10.5	3.3
TVT20361	360 (324~396)	230	300	595	100	10	1.0	225	10.7	3.5
TVT20391	390 (351~429)	250	320	650	100	10	1.0	240	10.9	3.6
TVT20431	430 (387~473)	275	350	710	100	10	1.0	270	10.6	3.4
TVT20471	470 (423~517)	300	385	775	100	10	1.0	350	10.7	3.5
TVT20511	510 (459~561)	320	410	845	100	10	1.0	386	10.9	3.7
TVT20561	560 (504~616)	350	450	930	100	10	1.0	400	11.1	3.9
TVT20621	620 (558~682)	395	510	1025	100	10	1.0	425	11.4	4.1
TVT20681	680 (612~748)	420	560	1120	100	10	1.0	455	11.7	4.4
TVT20751	750 (675~825)	465	615	1240	100	10	1.0	509	12.0	4.7
TVT20781	780 (702~858)	485	640	1290	100	10	1.0	515	11.5	4.3
TVT20821	820 (738~902)	510	670	1355	100	10	1.0	475	11.6	4.5
TVT20911	910 (819~1001)	550	745	1500	100	10	1.0	509	12.0	4.8
TVT20951	950 (855~1045)	575	765	1570	100	10	1.0	530	12.1	4.9
TVT20102	1000 (900~1100)	625	825	1650	100	10	1.0	560	12.3	5.1
TVT20112	1100 (990~1210)	680	895	1815	100	10	1.0	610	12.6	5.4

Metal Oxide Varistor：TVT Series

Thermally Protected Varistor Series

25mm Series

Part No.	Varistor Voltage（@1mA DC）	Max. Continuous Voltage		Max. Clamping Voltage (8/20μs)		Max. Surge Current (8/20μs)	Rated Power	Max. Energy (10/1000μs)	Dimension		
	V_{1mA}	$V_{AC(rms)}$	V_{DC}	V_P	I_P	Imax	P	Wmax	T_{max}	W1 ±1.0	W ±1.0
	(V)	(V)	(V)	(V)	(A)	(KA)	(W)	(J)	(mm)		
TVT25201	200 (180~220)	130	170	340	150	20	1.0	210	15	1.9	5.6
TVT25221	220 (198~242)	140	180	360	150	20	1.0	230			5.8
TVT25241	240 (216~264)	150	200	395	150	20	1.0	255			6.0
TVT25271	270 (243~297)	175	225	455	150	20	1.0	285			6.3
TVT25301	300 (270~330)	195	250	500	150	20	1.0	310			5.8
TVT25331	330 (297~363)	215	275	550	150	20	1.0	325			6.1
TVT25361	360 (324~396)	230	300	595	150	20	1.0	340			6.3
TVT25391	390 (351~429)	250	320	650	150	20	1.0	360			6.5
TVT25431	430 (387~473)	275	350	710	150	20	1.0	440			5.7
TVT25471	470 (423~517)	300	385	775	150	20	1.0	490			5.8
TVT25511	510 (459~561)	320	410	845	150	20	1.0	530			6.0
TVT25561	560 (504~616)	350	450	930	150	20	1.0	560	19		6.3
TVT25621	620 (558~682)	395	510	1020	150	20	1.0	590			6.6
TVT25681	680 (612~748)	420	560	1120	150	20	1.0	620			6.9
TVT25751	750 (675~825)	465	615	1235	150	20	1.0	630			7.2
TVT25781	780 (702~858)	485	640	1290	150	20	1.0	675			6.4
TVT25821	820 (738~902)	510	670	1355	150	20	1.0	690			6.5
TVT25911	910 (819~1001)	550	745	1500	150	20	1.0	715			6.8
TVT25951	950 (855~1045)	575	765	1570	150	20	1.0	740			7.0
TVT25102	1000 (900~1100)	625	825	1650	150	20	1.0	770			7.2
TVT25112	1100 (990~1210)	680	895	1815	150	20	1.0	840			7.5

Metal Oxide Varistor：TVT Series

Thermally Protected Varistor Series

34*34mm Series

Part No.	Varistor Voltage（@1mA DC）	Max. Continuous Voltage		Max. Clamping Voltage (8/20μs)		Max. Surge Current (8/20μs)	Rated Power	Max. Energy (10/1000μs)	Dimension	
	V_{1mA}	$V_{AC(rms)}$	V_{DC}	V_P	I_P	Imax	P	Wmax	Tmax	W±1.0
	(V)	(V)	(V)	(V)	(A)	(KA)	(W)	(J)	(mm)	
TVT34201	200 (180~220)	130	170	340	300	40	1.4	435	16	6.2
TVT34221	220 (198~242)	140	180	360	300	40	1.4	480		6.4
TVT34241	240 (216~264)	150	200	395	300	40	1.4	505		6.6
TVT34271	270 (243~297)	175	225	455	300	40	1.4	560		6.9
TVT34301	300 (270~330)	195	250	500	300	40	1.4	590		6.4
TVT34331	330 (297~363)	215	275	550	300	40	1.4	620		6.7
TVT34361	360 (324~396)	230	300	595	300	40	1.4	645		6.9
TVT34391	390 (351~429)	250	320	650	300	40	1.4	690		7.1
TVT34431	430 (387~473)	275	350	710	300	40	1.4	770		6.3
TVT34471	470 (423~517)	300	385	775	300	40	1.4	835		6.4
TVT34511	510 (459~561)	320	410	845	300	40	1.4	900		6.6
TVT34561	560 (504~616)	350	450	930	300	40	1.4	995	20	6.9
TVT34621	620 (558~682)	395	510	1020	300	40	1.4	1120		7.2
TVT34681	680 (612~748)	420	560	1120	300	40	1.4	1275		7.5
TVT34751	750 (675~825)	465	615	1235	300	40	1.4	1400		7.8
TVT34781	780 (702~858)	485	640	1290	300	40	1.4	1445		7.0
TVT34821	820 (738~902)	510	670	1355	300	40	1.4	1205		7.1
TVT34911	910 (819~1001)	550	745	1500	300	40	1.4	1345		7.4
TVT34951	950 (855~1045)	575	765	1570	300	40	1.4	1400		7.6
TVT34102	1000 (900~1100)	625	825	1650	300	40	1.4	1470		7.8
TVT34112	1100 (990~1210)	680	895	1815	300	40	1.4	1610		8.1

■ Safety Approvals

Certified Model No.	Agency				
	c UL us	TÜVRheinland		CQC	
	UL1449 4th & cUL	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	IEC60950-1 Annex Q	GB/T 10193-1997 GB/T 10194-1997	GB 8898-2011 GB 4943.1-2011
	E314979	J 50179371		CQC13001104230	
TVT14201-☐	√	√	√	√	
TVT14221-☐	√	√	√	√	
TVT14241-☐	√	√	√	√	
TVT14271-☐	√	√	√	√	
TVT14301-☐	√	√	√	√	
TVT14331-☐	√	√	√	√	
TVT14361-☐	√	√	√	√	
TVT14391-☐	√	√	√	√	
TVT14431-☐	√	√	√	√	√
TVT14471-☐	√	√	√	√	√
TVT14511-☐	√	√	√	√	√
TVT14561-☐	√	√	√	√	√
TVT14621-☐	√	√	√	√	√
TVT14681-☐	√	√	√	√	√
TVT14751-☐	√	√	√	√	√
TVT14781-☐	√	√	√	√	√
TVT14821-☐	√	√	√	√	√
TVT14911-☐	√	√	√	√	√
TVT14951-☐	√	√	√	√	√
TVT14102-☐	√	√	√	√	√
TVT14112-☐	√	√	√	√	√

☐ is the code for Two-Terminal type or Three-Terminal type.

■ Safety Approvals

Certified Model No.	Agency				
	c UL us	TÜVRheinland		cqc	
	UL1449 4th & cUL	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	IEC60950-1 2nd Annex Q	GB/T 10193-1997 GB/T 10194-1997	GB 4943.1-2011 GB 8898-2011
	E314979	J 50179389		CQC13001104230	
TVT20201-☐	√	√	√	√	
TVT20221-☐	√	√	√	√	
TVT20241-☐	√	√	√	√	
TVT20271-☐	√	√	√	√	
TVT20301-☐	√	√	√	√	
TVT20331-☐	√	√	√	√	
TVT20361-☐	√	√	√	√	
TVT20391-☐	√	√	√	√	
TVT20431-☐	√	√	√	√	√
TVT20471-☐	√	√	√	√	√
TVT20511-☐	√	√	√	√	√
TVT20561-☐	√	√	√	√	√
TVT20621-☐	√	√	√	√	√
TVT20681-☐	√	√	√	√	√
TVT20751-☐	√	√	√	√	√
TVT20781-☐	√	√	√	√	√
TVT20821-☐	√	√	√	√	√
TVT20911-☐	√	√	√	√	√
TVT20951-☐	√	√	√	√	√
TVT20102-☐	√	√	√	√	√
TVT20112-☐	√	√	√	√	√

☐ is the code for Two-Terminal type or Three-Terminal type.

■ Safety Approvals

Certified Model No.	Agency	
	c UL us	TÜVRheinland
	UL1449 4th & cUL	IEC 61051-1 IEC 61051-2 IEC 61051-2-2
	E314979	J 50226398
TVT25201-☐	√	√
TVT25221-☐	√	√
TVT25241-☐	√	√
TVT25271-☐	√	√
TVT25301-☐	√	√
TVT25331-☐	√	√
TVT25361-☐	√	√
TVT25391-☐	√	√
TVT25431-☐	√	√
TVT25471-☐	√	√
TVT25511-☐	√	√
TVT25561-☐	√	√
TVT25621-☐	√	√
TVT25681-☐	√	√
TVT25751-☐	√	√
TVT25781-☐	√	√
TVT25821-☐	√	√
TVT25911-☐	√	√
TVT25951-☐	√	√
TVT25102-☐	√	√
TVT25112-☐	√	√

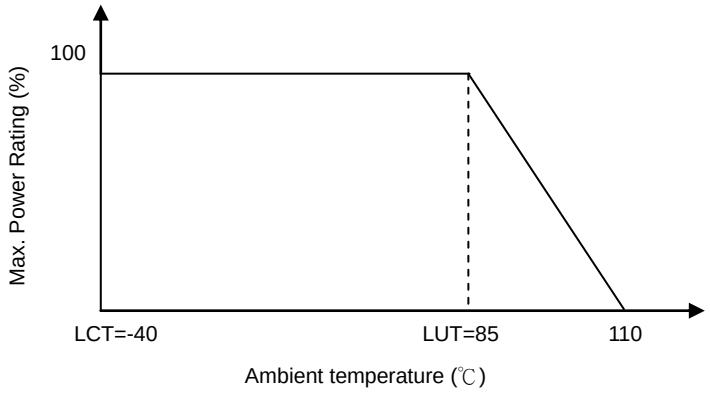
☐ is the code for Two-Terminal type or Three-Terminal type.

■ Safety Approvals

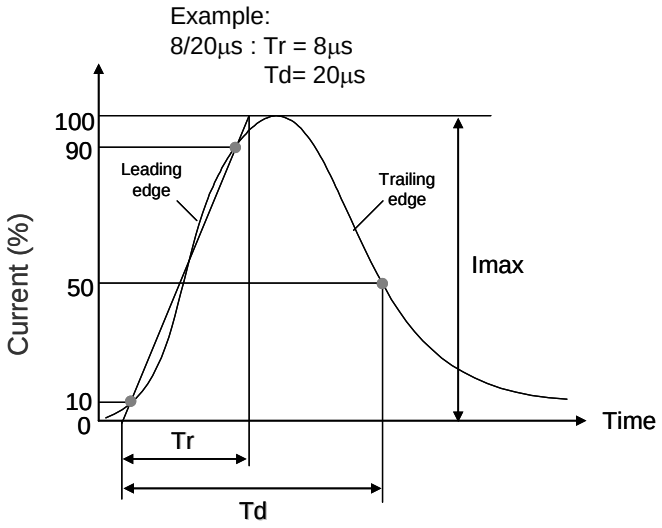
Part No.	Agency	
	c UL us	VDE
	UL1449 4th & cUL: E314979	J 50226398
TVT34201-☐	√	√
TVT34221-☐	√	√
TVT34241-☐	√	√
TVT34271-☐	√	√
TVT34301-☐	√	√
TVT34331-☐	√	√
TVT34361-☐	√	√
TVT34391-☐	√	√
TVT34431-☐	√	√
TVT34471-☐	√	√
TVT34511-☐	√	√
TVT34561-☐	√	√
TVT34621-☐	√	√
TVT34681-☐	√	√
TVT34751-☐	√	√
TVT34781-☐	√	√
TVT34821-☐	√	√
TVT34911-☐	√	√
TVT34951-☐	√	√
TVT34102-☐	√	√
TVT34112-☐	√	√

☐ is the code for Two-Terminal type or Three-Terminal type.

■ Power Derating Curve

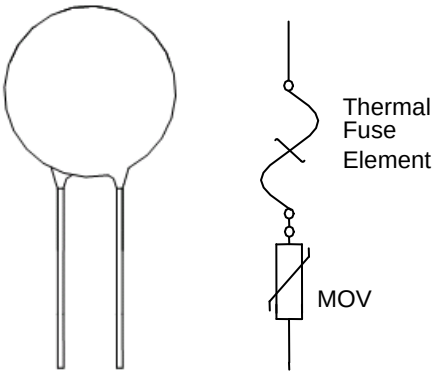


■ Surge Current Standard Waveform

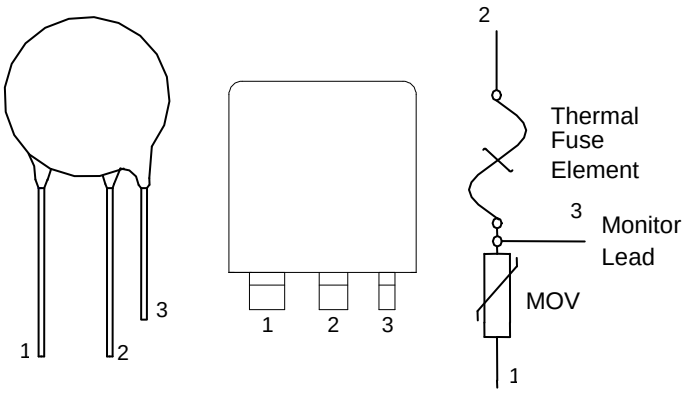


■ Lead Configuration

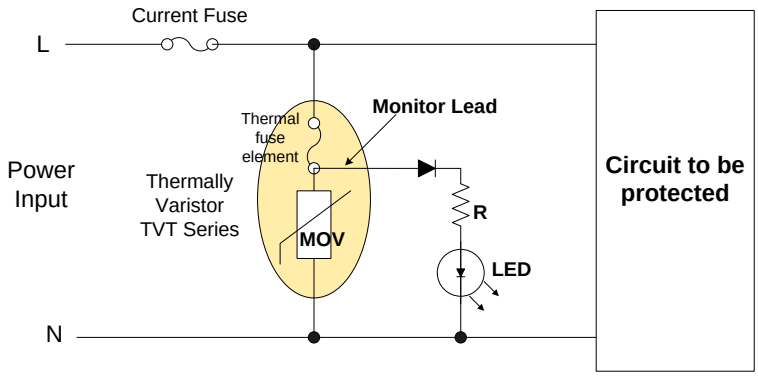
Two-Terminal Type



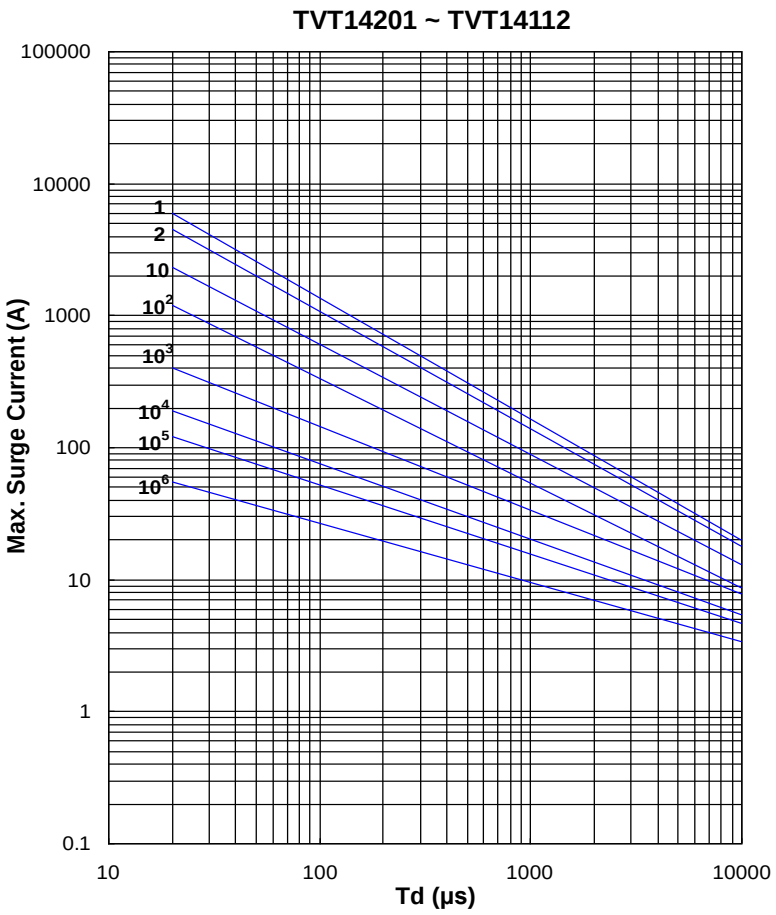
Three-Terminal Type

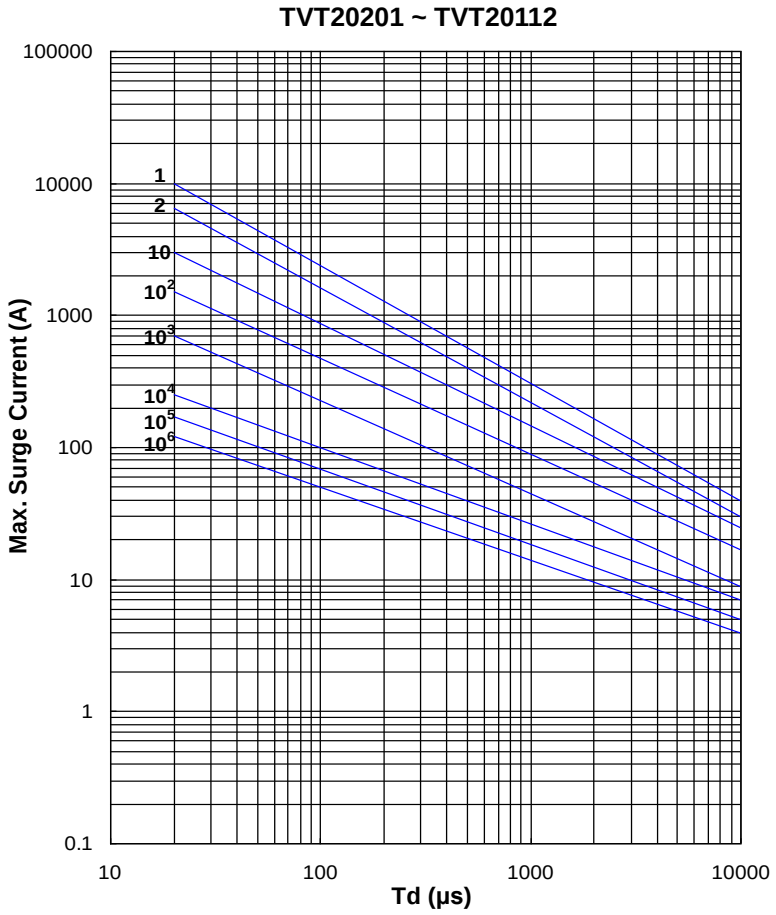


■ Typical Application Circuit



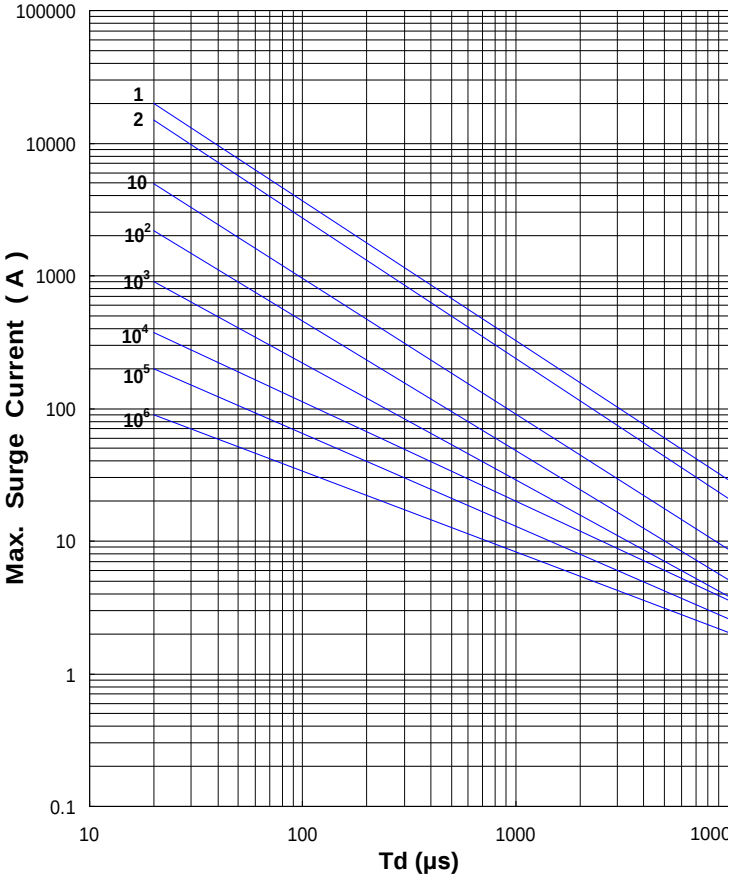
■ Max. Surge Current Derating Curves



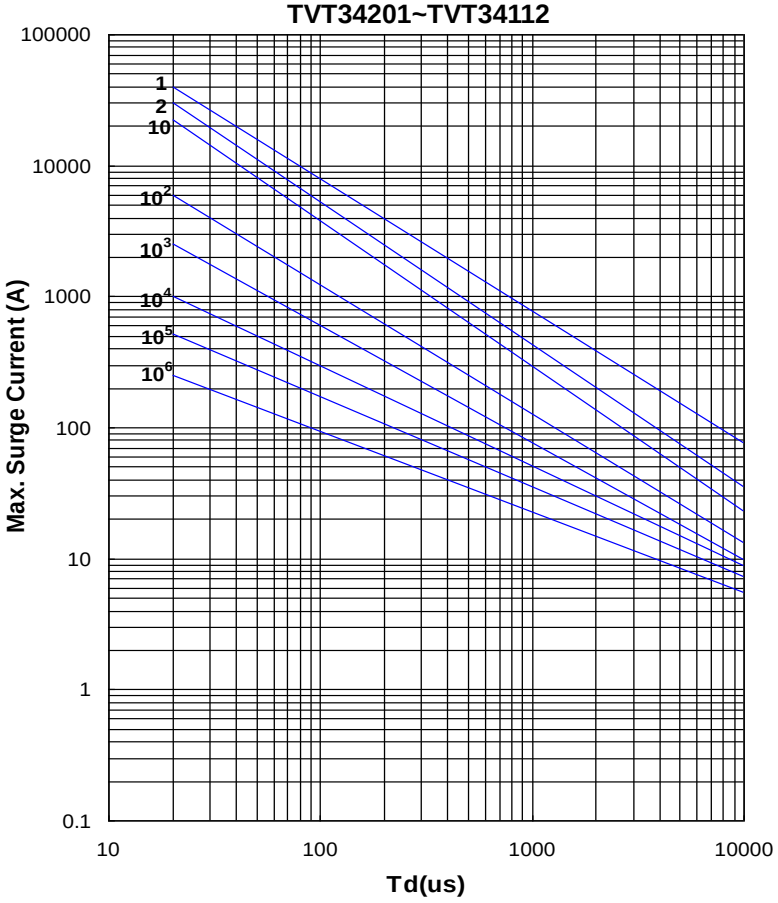


■ Max. Surge Current Derating Curves

TVT25201 ~ TVT25112

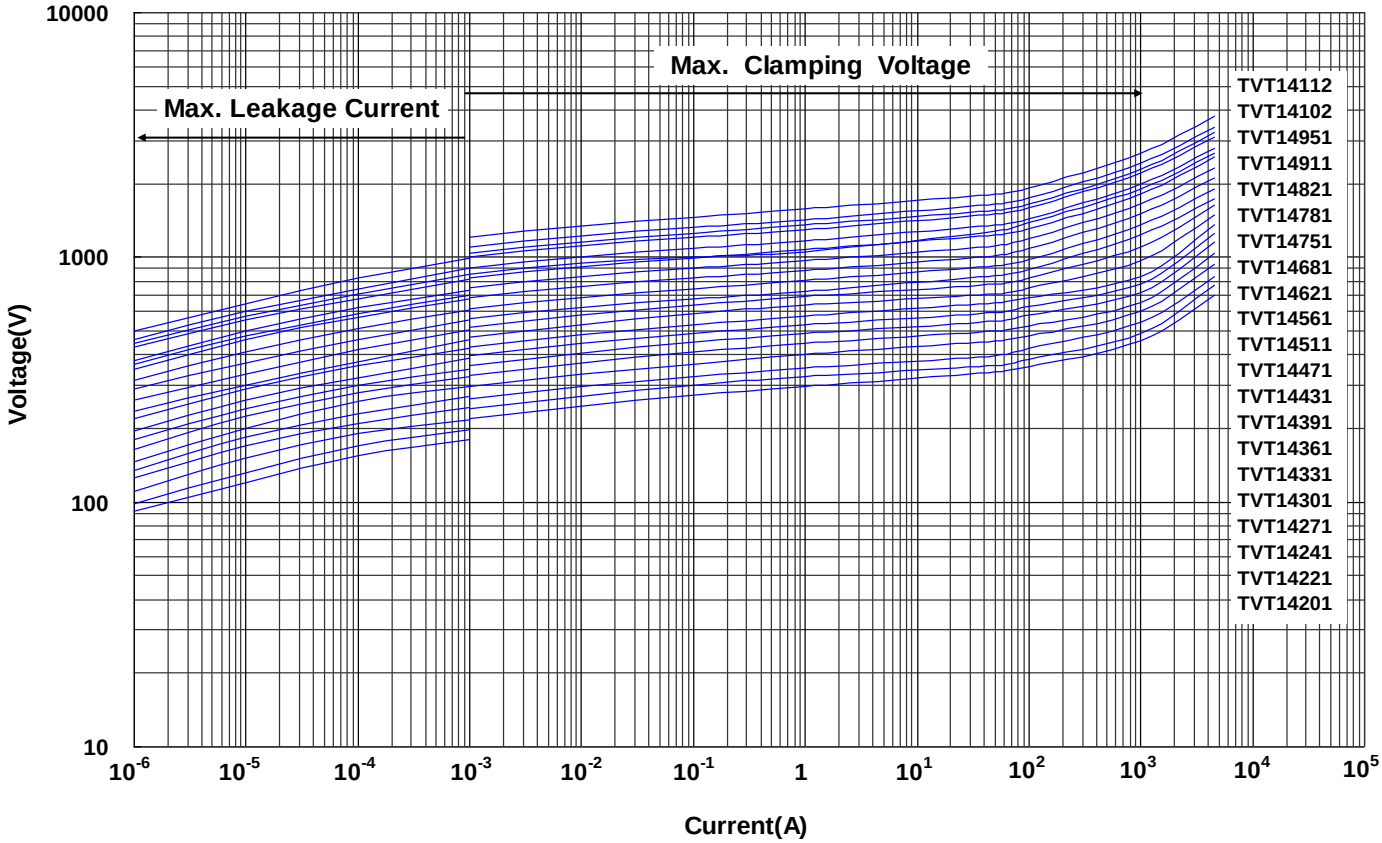


TVT34201~TVT34112

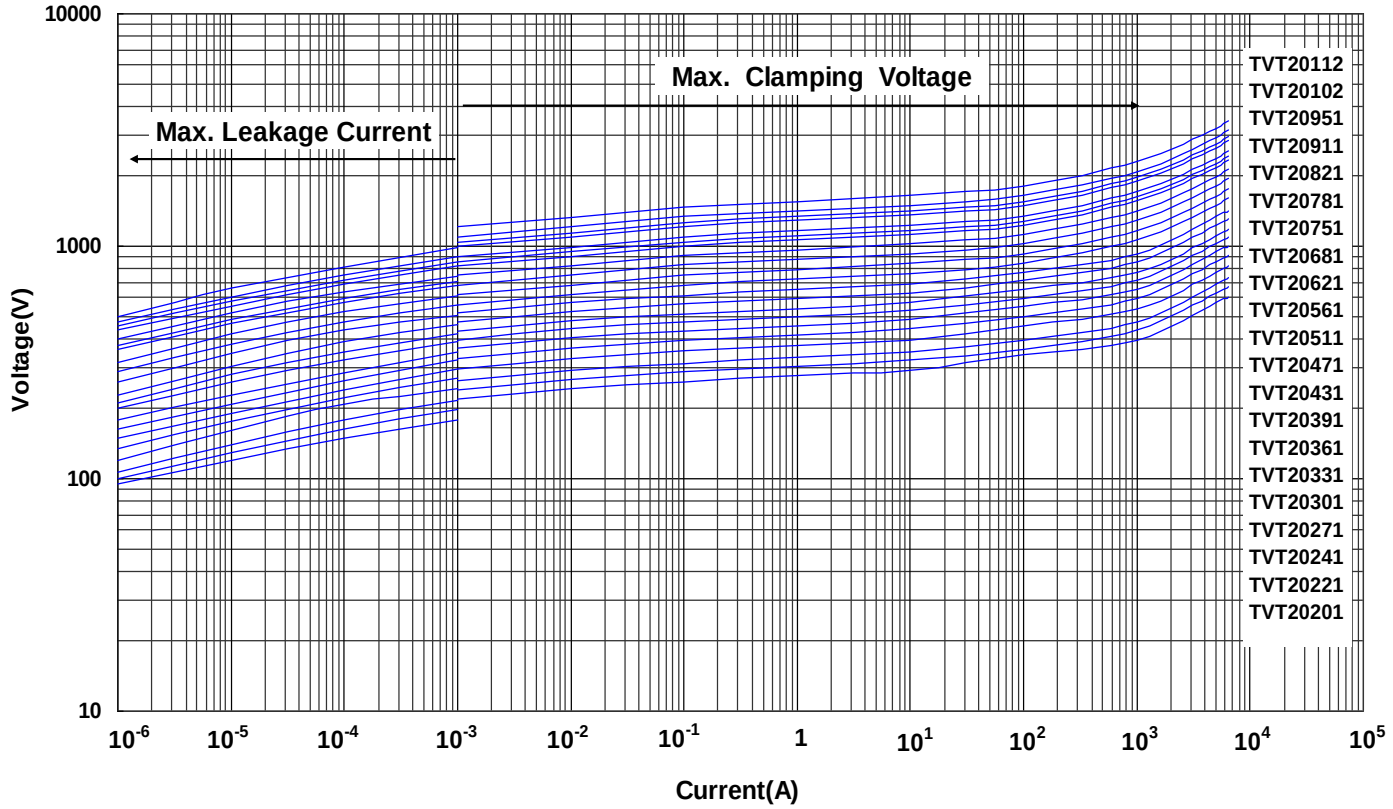


■ Max. Leakage Current and Max. Clamping Voltage Curves

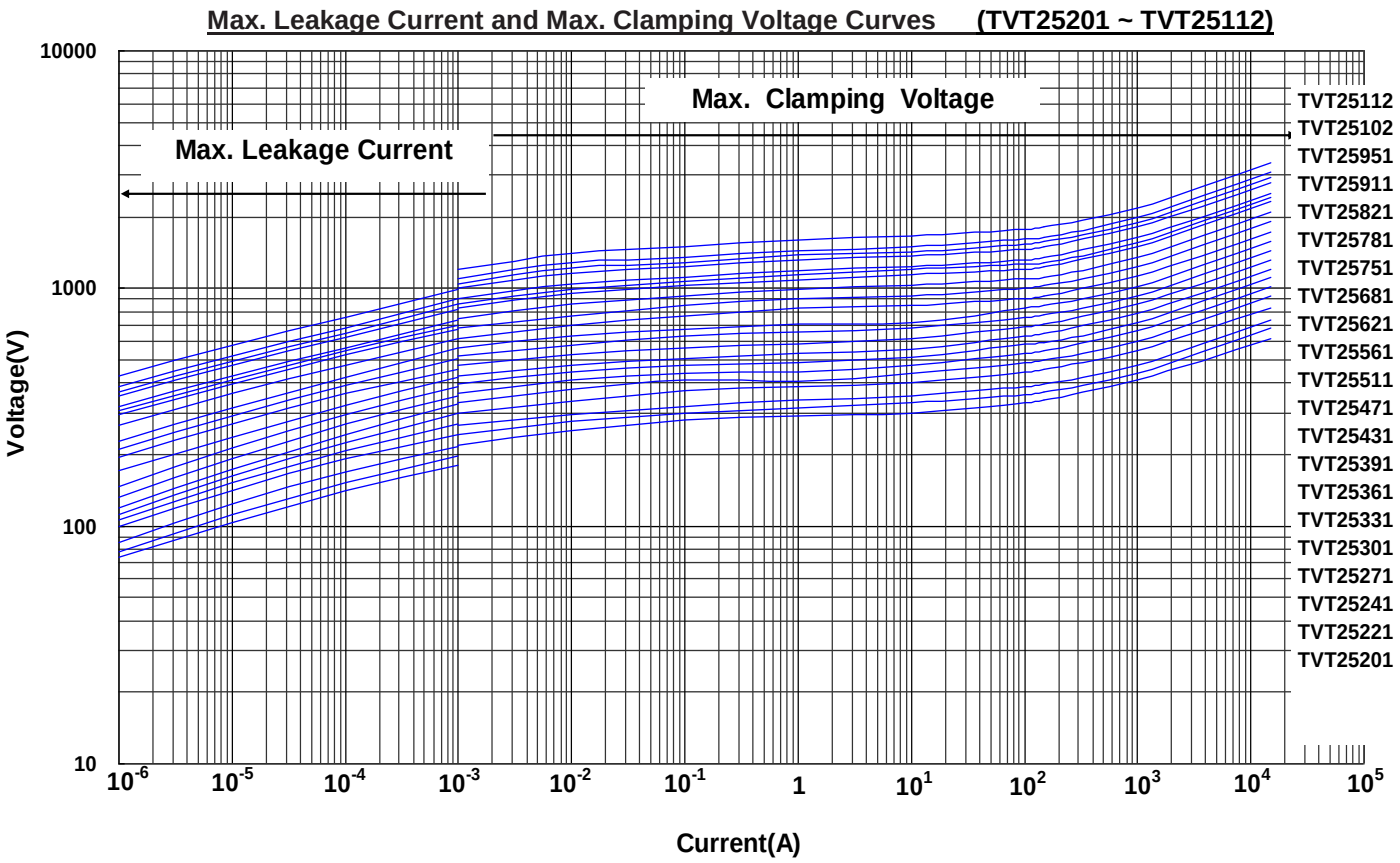
Max. Leakage Current and Max. Clamping Voltage Curves (TVT14201 ~ TVT14112)



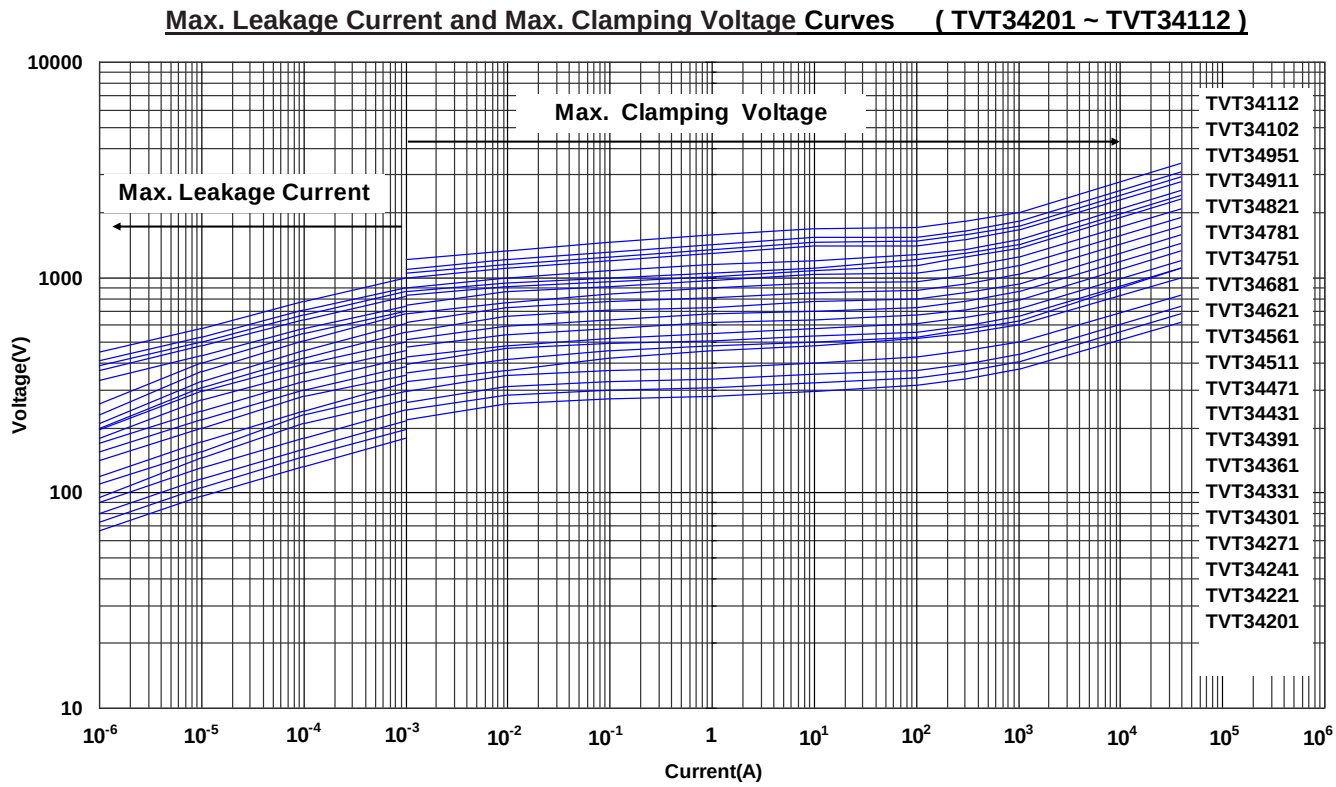
Max. Leakage Current and Max. Clamping Voltage Curves (TVT20201 ~ TVT20112)



■ **Max. Leakage Current and Max. Clamping Voltage Curves**

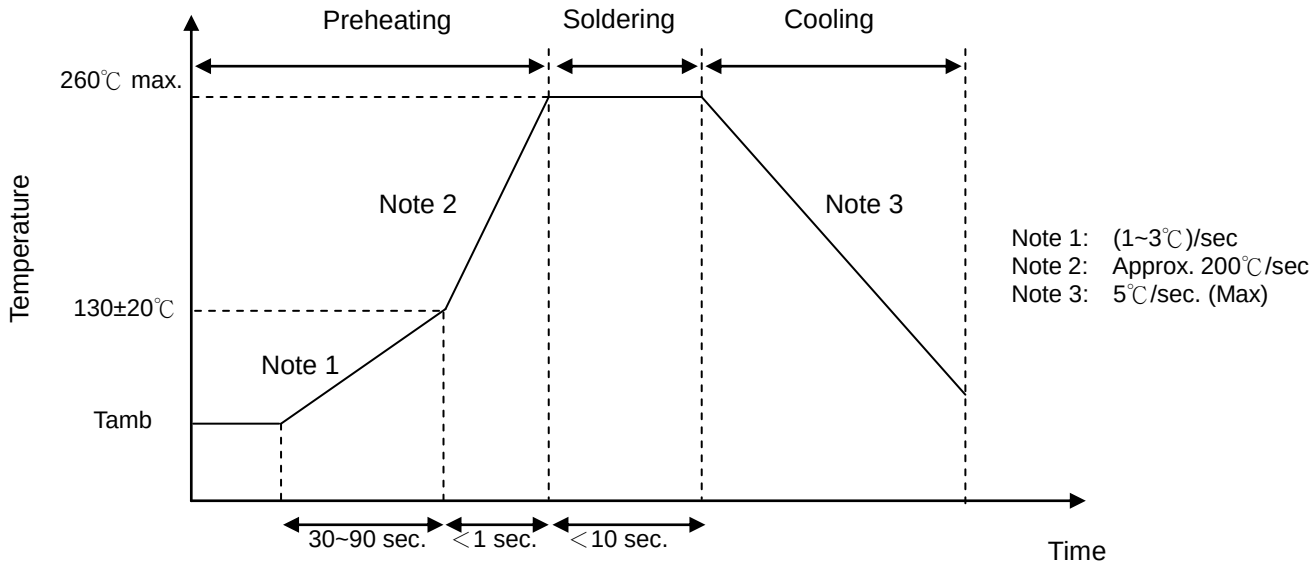


■ **Max. Leakage Current and Max. Clamping Voltage Curves**



■ Soldering Recommendation

● Wave Soldering Profile



● Recommended Reworking Conditions With Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360℃ (max.)
Soldering Time	3 sec (max.)
Distance from Varistor	2 mm (min.)

■ Reliability

<table>
<tr><th>Item</th><th>Standard</th><th>Test Conditions / Methods</th><th>Specifications</th></tr>
<tr><td>Tensile Strength of Terminals</td><td>IEC 60068-2-21</td><td>Gradually apply the specified force and keep the unit fixed for 10±1 sec.
<table><tr><th>Terminal diameter (mm)</th><th>Terminal cross-sectional area (mm^2)</th><th>Force (Kg)</th></tr><tr><td>0.5<d≦0.8</td><td>0.2＜S≦0.5</td><td>1.0</td></tr><tr><td>0.8<d≦1.25</td><td>0.5＜S≦1.2</td><td>2.0</td></tr><tr><td>1.25<d</td><td>1.2<S</td><td>4.0</td></tr></table></td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>Bending Strength of Terminals</td><td>IEC 60068-2-21</td><td>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, and then return to the original position. Repeat the procedure in the opposite direction.
<table><tr><th>Terminal diameter (mm)</th><th>Terminal cross-sectional area (mm^2)</th><th>Force (Kg)</th></tr><tr><td>0.5<d≦0.8</td><td>0.2＜S≦0.5</td><td>0.5</td></tr><tr><td>0.8<d≦1.25</td><td>0.5＜S≦1.2</td><td>1.0</td></tr><tr><td>1.25<d</td><td>1.2<S</td><td>2.0</td></tr></table></td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>Vibration</td><td>IEC 60068-2-6</td><td>Frequency range: 10 ~ 55 Hz
Amplitude: 0.75mm or 98 m/s^2
Direction: 3 mutually perpendicular directions, 2 hrs each.</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>Solderability</td><td>IEC 60068-2-20</td><td>245±3℃ , 3±0.3 sec</td><td>At least 95% of terminal electrode is covered by new solder</td></tr>
<tr><td>Resistance to Soldering Heat</td><td>IEC 60068-2-20</td><td>260±3℃ , 10±1 sec</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>High Temperature Storage</td><td>IEC 60068-2-2</td><td>110±5℃ x 1000± 24 hrs</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>Damp Heat, Steady State</td><td>IEC 60068-2-78</td><td>a. 40±2℃, 90 ~ 95 % RH, 1344 hrs
b. 40±2℃, 90 ~ 95 % RH, at 10%Vdc, 1344 hrs</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 10\%$
No visible damage
Insulation Resistance
≧100MΩ</td></tr>
<tr><td>Rapid Change of Temperature</td><td>IEC 60068-2-14</td><td>The conditions shown below shall be repeated 5 cycles
<table><tr><th>Step</th><th>Temperature (℃)</th><th>Period (minutes)</th></tr><tr><td>1</td><td>-40±3</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>5±3</td></tr><tr><td>3</td><td>85±2</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>5±3</td></tr></table></td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 5\%$
No visible damage</td></tr>
<tr><td>High Temp. Load</td><td>MIL-STD-202 Method 108</td><td>85±2℃, 1000±24 hrs at V_{DC} or V_{rms} (Max. Continuous Voltage)</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 10\%$
No visible damage</td></tr>
<tr><td>8/20μs Surge Life</td><td>IEC 61051-1</td><td>8/20μs waveform, 10 surge currents, unipolar, interval 30 secs, amplitude corresponding to max. surge current derating curves for 20μs.</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 10\%$
No visible damage</td></tr>
<tr><td>10/1000μs Surge Life</td><td>IEC 61051-1</td><td>10/1000μs waveform, 10 surge currents, unipolar, interval 2 mins, amplitude corresponding to max. surge current derating curves for 1000μs.</td><td>$\lvert \Delta V_{1mA}/V_{1mA} \rvert \leqq 10\%$
No visible damage</td></tr>
</table>

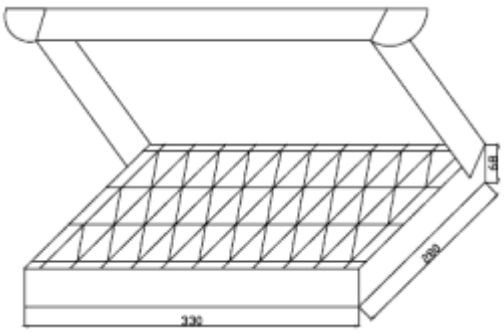
■ Reliability

Item	Standard	Test Conditions / Methods	Specifications
Limited Current Abnormal Overvoltage Test	UL 1449 4th	Test voltage: refer to UL 1449 4th Table 44.1 Short current condition: Series: TVT14 — Short Current (Isc , A): 0.125A, 0.5A, 2.5A, 5A Series: TVT20, 25, 34 — Short Current (Isc , A): 0.5A, 2.5A, 5A, 10A Each of four previously untested TVT samples to be connected to an ac power supply having an open circuit voltage equal to Uoc. The power supply is to incorporate a series variable resistor that can be adjusted to obtain the short-circuit values (Isc) respectively. The four samples are to be energized for 7 hrs, or until current to, or body temperature attain equilibrium, or until the sample becomes disconnected from the ac supply.	No flame
Voltage Proof	IEC 61051-1	Metal balls method, 2500 V_{ac} 1 min	No visible damage
Varistor Voltage Temp. Coefficient	Specification Standard	$\frac{V_{1mA@85℃}-V_{1mA@25℃}}{V_{1mA@25℃}}\times\frac{1}{60}\times100\%(\%/°C)$, $\frac{V_{1mA@-40℃}-V_{1mA@25℃}}{V_{1mA@25℃}}\times\frac{1}{65}\times100\%(\%/°C)$	$-0.05 \leqq T_C \leqq 0.05$ (%/℃)

■ Packaging

● Bulk Packing

Series	Quantity (pcs/bag)
TVT14	50
TVT20	20



(Unit: mm)

● Box Packing (for Potting Structure)

Series	Quantity (pcs/box)
TVT**201~112	30

Note: ** is for 25mm or 34mm.

■ Warehouse Storage Conditions of Products

- Storage Conditions:
  1. Storage temperature: -10℃~+40℃
  2. Relative humidity: ≦75%RH
  3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year