

Varistors with Thermal Decoupler - VTD Series

Description

The VTD(S) Varistors with Thermal Decoupler use standard radial-lead metal oxide varistors equipped with a thermal decoupling device. They are widely used in TVSS products, AC/DC power supplies, AC panel protection modules, AC line power supplies, surge protected strip connectors, AC power meters, UPSs (Uninterruptible Power Supplies), inverters, white goods, GFCIs (Ground Fault Current Interrupters). The advantages of the VTD(S) Varistors with Thermal Decoupler are: leads construction for PCB mounting, a thermal decoupling device which protects the VTD(S) from varistor failure in the event of abnormal overvoltage and can withstand 16 Amps, the VTD(S) also has the remote signalization capability.

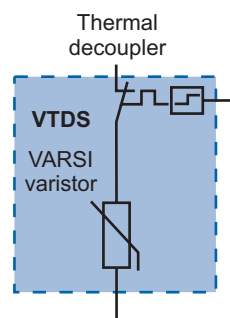
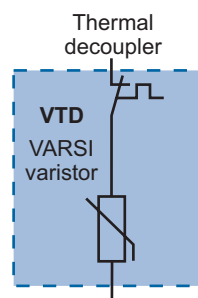


Main Features

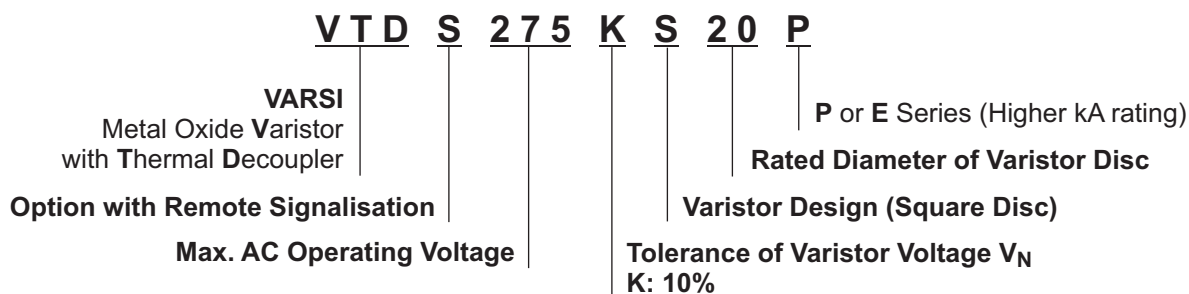
Wide Operating Voltage Range V_{RMS}	75 V to 440 V
Very Good Protection Level U_P (at U_{OC}/I_{SC})	400 V to 1800 V
High Max. Discharge Current Capability I_{max} (8/20 μs)	8000 A to 20000 A
Wire Terminals for PCB Mounting	
Option with Decoupling Device with VTDS Signalization	

General Technical Data

Tested in accordance with	IEC 61643-1, IEC 61051-1 and UL 1449
Category IEC / VDE	III / D
Operating Temperature	-40 ... +80°C
Response Time	< 25 ns
Mounting	on Printed Circuit Board



Type Designation



Application Examples for VTDs

VTD symbol

The picture shows the symbol for our product named VTD. It is a VARSI varistor with a thermal decoupler before it. If the thermal decoupler opens (it is normally closed), it disconnects the varistor from the line. This provides protection against varistor demolition (thermal runaway).

Application Example 1

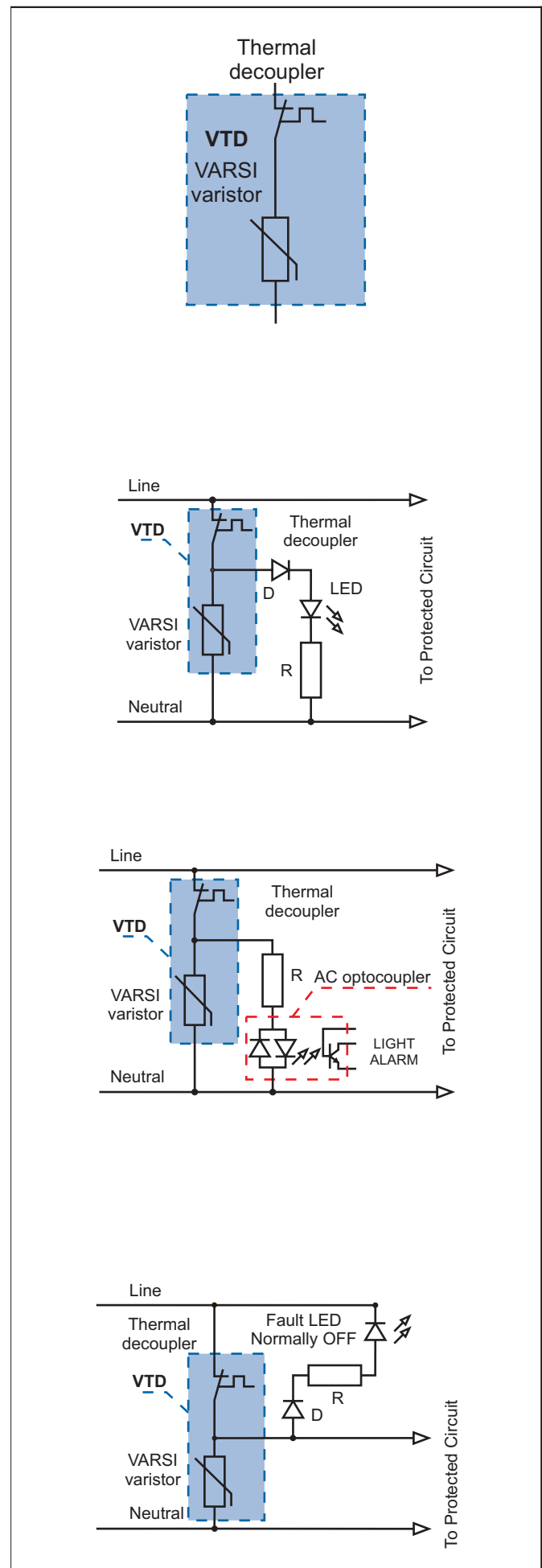
In this case we connect a LED between Line (after thermal decoupler) and Neutral, the LED is normally ON. If the thermal decoupler opens, the LED indication changes from ON to OFF.

Application Example 2

In this case we connect Line after a thermal decoupler on an optocoupler to provide galvanic isolation between VTD and Line, then signaling an alarm.

Application Example 3

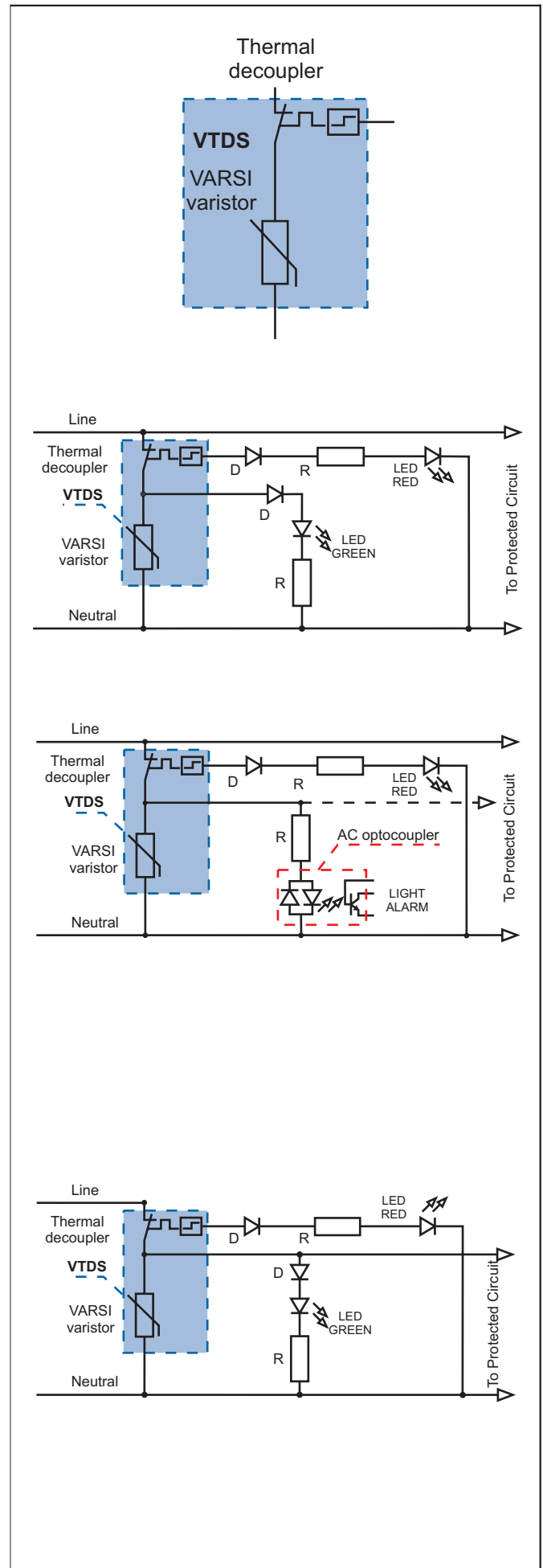
This example is used if we want to monitor VTD varistors lead to ensure that the equipment is only operated when overvoltage protection is present. There is also LED indication that is normally OFF. If the thermal decoupler opens the LED changes from OFF to ON and the connected equipment turns OFF. It can be used in very sensitive and expensive equipment.



Application Examples for VTDSs

VTDS symbol

The picture shows the symbol for our product named VTDS. It is a VARSI varistor with a thermal decoupler and remote signalization contact connected before it. If the thermal decoupler opens (it is normally closed), it disconnects the varistor from the Line. When this happens the Line connects to the remote signalization contact and provides the circuit which is normally used for connecting the LED or ALARM. This provides protection against varistor demolition and also signalization of the thermal disconnecter's activity.



Application Example 1

In this case we connect two LED diodes. One LED (green) is connected between Line (after thermal disconnecter) and Neutral, the LED is normally ON. The other LED (red) is connected between signalization contacts in the thermal housing to Neutral, and it is normally OFF. If the thermal decoupler's opens the first LED (green) indication changes from ON to OFF, and the second LED (red) changes from OFF to ON.

Application Example 2

In this case we connect the Line after the thermal decoupler on an optocoupler to provide galvanic isolation between VTDS and Line, then signaling an alarm. We also connect the LED (red) between signalization contacts in the thermal decoupler housing to Neutral, and it is normally OFF. If the thermal decoupler opens, LED changes indication from OFF to ON. We can also use this application in order to monitor the VTDS varistor's lead to ensure that the equipment is only operated when overvoltage protection is present. If the thermal decoupler opens, the connected equipment turns OFF. This can be used in very sensitive and expensive equipment.

Application Example 3

In this case we connect two LED diodes. One LED (green) is connected between Line (after thermal decoupler) and Neutral, and the LED is normally ON. The other LED (red) is connected between signalization contacts in the thermal decoupler's housing to Neutral, and it is normally OFF. If the thermal decoupler opens the first LED (green) indication changes from ON to OFF, the second LED (red) changes from OFF to ON. We use this application in order to monitor the VTDS varistor's lead to ensure that the equipment is only operated when overvoltage protection is present. If the thermal decoupler opens, the connected equipment turns OFF. This can be used in very sensitive and expensive equipment.

Table of Standard Values

Part Number	Maximum Ratings TA = +80°C			Characteristics TA = +25°C							V - I Characteristic Page	Pulse Rating Page
	Operating Voltage		Max. Discharge Current (8/20 μs) I _{max} (kA)	Protection Level at U _{oc} /I _{sc} Test Current (8/20 μs)		Varistor Voltage (1 mA)		Maximum Clamping Voltage at Test Current (8/20 μs)		Typical Capacitance f=1kHz C (pF)		
	RMS Voltage V _{RMS} (V)	DC Voltage V _{DC} (V)		U _p (V)	U _{oc} /I _{sc} (kV/kA)	V _N (V)	ΔV _N (±%)	V _C (V)	I (A)			
VTD75K20	75	100	8	310	8/4	120	10	200	100	3800	8	11
VTD75K20P	75	100	10	430	10/5	120	10	200	100	3800	8	11
VTD75K20E	75	100	12	460	12/6	120	10	200	100	3800	9	11
VTD75K25	75	100	15	510	15/7,5	120	10	200	150	4200	10	12
VTD75KS20	75	100	15	510	15/7,5	120	10	200	125	4200	9	12
VTD75P20	75	100	20	580	20/10	120	10	200	150	6000	10	12
VTD95K20	95	125	8	460	8/4	150	10	250	100	2200	8	11
VTD95K20P	95	125	10	490	10/5	150	10	250	100	2200	8	11
VTD95K20E	95	125	12	540	12/6	150	10	250	100	2200	9	11
VTD95K25	95	125	15	580	15/7,5	150	10	250	150	2500	10	12
VTD95KS20	95	125	15	580	15/7,5	150	10	250	125	2500	9	12
VTD95P20	95	125	20	650	20/10	150	10	250	150	3700	10	12
VTD115K20	115	150	8	510	8/4	180	10	300	100	1900	8	11
VTD115K20P	115	150	10	550	10/5	180	10	300	100	1900	8	11
VTD115K20E	115	150	12	600	12/6	180	10	300	100	1900	9	11
VTD115K25	115	150	15	650	15/7,5	180	10	300	150	2100	10	12
VTD115KS20	115	150	15	650	15/7,5	180	10	300	125	2100	9	12
VTD115P20	115	150	20	730	20/10	180	10	300	150	3000	10	12
VTD130K20	130	170	8	540	8/4	205	10	340	100	1700	8	11
VTD130K20P	130	170	10	590	10/5	205	10	340	100	1700	8	11
VTD130K20E	130	170	12	630	12/6	205	10	340	100	1700	8	11
VTD130K25	130	170	15	690	15/7,5	205	10	340	150	1900	10	12
VTD130KS20	130	170	15	690	15/7,5	205	10	340	125	1900	9	12
VTD130P20	130	170	20	760	20/10	205	10	340	150	2900	10	12
VTD140K20	140	180	8	550	8/4	220	10	360	100	1600	8	11
VTD140K20P	140	180	10	580	10/5	220	10	360	100	1600	8	11
VTD140K20E	140	180	12	620	12/6	220	10	360	100	1600	9	11
VTD140K25	140	180	15	690	15/7,5	220	10	360	150	1750	10	12
VTD140KS20	140	180	15	690	15/7,5	220	10	360	125	1750	9	12
VTD140P20	140	180	20	760	20/10	220	10	360	150	2700	10	12
VTD150K20	150	200	8	570	8/4	240	10	395	100	1500	8	11
VTD150K20P	150	200	10	620	10/5	240	10	395	100	1500	8	11
VTD150K20E	150	200	12	660	12/6	240	10	395	100	1500	9	11
VTD150K25	150	200	15	720	15/7,5	240	10	395	150	1650	10	12
VTD150KS20	150	200	15	720	15/7,5	240	10	395	125	1650	9	12
VTD150P20	150	200	20	790	20/10	240	10	395	150	2500	10	12
VTD175K20	175	225	8	640	8/4	270	10	455	100	1300	8	11
VTD175K20P	175	225	10	680	10/5	270	10	455	100	1300	8	11
VTD175K20E	175	225	12	720	12/6	270	10	455	100	1300	9	11
VTD175K25	175	225	15	780	15/7,5	270	10	455	150	1400	10	12
VTD175KS20	175	225	15	780	15/7,5	270	10	455	125	1400	9	12
VTD175P20	175	225	20	850	20/10	270	10	455	150	2100	10	12
VTD230K20	230	300	8	840	8/4	360	10	595	100	1000	8	11
VTD230K20P	230	300	10	890	10/5	360	10	595	100	1000	8	11
VTD230K20E	230	300	12	930	12/6	360	10	595	100	1000	9	11
VTD230K25	230	300	15	990	15/7,5	360	10	595	150	1100	10	12
VTD230KS20	230	300	15	990	15/7,5	360	10	595	125	1100	9	12
VTD230P20	230	300	20	1100	20/10	360	10	595	150	1700	10	12

All other voltages are available on request

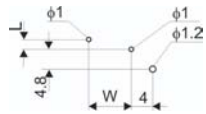
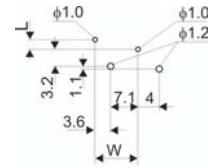
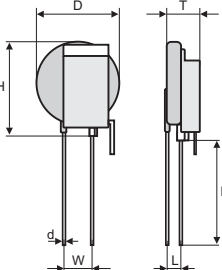
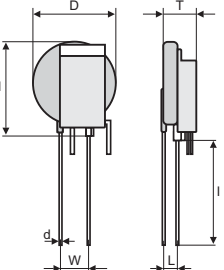
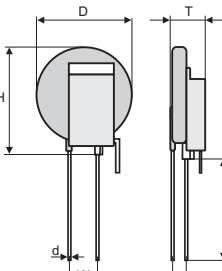
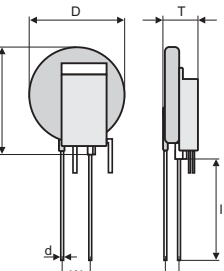
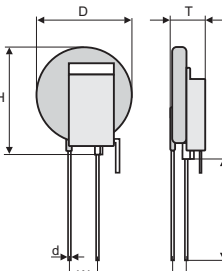
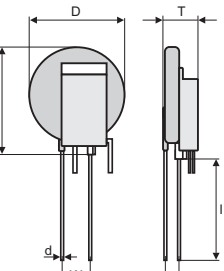
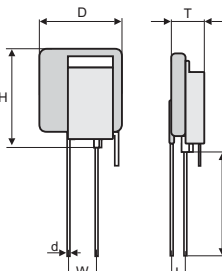
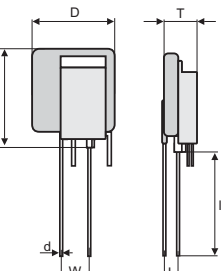
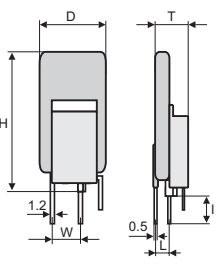
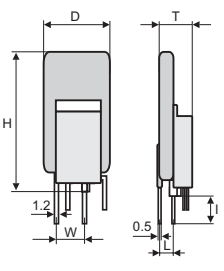
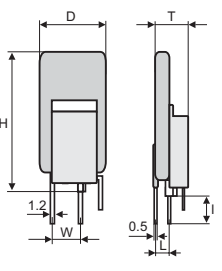
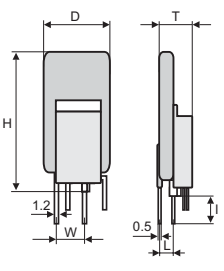
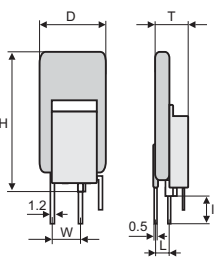
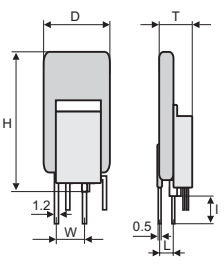
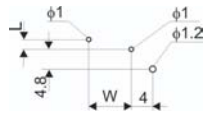
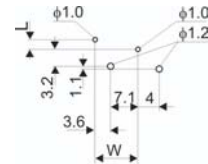
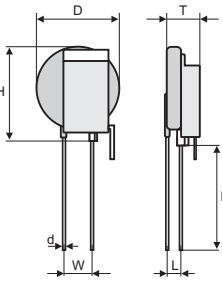
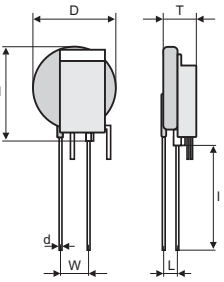
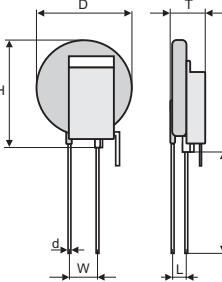
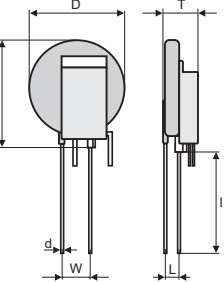
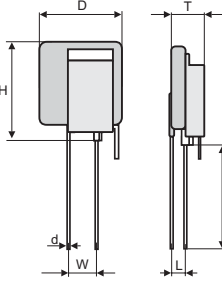
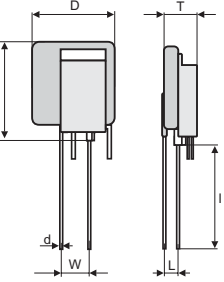
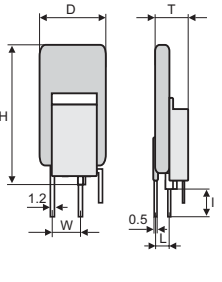
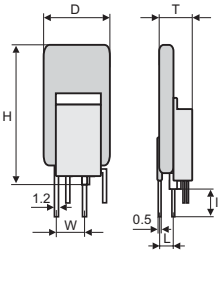
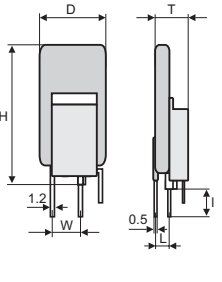
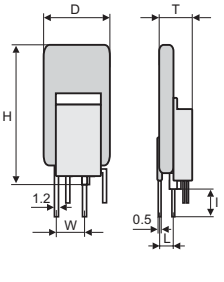
Dimensions							Part Number	Footprint	
D _{max} (mm)	H _{max} (mm)	T _{max} (mm)	W±1 (mm)	L±1 (mm)	d±0.05 (mm)	I _{min} (mm)			
24.0	28.0	9.8	10.0	2.0	0.8	24	VTD75K20	VTD 	VTDS 
24.0	28.0	9.8	10.0	2.0	0.8	24	VTD75K20P		
24.0	28.0	9.8	10.0	2.0	0.8	24	VTD75K20E		
28.0	32.0	9.8	10.0	2.0	0.8	24	VTD75K25		
24.0	28.0	9.8	10.0	2.0	0.8	24	VTD75KS20		
19.0	38.0	9.8	10.0	2.0	□ 1.2x0.5	8	VTD75P20		
24.0	28.0	10.0	10.0	2.2	0.8	24	VTD95K20	VTD...K20, P, E 	VTDS...K20, P, E 
24.0	28.0	10.0	10.0	2.2	0.8	24	VTD95K20P		
24.0	28.0	10.0	10.0	2.2	0.8	24	VTD95K20E		
28.0	32.0	10.0	10.0	2.2	0.8	24	VTD95K25		
24.0	28.0	10.0	10.0	2.2	0.8	24	VTD95KS20		
19.0	38.0	10.0	10.0	2.2	□ 1.2x0.5	8	VTD95P20		
24.0	28.0	10.1	10.0	2.3	0.8	24	VTD115K20	VTD...K25 	VTDS...K25 
24.0	28.0	10.1	10.0	2.3	0.8	24	VTD115K20P		
24.0	28.0	10.1	10.0	2.3	0.8	24	VTD115K20E		
28.0	32.0	10.1	10.0	2.3	0.8	24	VTD115K25		
24.0	28.0	10.1	10.0	2.3	0.8	24	VTD115KS20		
19.0	38.0	10.1	10.0	2.3	□ 1.2x0.5	8	VTD115P20		
24.0	28.0	10.2	10.0	2.5	0.8	24	VTD130K20	VTD...K25 	VTDS...K25 
24.0	28.0	10.2	10.0	2.5	0.8	24	VTD130K20P		
24.0	28.0	10.2	10.0	2.5	0.8	24	VTD130K20E		
28.0	32.0	10.2	10.0	2.5	0.8	24	VTD130K25		
24.0	28.0	10.2	10.0	2.5	0.8	24	VTD130KS20		
19.0	38.0	10.2	10.0	2.5	□ 1.2x0.5	8	VTD130P20		
24.0	28.0	10.3	10.0	2.6	0.8	24	VTD140K20	VTD...KS20 	VTDS...KS20 
24.0	28.0	10.3	10.0	2.6	0.8	24	VTD140K20P		
24.0	28.0	10.3	10.0	2.6	0.8	24	VTD140K20E		
28.0	32.0	10.3	10.0	2.6	0.8	24	VTD140K25		
24.0	28.0	10.3	10.0	2.6	0.8	24	VTD140KS20		
19.0	38.0	10.3	10.0	2.6	□ 1.2x0.5	8	VTD140P20		
24.0	28.0	10.4	10.0	2.7	0.8	24	VTD150K20	VTD...P20 	VTDS...P20 
24.0	28.0	10.4	10.0	2.7	0.8	24	VTD150K20P		
24.0	28.0	10.4	10.0	2.7	0.8	24	VTD150K20E		
28.0	32.0	10.4	10.0	2.7	0.8	24	VTD150K25		
24.0	28.0	10.4	10.0	2.7	0.8	24	VTD150KS20		
19.0	38.0	10.4	10.0	2.7	□ 1.2x0.5	8	VTD150P20		
24.0	28.0	10.5	10.0	2.9	0.8	24	VTD175K20	VTD...P20 	VTDS...P20 
24.0	28.0	10.5	10.0	2.9	0.8	24	VTD175K20P		
24.0	28.0	10.5	10.0	2.9	0.8	24	VTD175K20E		
28.0	32.0	10.5	10.0	2.9	0.8	24	VTD175K25		
24.0	28.0	10.5	10.0	2.9	0.8	24	VTD175KS20		
19.0	38.0	10.5	10.0	2.9	□ 1.2x0.5	8	VTD175P20		
24.0	28.0	10.6	10.0	3.0	0.8	24	VTD230K20	VTD...P20 	VTDS...P20 
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24.0	28.0	10.6	10.0	3.0	0.8	24	VTD230K20E		
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24.0	28.0	10.6	10.0	3.0	0.8	24	VTD230KS20		
19.0	38.0	10.6	10.0	3.0	□ 1.2x0.5	24	VTD230P20		

Table of Standard Values

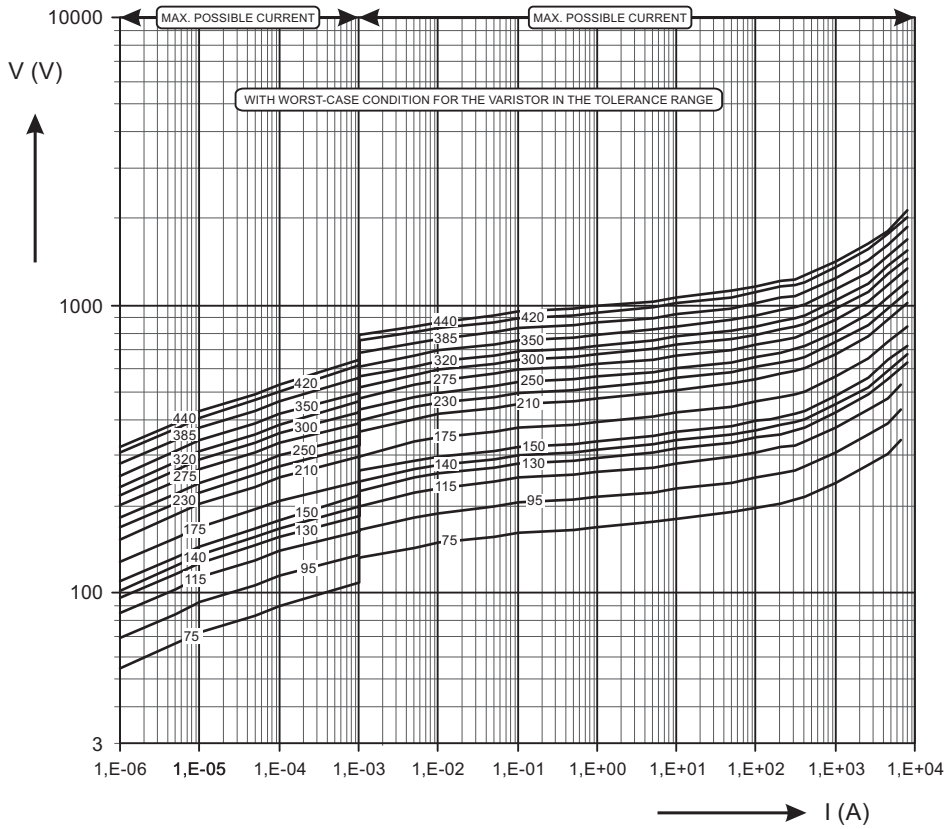
Part Number	Maximum Ratings TA = +80°C			Characteristics TA = +25°C							V - I Characteristic Page	Pulse Rating Page
	Operating Voltage		Max. Discharge Current (8/20 μs) I _{max} (kA)	Protection Level at U _{oc} /I _{sc} Test Current (8/20 μs)		Varistor Voltage (1 mA)		Maximum Clamping Voltage at Test Current (8/20 μs)		Typical Capacitance f=1kHz C (pF)		
	RMS Voltage V _{RMS} (V)	DC Voltage V _{DC} (V)		U _p (V)	U _{oc} /I _{sc} (kV/kA)	V _N (V)	ΔV _N (±%)	V _C (V)	I (A)			
VTD250K20	250	320	8	900	8/4	390	10	650	100	920	8	11
VTD250K20P	250	320	10	940	10/5	390	10	650	100	920	8	11
VTD250K20E	250	320	12	990	12/6	390	10	650	100	920	9	11
VTD250K25	250	320	15	1050	15/7,5	390	10	650	150	1000	10	12
VTD250KS20	250	320	15	1050	15/7,5	390	10	650	125	1000	9	12
VTD250P20	250	320	20	1140	20/10	390	10	650	150	1600	10	12
VTD275K20	275	350	8	970	8/4	430	10	710	100	820	9	11
VTD275K20P	275	350	10	1020	10/5	430	10	710	100	820	8	11
VTD275K20E	275	350	12	1060	12/6	430	10	710	100	820	9	11
VTD275K25	275	350	15	1140	15/7,5	430	10	710	150	900	10	12
VTD275KS20	275	350	15	1140	15/7,5	430	10	710	125	900	9	12
VTD275P20	275	350	20	1210	20/10	430	10	710	150	1450	10	12
VTD300K20	300	385	8	1040	8/4	470	10	775	100	760	8	11
VTD300K20P	300	385	10	1090	10/5	470	10	775	100	760	8	11
VTD300K20E	300	385	12	1140	12/6	470	10	775	100	760	9	11
VTD300K25	300	385	15	1230	15/7,5	470	10	775	150	830	10	12
VTD300KS20	300	385	15	1230	15/7,5	470	10	775	125	830	9	12
VTD300P20	300	385	20	1320	20/10	470	10	775	150	1350	10	12
VTD320K20	320	420	8	1120	8/4	510	10	840	100	700	8	11
VTD320K20P	320	420	10	1180	10/5	510	10	840	100	700	8	11
VTD320K20E	320	420	12	1230	12/6	510	10	840	100	700	9	11
VTD320K25	320	420	15	1310	15/7,5	510	10	840	150	770	10	12
VTD320S20	320	420	15	1310	15/7,5	510	10	840	125	770	9	12
VTD320P20	320	420	20	1430	20/10	510	10	840	150	1200	10	12
VTD350K20	350	460	8	1220	8/4	560	10	925	100	610	8	11
VTD350K20P	350	460	10	1280	10/5	560	10	925	100	610	8	11
VTD350K20E	350	460	12	1340	12/6	560	10	925	100	610	9	11
VTD350K25	350	460	15	1430	15/7,5	560	10	925	150	670	10	12
VTD350KS20	350	460	15	1430	15/7,5	560	10	925	125	670	9	12
VTD350P20	350	460	20	1560	20/10	560	10	925	150	1100	10	12
VTD385K20	385	505	8	1350	8/4	620	10	1025	100	500	8	11
VTD385K20P	385	505	10	1410	10/5	620	10	1025	100	500	8	11
VTD385K20E	385	505	12	1480	12/6	620	10	1025	100	500	9	11
VTD385K25	385	505	15	1580	15/7,5	620	10	1025	150	550	10	12
VTD385KS20	385	505	15	1580	15/7,5	620	10	1025	125	550	9	12
VTD385P20	385	505	20	1730	20/10	620	10	1025	150	1000	10	12
VTD420K20	420	560	8	1470	8/4	680	10	1120	100	450	8	11
VTD420K20P	420	560	10	1540	10/5	680	10	1120	100	450	8	11
VTD420K20E	420	560	12	1540	12/6	680	10	1120	100	450	9	11
VTD420K25	420	560	15	1600	15/7,5	680	10	1120	150	490	10	12
VTD420KS20	420	560	15	1700	15/7,5	680	10	1120	125	490	9	12
VTD420P20	420	560	20	1880	20/10	680	10	1120	150	950	10	12
VTD440K20	440	585	8	1540	8/4	715	10	1180	100	435	8	11
VTD440K20P	440	585	10	1610	10/5	715	10	1180	100	435	8	11
VTD440K20E	440	585	12	1690	12/6	715	10	1180	100	435	9	11
VTD440K25	440	585	15	1790	15/7,5	715	10	1180	150	470	10	12
VTD440KS20	440	585	15	1790	15/7,5	715	10	1180	125	470	9	12
VTD440P20	440	585	20	1970	20/10	715	10	1180	150	900	10	12

All other voltages are available on request

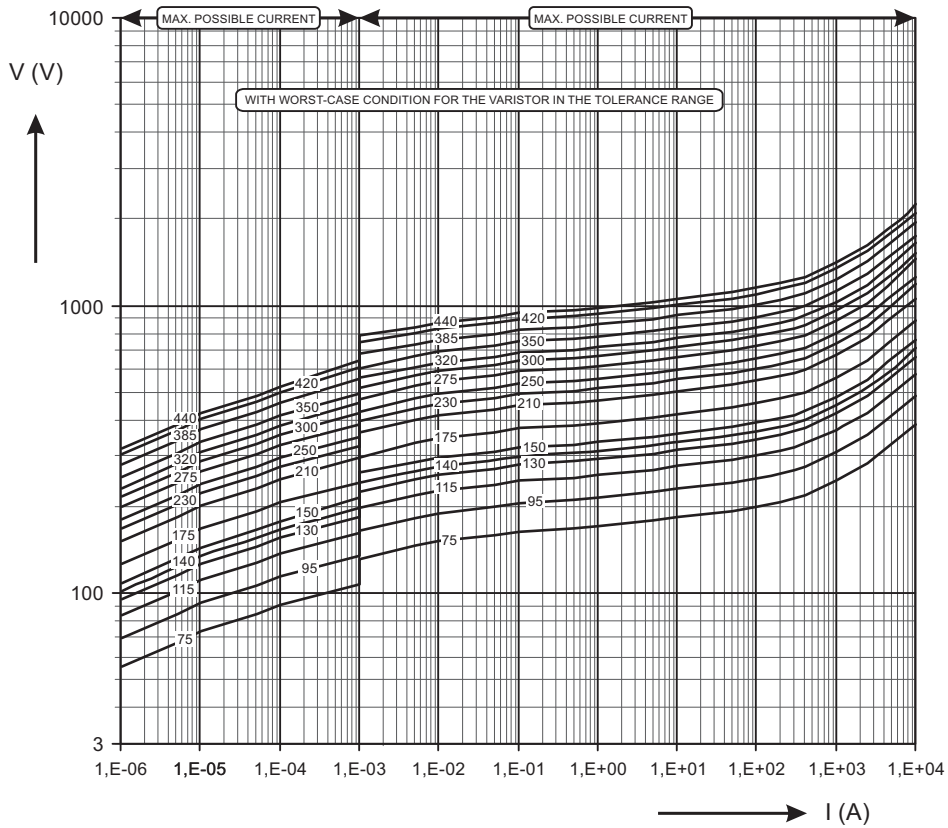
Dimensions							Part Number	Footprint	
D _{max} (mm)	H _{max} (mm)	T _{max} (mm)	W±1 (mm)	L±1 (mm)	d±0.05 (mm)	I _{min} (mm)			
24.0	28.0	10.7	10.0	3.1	0.8	24	VTD250K20	VTD 	VTDS 
24.0	28.0	10.7	10.0	3.1	0.8	24	VTD250K20P		
24.0	28.0	10.7	10.0	3.1	0.8	24	VTD250K20E		
28.0	32.0	10.7	10.0	3.1	0.8	24	VTD250K25		
24.0	28.0	10.7	10.0	3.1	0.8	24	VTD250KS20		
19.0	38.0	10.7	10.0	3.1	□1.2x0.5	8	VTD250P20		
24.0	28.0	10.8	10.0	3.2	0.8	24	VTD275K20	VTD...K20, P, E 	VTDS...K20, P, E 
24.0	28.0	10.8	10.0	3.2	0.8	24	VTD275K20P		
24.0	28.0	10.8	10.0	3.2	0.8	24	VTD275K20E		
28.0	32.0	10.8	10.0	3.2	0.8	24	VTD275K25		
24.0	28.0	10.8	10.0	3.2	0.8	24	VTD275KS20		
19.0	38.0	10.8	10.0	3.2	□1.2x0.5	8	VTD275P20		
24.0	28.0	10.9	10.0	3.3	0.8	24	VTD300K20		
24.0	28.0	10.9	10.0	3.3	0.8	24	VTD300K20P		
24.0	28.0	10.9	10.0	3.3	0.8	24	VTD300K20E		
28.0	32.0	10.9	10.0	3.3	0.8	24	VTD300K25		
24.0	28.0	10.9	10.0	3.3	0.8	24	VTD300KS20		
19.0	38.0	10.9	10.0	3.3	□1.2x0.5	8	VTD300P20		
24.0	28.0	11.1	10.0	3.4	0.8	24	VTD320K20	VTD...K25 	VTDS...K25 
24.0	28.0	11.1	10.0	3.4	0.8	24	VTD320K20P		
24.0	28.0	11.1	10.0	3.4	0.8	24	VTD320K20E		
28.0	32.0	11.1	10.0	3.4	0.8	24	VTD320K25		
24.0	28.0	11.1	10.0	3.4	0.8	24	VTD320S20		
19.0	38.0	11.1	10.0	3.4	□1.2x0.5	8	VTD320P20		
24.0	28.0	11.3	10.0	3.6	0.8	24	VTD350K20	VTD...KS20 	VTDS...KS20 
24.0	28.0	11.3	10.0	3.6	0.8	24	VTD350K20P		
24.0	28.0	11.3	10.0	3.6	0.8	24	VTD350K20E		
28.0	32.0	11.3	10.0	3.6	0.8	24	VTD350K25		
24.0	28.0	11.3	10.0	3.6	0.8	24	VTD350KS20		
19.0	38.0	11.3	10.0	3.6	□1.2x0.5	8	VTD350P20		
24.0	28.0	11.5	10.0	3.8	0.8	24	VTD385K20	VTD...P20 	VTDS...P20 
24.0	28.0	11.5	10.0	3.8	0.8	24	VTD385K20P		
24.0	28.0	11.5	10.0	3.8	0.8	24	VTD385K20E		
28.0	32.0	11.5	10.0	3.8	0.8	24	VTD385K25		
24.0	28.0	11.5	10.0	3.8	0.8	24	VTD385KS20		
19.0	38.0	11.5	10.0	3.8	□1.2x0.5	8	VTD385P20		
24.0	28.0	11.7	10.0	4.0	0.8	24	VTD420K20		
24.0	28.0	11.7	10.0	4.0	0.8	24	VTD420K20P		
24.0	28.0	11.7	10.0	4.0	0.8	24	VTD420K20E		
28.0	32.0	11.7	10.0	4.0	0.8	24	VTD420K25		
24.0	28.0	11.7	10.0	4.0	0.8	24	VTD420KS20		
19.0	38.0	11.7	10.0	4.0	□1.2x0.5	8	VTD420P20		
24.0	28.0	11.8	10.0	4.1	0.8	24	VTD440K20	VTD...P20 	VTDS...P20 
24.0	28.0	11.8	10.0	4.1	0.8	24	VTD440K20P		
24.0	28.0	11.8	10.0	4.1	0.8	24	VTD440K20E		
28.0	32.0	11.8	10.0	4.1	0.8	24	VTD440K25		
24.0	28.0	11.8	10.0	4.1	0.8	24	VTD440KS20		
19.0	38.0	11.8	10.0	4.1	□1.2x0.5	8	VTD440P20		

V-I Characteristics

VTD75K20-VTD440K20

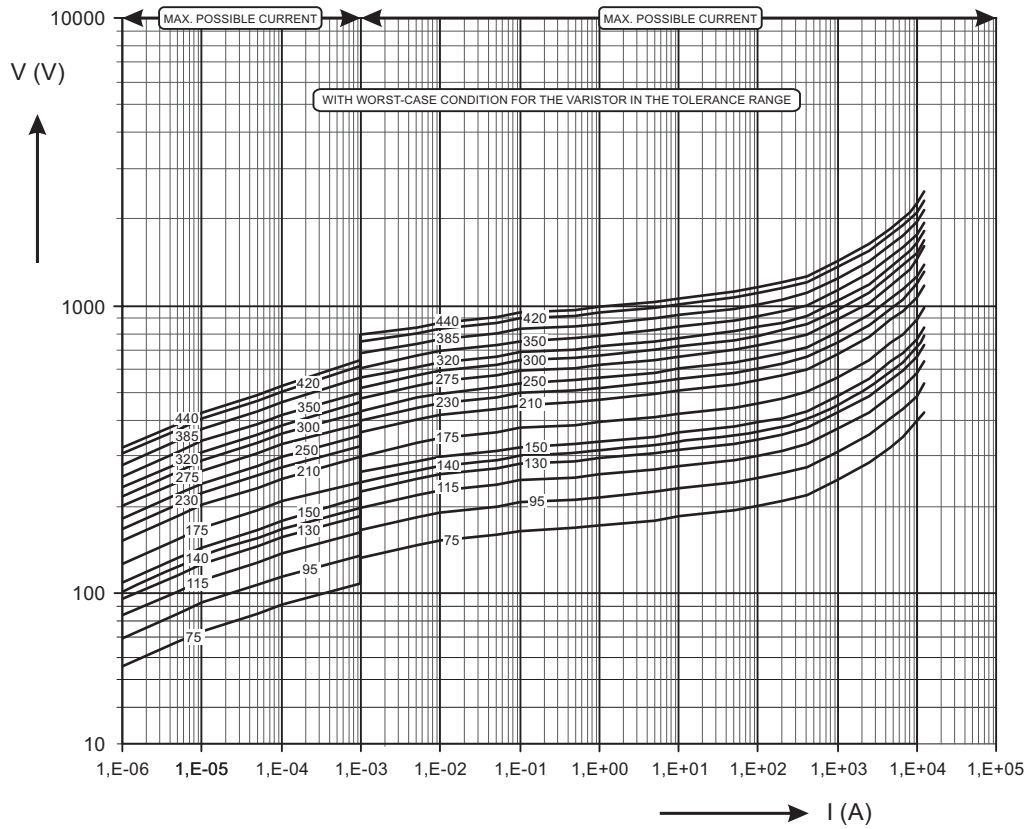


VTD75K20P-VTD440K20P

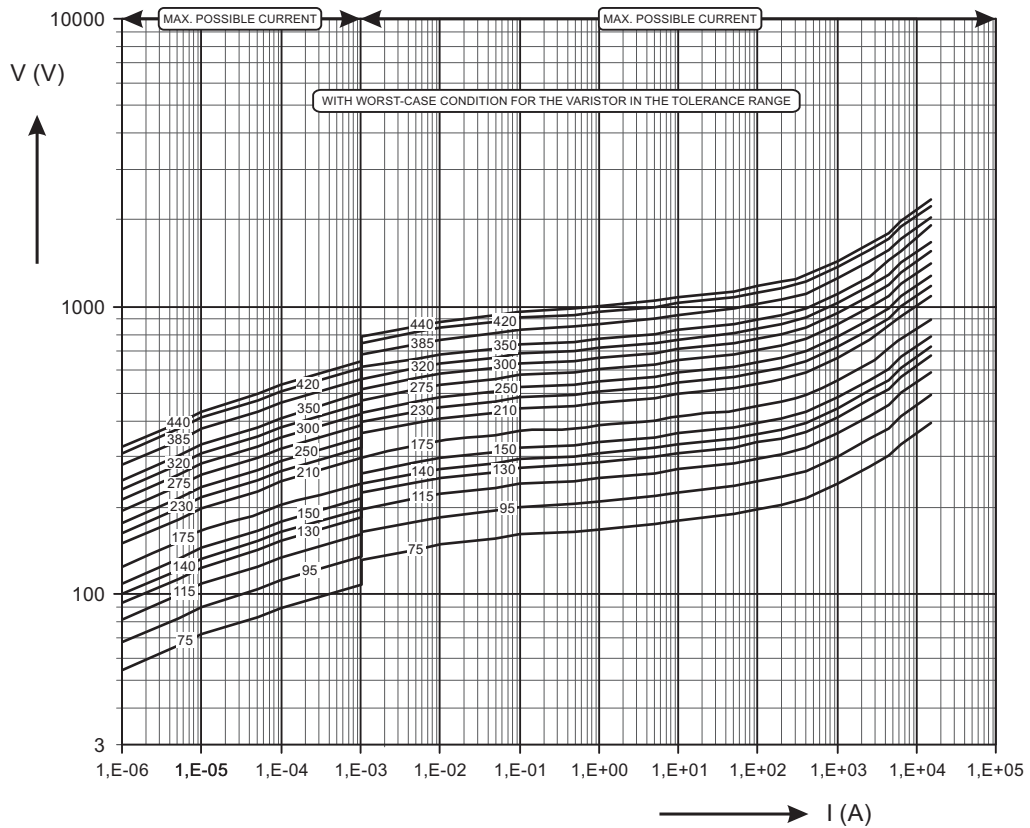


V-I Characteristics

VTD75K20E-VTD440K20E

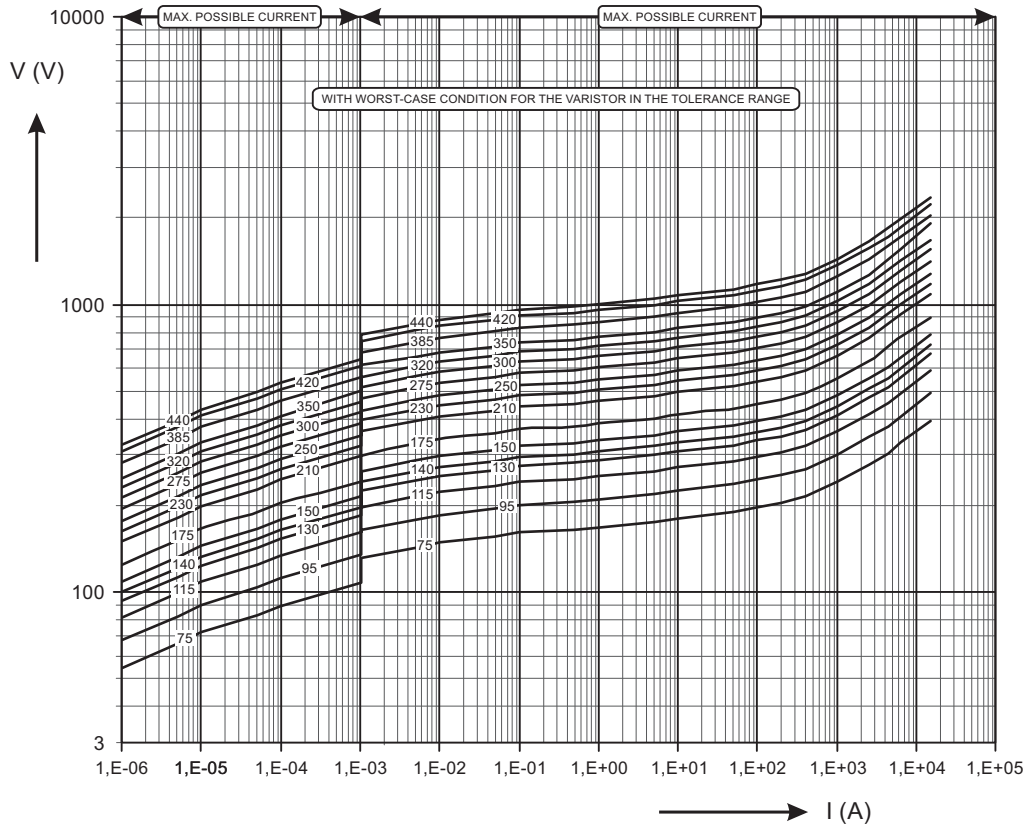


VTD75KS20-VTD440KS20

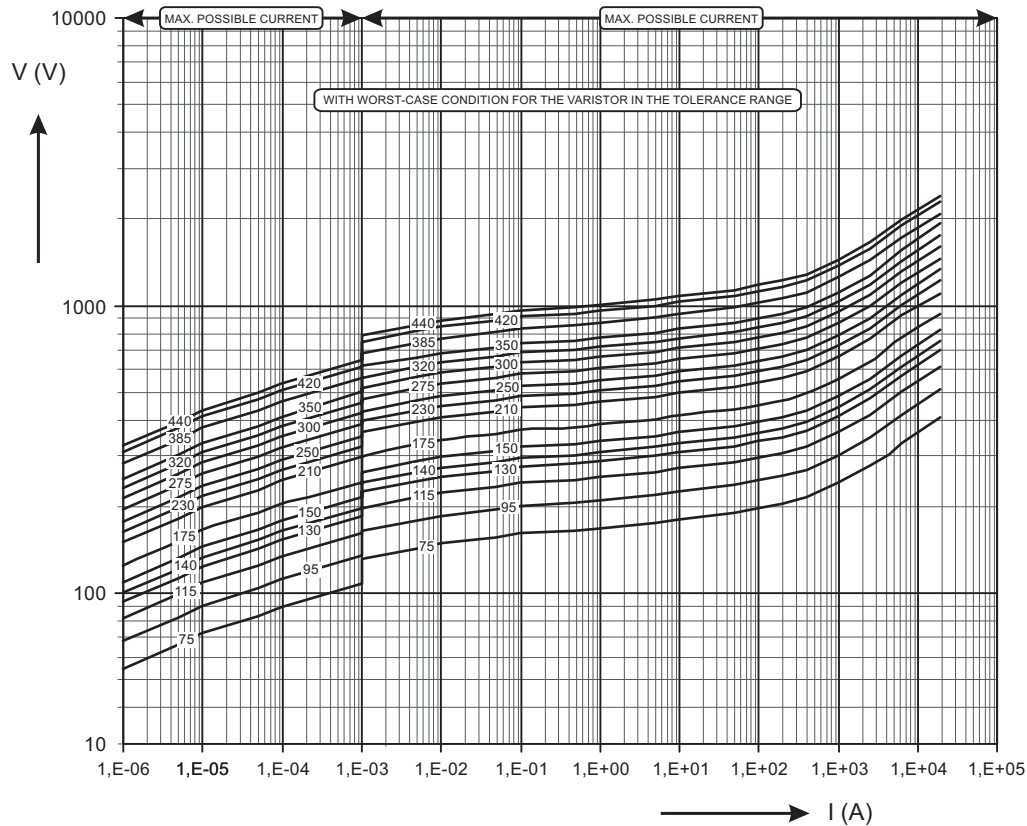


V-I Characteristics

VTD75K25-VTD440K25

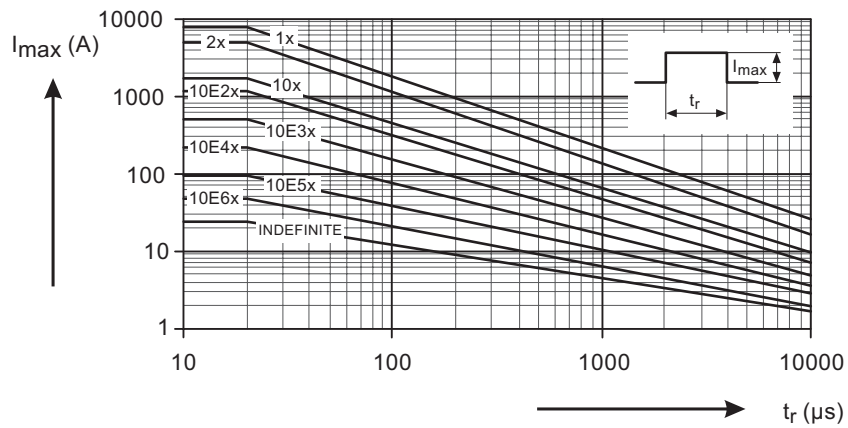


VTD75P20-VTD440P20

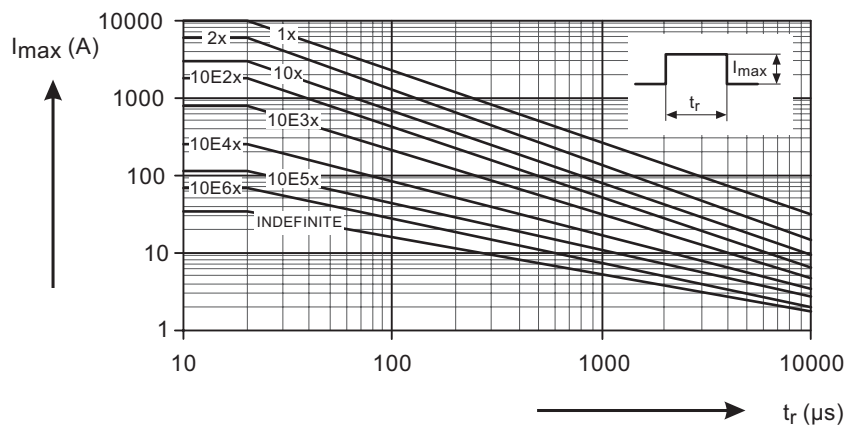


Pulse Ratings

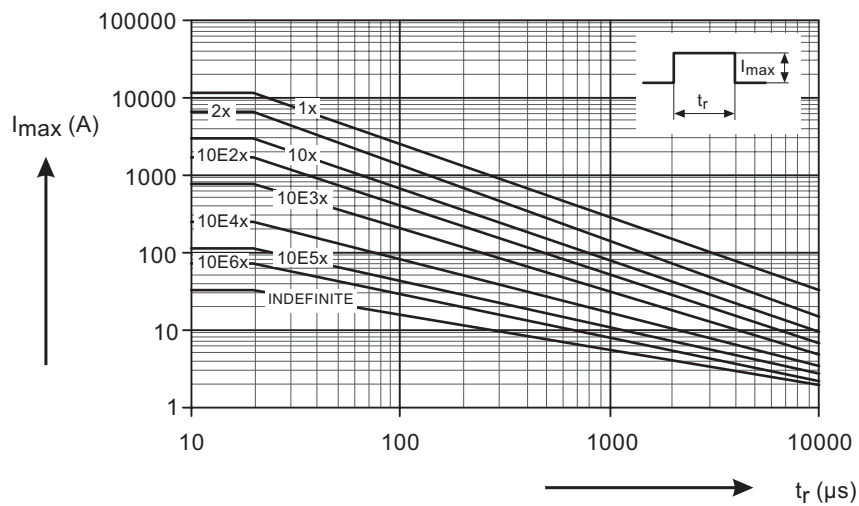
VTD75K20-VTD440K20



VTD75K20P-VTD440K20P

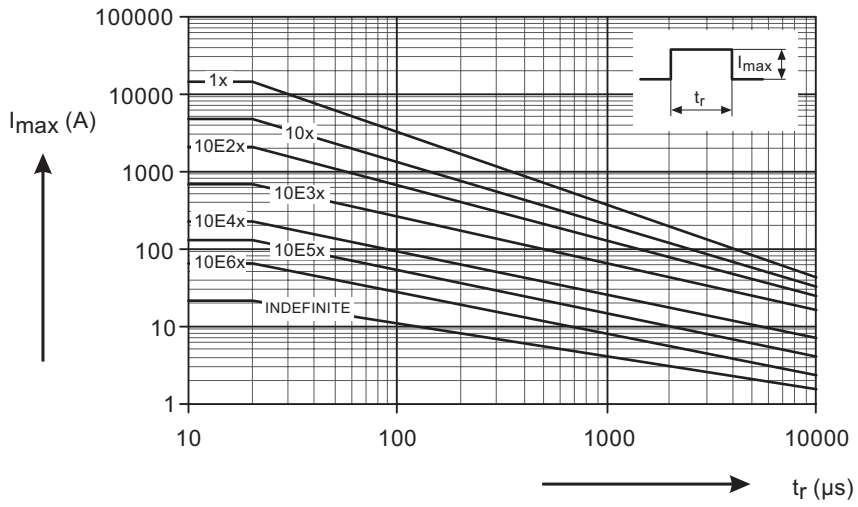


VTD75K20E-VTD440K20E

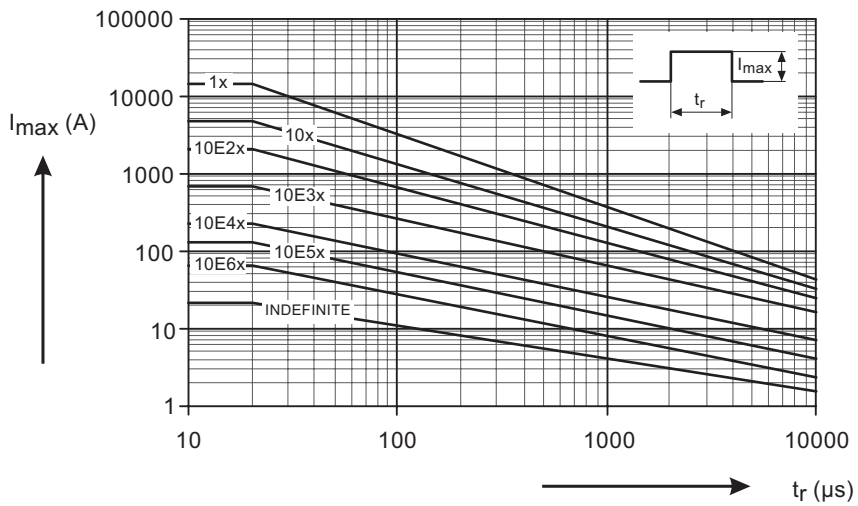


Pulse Ratings

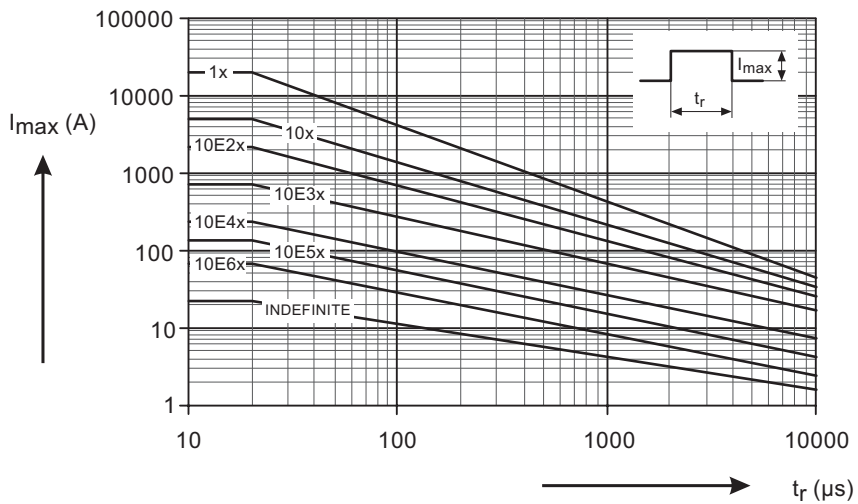
VTD75K25-VTD440K25



VTD75KS20-VTD440KS20



VTD75P20-VTD440P20



Why should we use VTDs instead of varistors?

Under normal operating conditions, the AC voltage applied to an MOV is not expected to exceed the MOV's Maximum ACRMS Voltage Rating. Occasionally, overvoltage transients may occur that exceed these limits. If, unlike a short-duration transient, an MOV is subjected to a sustained abnormal overvoltage, limited current condition (as required by IEC 61643 and UL1449), the MOV may go into thermal runaway resulting in overheating, smoke, and potential fire. If there are devices or fuses tied to the AC line that limit the current flow, the MOV can overheat and potentially cause the protected device to overheat, which results in smoke and eventually fire, so some level of protection must be supplied to the MOV to prevent this failure mode. A thermal fuse has traditionally provided such protection, but in our case it is a thermal disconnect, and the product's name is

VTD - VARISTOR with THERMAL DECOUPLER



VARSI, d.o.o. Varistor and Couplings Manufacturing Company

Stegne 35, SI - 1521 Ljubljana, Slovenia

Tel.: + 386 1 500 31 80

Fax: + 386 1 500 32 37

E-mail: info@varsi.si

Web: www.varsi.si

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This brochure replaces the previous edition.