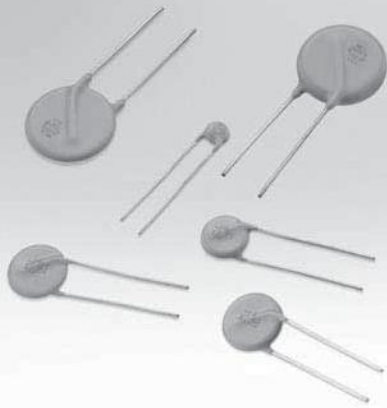


WE-VD

Disk Varistor

∅ 5 mm / ∅ 7 mm



Characteristics

- Low clamping voltage
 - After a surge impulse the varistor works immediately in normal mode so there is no slip current
 - Excellent absorption at surge impulses
 - Operating temperature:
 - 40 °C to +85 °C for types up to 95 VRMS
 - 40 °C to +125 °C for types from 115 VRMS
 - Response time < 25 ns
 - UL1449 4th Edition, CSA and VDE approved
- UL: File E332875
 CSA: File 224856
 VDE: File 40016986 and 40016998
 IEC: 60950-1: 2013 Annex Q from ∅ 10 mm

Applications

- 12–48 V_{DC} distribution
- 110–400 V power supply
- Leakage of voltage peaks
- Surge protection in accordance with EN 61000-4-5

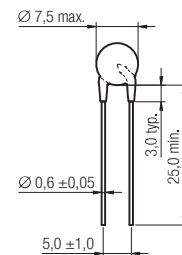
Notes

V_{max}/V_{DC} max. operating voltage
 V_{BR} varistor voltage (1 mA)
 I_{max} max. surge current (8/20 µs)
 W_{max} max. energy absorption (10/1000 µs)
 V_{Clamp} max. clamping voltage
 I_{Clamp} Test current for clamping voltage (8/20 µs)
 P_{max} max. rated wattage
 C_{0.1} capacitance (@ 1 kHz)
 ⚡ High-Surge Types

Electrical properties: ∅ 5 mm

Order Code	V _{RMS} (V)	V _{DC} (V)	V _{BR} (V)	I _{Peak} (A)	W _{max.} (J)	V _{Clamp} (V)	I _{Clamp} (A)	P _{Diss} (W)	C _{0.1} (pF)	Safety Approvals			Typical Applications	Qty.
										UL	CSA	VDE		
820 55 140 6	14	18	22	100	0.7	48	1	0.01	1130	5		X	12 V _{DC}	1500
⚡ 820 45 200 1	20	26	33	250	1.3	73	1	0.01	880	5		X	24 V _{DC}	1500
820 55 250 1	25	31	39	100	1.2	86	1	0.01	830	5		X	24 V _{DC}	1500
⚡ 820 45 300 1	30	38	47	250	1.8	104	1	0.01	720	5		X	24 V _{DC}	1500
820 55 400 1	40	56	68	100	2.1	150	1	0.01	500	5		X	48 V _{DC}	1500
820 55 600 1	60	85	100	400	3.5	175	5	0.10	260	5		X	72 V _{DC}	1500
820 55 131 1	130	170	200	400	7.1	355	5	0.10	135	5	X	X	110 V _{AC}	1500
820 55 271 1	250	350	430	400	16.5	745	5	0.10	65	5	X	X	230 V _{AC}	1500
820 55 381 1	385	505	620	400	20.5	1050	5	0.10	45	5	X	X		1000
⚡ 820 45 381 1	385	505	620	800	27.0	1050	5	0.10	45	5	X	X		1000
820 55 461 1	460	615	750	400	22.5	1290	5	0.10	35	5	X	X	400 V _{AC}	1000

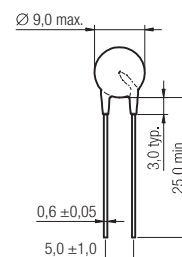
Dimensions (in mm)



Electrical properties: ∅ 7 mm

Order Code	V _{RMS} (V)	V _{DC} (V)	V _{BR} (V)	I _{Peak} (A)	W _{max.} (J)	V _{Clamp} (V)	I _{Clamp} (A)	P _{Diss} (W)	C _{0.1} (pF)	Safety Approvals			Typical Applications	Qty.
										UL	CSA	VDE		
820 57 140 6	14	18	22	250	1.4	43	2.5	0.02	2930	5		X	12 V _{DC}	1500
820 57 250 1	25	31	39	250	2.4	77	2.5	0.02	1820	5		X	24 V _{DC}	1500
820 57 300 1	30	38	47	250	3.0	93	2.5	0.02	1600	5		X		1500
820 57 400 1	40	56	68	250	4.3	135	2.5	0.02	1120	5		X	48 V _{DC}	1500
⚡ 820 47 500 1	50	65	82	1750	7.0	135	10	0.25	640	5		X	48 V _{DC}	1500
820 57 600 1	60	85	100	1200	7.0	165	10	0.25	540	5		X		1500
820 57 111 1	115	150	180	1200	13.0	300	10	0.25	220	5	X	X		1500
820 57 131 1	130	170	200	1200	14.3	340	10	0.25	210	5	X	X	110 V _{AC}	1500
⚡ 820 47 151 1	150	200	240	1750	21	395	10	0.25	180	5	X	X	110 V _{AC}	1500
820 57 251 1	250	320	390	1200	30	650	10	0.25	110	5	X	X		1500
820 57 271 1	275	350	430	1200	33	710	10	0.25	105	5	X	X	230 V _{AC}	1000
820 57 301 1	300	385	470	1200	35	775	10	0.25	100	5	X	X	230 V _{AC}	1000
820 57 421 1	420	560	680	1200	43	1120	10	0.25	78	5	X	X	400 V _{AC}	1000
⚡ 820 47 421 1	420	560	680	1750	56	1120	10	0.25	78	5	X	X		1000
820 57 461 1	460	615	750	1200	45	1240	10	0.25	75	5	X	X	400 V _{AC}	1000
⚡ 820 47 461 1	460	615	750	1750	58	1240	10	0.25	75	5	X	X	400 V _{AC}	1000

Dimensions (in mm)

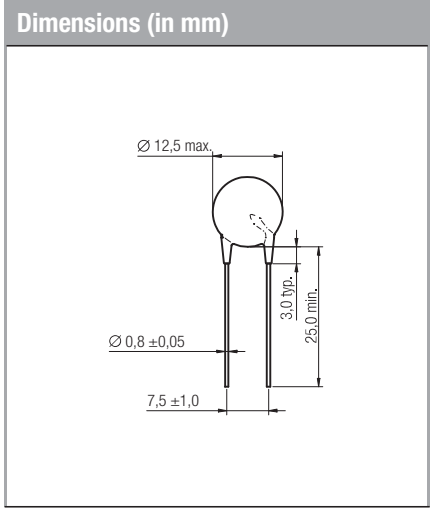


Crosslink

Design Kit: P. 310: 820999

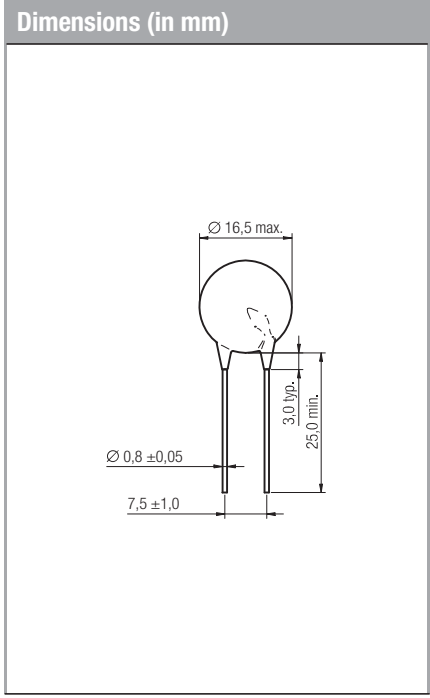
Electrical properties: Ø 10 mm														
Order Code	V _{RMS} (V)	V _{DC} (V)	V _{BR} (V)	I _{Peak} (A)	W _{max.} (J)	V _{Clamp} (V)	I _{Clamp} (A)	P _{Diss} (W)	C _{Oh} (pF)	Safety Approvals			Typical Applications	Qty.
										UL	CSA	VDE		
820 51 200 1	20	26	33	500	4.4	65	5	0.05	4250	5		X	24 V _{DC}	1000
820 41 200 1	20	26	33	1000	4.8	65	5	0.05	4250	5		X	24 V _{DC}	1000
820 51 250 1	25	31	39	500	4.7	77	5	0.05	3660	5		X	24 V _{DC}	1000
820 51 300 1	30	38	47	500	6.0	93	5	0.05	3140	5		X		1000
820 51 131 1	130	170	200	2500	28	340	25	0.4	410	5	X	X	110 V _{AC}	1000
820 51 231 1	230	300	360	2500	52	595	25	0.4	230	5	X	X		1000
820 51 251 1	250	320	390	2500	60	650	25	0.4	210	5	X	X	230 V _{AC}	1000
820 41 251 1	250	320	390	3500	70	650	25	0.4	210	5	X	X	230 V _{AC}	1000
820 51 271 1	275	350	430	2500	66	710	25	0.4	190	5	X	X	230 V _{AC}	750
820 41 271 1	275	350	430	3500	80	710	25	0.4	190	5	X	X	230 V _{AC}	750
820 51 301 1	300	385	470	2500	70	775	25	0.4	170	5	X	X		750
820 51 381 1	385	505	620	2500	82	1025	25	0.4	140	5	X	X		500
820 51 461 1	460	615	750	2500	90	1240	25	0.4	120	5	X	X	400 V _{AC}	500
820 41 551 1B	550	745	910	3500	127	1500	25	0.4	95	5	X	X	400 V _{AC}	500*

* This article is delivered as bulk good



Electrical properties: Ø 14 mm														
Order Code	V _{RMS} (V)	V _{DC} (V)	V _{BR} (V)	I _{Peak} (A)	W _{max.} (J)	V _{Clamp} (V)	I _{Clamp} (A)	P _{Diss} (W)	C _{Oh} (pF)	Safety Approvals			Typical Applications	Qty.
										UL	CSA	VDE		
820 54 140 6	14	18	22	1000	5.4	43	10	0.1	11960	5		X	12 V _{DC}	750
820 54 250 1	25	31	39	1000	9.4	77	10	0.1	7620	5		X	24 V _{DC}	750
820 54 300 1	30	38	47	1000	12	93	10	0.1	6420	5		X		750
820 54 500 1	50	65	82	1000	22	135	50	0.1	2970	5		X		750
820 44 600 1	60	85	100	6000	36	165	50	0.6	2220	5		X	72 V _{DC}	750
820 54 131 1	130	170	200	4500	57	340	50	0.6	840	5	X	X	110 V _{AC}	750
820 44 131 1E	130	170	200	6000	70	340	50	0.6	840	5	X	X	110 V _{AC}	750
820 54 251 1	250	320	390	4500	120	650	50	0.6	120	5	X	X		750
820 54 271 1	275	350	430	4500	132	710	50	0.6	450	5	X	X	230 V _{AC}	750
820 44 271 1E	275	350	430	6000	155	710	50	0.6	450	5	X	X	230 V _{AC}	750
820 54 301 1	300	385	470	4500	140	775	50	0.6	420	5	X	X	230 V _{AC}	750
820 44 321 1E	320	418	510	6000	190	842	50	0.6	370	5	X	X	230 V _{AC}	500
820 54 421 1	420	560	680	4500	172	1120	50	0.6	290	5	X	X		500
820 44 421 1E	420	560	680	6000	225	1120	50	0.6	290	5	X	X		500
820 54 461 1	460	615	750	4500	180	1240	50	0.6	270	5	X	X	400 V _{AC}	500
820 44 461 1E	460	615	750	6000	230	1240	50	0.6	290	5	X	X	400 V _{AC}	500
820 54 511 1	510	670	820	4500	188	1355	50	0.6	250	5	X	X		750*
820 44 551 1E	550	745	910	6000	255	1500	50	0.6	240	5	X	X		1500*
820 44 621 1E	625	825	1000	6000	283	1650	50	0.6	200	5	X	X		1500*
820 54 681 1	680	895	1100	4500	248	1815	50	0.6	180	5	X	X		1500*
820 54 102 1	1000	1465	1800	4500	348	2970	50	0.6	150	5	X	X		450*

* This article is delivered as bulk good



Note
 In accordance with EN/UL 60950:2006 Annex Q the specified varistor AC voltage has to be at least 125 % of the applications rated voltage or the rated voltages of the upper limit of the application.

- Notes**
- V_{rated}/V_{DC} max. operating voltage
 - V_{DR} varistor voltage (1 mA)
 - I_{surge} max. surge current (8/20 µs)
 - W_{max.} max. energy absorption (10/1000 µs)
 - V_{Clamp} max. clamping voltage
 - I_{test} Test current for clamping voltage (8/20 µs)
 - P_{Diss} max. rated wattage
 - C_{Oh} capacitance (@ 1 kHz)
 - High-Surge Types

Crosslink
Design Kit: P. 310: 820999

WE-VD

Disk Varistor

∅ 20 mm

Electrical properties: ∅ 20 mm

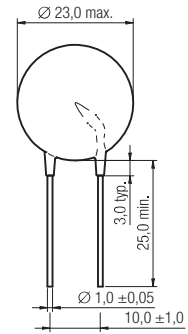
Order Code	V _{RMS} (V)	V _{DC} (V)	V _{BR} (V)	I _{Peak} (A)	W _{max.} (J)	V _{Clamp} (V)	I _{Clamp} (A)	P _{Diss} (W)	C _{Ch} (pF)	Safety Approvals			Typical Applications	Qty.
										UL	CSA	VDE		
820 52 300 6	30	38	47	2000	17	93	20	0.2	12100	5		X		500
820 52 750 1	75	100	120	6500	64	200	100	1.0	3800	5		X		500
820 52 131 1	130	170	200	6500	114	340	100	1.0	1830	5	X	X	110 V _{AC}	500
820 52 251 1	250	320	390	6500	240	650	100	1.0	980	5	X	X	230 V _{AC}	500
820 52 271 1	275	350	430	6500	264	710	100	1.0	860	5	X	X	230 V _{AC}	500
⚡ 820 42 271 1	275	350	430	10000	303	710	100	1.0	860	5	X	X	230 V _{AC}	500
820 52 321 1	320	418	510	6500	296	842	100	1.0	760	5	X	X		500
⚡ 820 42 321 1	320	418	510	10000	382	842	100	1.0	760	5	X	X		500
820 52 381 1B	385	505	620	6500	328	1025	100	1.0	600	5	X	X		450*
820 52 421 1B	420	560	680	6500	344	1120	100	1.0	570	5	X	X		450*
820 52 461 1	460	615	750	6500	360	1240	100	1.0	520	5	X	X	400 V _{AC}	450*
820 52 551 1	550	745	910	6500	408	1500	100	1.0	430	5	X	X		450*
820 52 681 1	680	895	1100	6500	496	1815	100	1.0	360	5	X	X		450*

* This article is delivered as bulk good

Notes

V_{RMS}/V_{DC} max. operating voltage
V_{BR} varistor voltage (1 mA)
I_{Peak} max. surge current (8/20 μs)
W_{max.} max. energy absorption (10/1000 μs)
V_{Clamp} max. clamping voltage
I_{Clamp} Test current for clamping voltage (8/20 μs)
P_{Diss} max. rated wattage
C_{Ch} capacitance (@ 1 kHz)
⚡ High-Surge Types

Dimensions (in mm)



Crosslink

Design Kit: P. 310: 820999