Radial Leaded Varistor (MOV), 11 - 95 VAC, 14 - 127 VDC

new



Disc Size: 5 mm



Disc Size: 10 mm



Disc Size: 20 mm

11 - 95 VAC · 250 - 10000 A · 5 - 20 mm

Description
- Radial Leaded Varistor
- Short reaction time
- Low leackage current

Standards
- UL 1449 - Transient Voltage Surge Suppressors

Approvals
- UL File Number: E189323 (UL 1449)

Applications
- Surge protection
- Secondary Protection DC and AC
- Automotive applications

References
General Product Information
Packaging Details

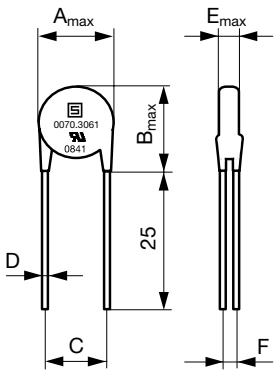
Weblinks
Approvals, RoHS, CHINA-RoHS, e-Store, Distributor-Stock-Check, Accessories, Product Change Notification (PCN)

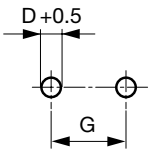
Technical Data

Rated Voltage	11 - 95 VAC, 14 - 127 VDC
Disc Size	5 - 20 mm
Peak Current 8/20 µs, 1 Pulse	250 - 10000 A
Max. Energy Absorption 10/1000 µs	0.6 - 106 J
Current/Energy Derating above 85 °C	- 2.5% / °C
Voltage/Temperature Coefficient	- 0.05% / °C
Admissible Ambient Air Temp.	- 40 °C to 125 °C
Material: Terminals	Tin-Plated Copper Alloy
Material: Tube	Zinc Oxide
Storage Conditions	0 °C to 60 °C max. 70% r.h.
Product Marking	S, Order Number, Approvals, Data Code

Soldering Methods	Wave
Solderability	235 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Insulation Resistance	>10'000 MΩ
HiPot Encapsulation	2500 VDC
Impulse Response Time	< 50 ns
DC Leackage Current	< 200 µA
Flammability	UL 94V-0

Dimensions





Drilling diagram

Dimensions

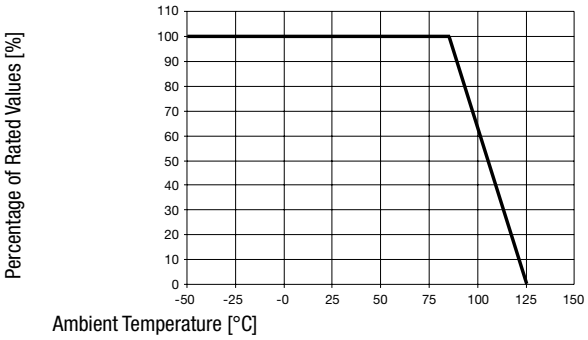
Rated Voltage	Disc size	A max	B max	C	D	E	F	G	Order Number
[VAC]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
11	5	7	8.5	5	0.6	3.3	1.2	5.1	0070.1111.xx
11	7	9	11	5	0.6	3.4	1.2	5.1	0070.1121.xx
11	10	12	14.5	7.5	0.8	4	1.4	7.6	0070.1141.xx
11	14	15.5	18.5	7.5	0.8	4	1.4	7.6	0070.1161.xx
11	20	21.5	25.5	10	1	4.5	1.5	10.1	0070.1181.xx
14	5	7	8.5	5	0.6	3.4	1.3	5.2	0070.1411.xx
14	7	9	11	5	0.6	3.5	1.3	5.2	0070.1421.xx
14	10	12	14.5	7.5	0.8	4.2	1.5	7.6	0070.1441.xx
14	14	15.5	18.5	7.5	0.8	4.2	1.5	7.6	0070.1461.xx
14	20	21.5	25.5	10	1	4.6	1.6	10.1	0070.1481.xx
17	5	7	8.5	5	0.6	3.5	1.4	5.2	0070.1711.xx
17	7	9	11	5	0.6	3.6	1.4	5.2	0070.1721.xx
17	10	12	14.5	7.5	0.8	4.4	1.6	7.7	0070.1741.xx
17	14	15.5	18.5	7.5	0.8	4.4	1.7	7.7	0070.1761.xx
17	20	21.5	25.5	10	1	4.8	1.8	10.2	0070.1781.xx
20	5	7	8.5	5	0.6	3.5	1.2	5.1	0070.2011.xx
20	7	9	11	5	0.6	3.6	1.2	5.1	0070.2021.xx
20	10	12	14.5	7.5	0.8	4.5	1.8	7.7	0070.2041.xx
20	14	15.5	18.5	7.5	0.8	4.6	1.9	7.7	0070.2061.xx
20	20	21.5	25.5	10	1	5.1	2.1	10.2	0070.2081.xx
25	5	7	8.5	5	0.6	3.6	1.3	5.2	0070.2511.xx
25	7	9	11	5	0.6	3.7	1.3	5.2	0070.2521.xx
25	10	12	14.5	7.5	0.8	4.2	1.6	7.7	0070.2541.xx
25	14	15.5	18.5	7.5	0.8	4.2	1.7	7.7	0070.2561.xx
25	20	21.5	25.5	10	1	4.7	1.8	10.2	0070.2581.xx
30	5	7	8.5	5	0.6	3.6	1.5	5.2	0070.3011.xx
30	7	9	11	5	0.6	3.7	1.5	5.2	0070.3021.xx
30	10	12	14.5	7.5	0.8	4.4	1.7	7.7	0070.3041.xx
30	14	15.5	18.5	7.5	0.8	4.4	1.8	7.7	0070.3061.xx
30	20	21.5	25.5	10	1	4.9	2	10.2	0070.3081.xx
35	5	7	8.5	5	0.6	3.7	1.6	5.2	0070.3511.xx
35	7	9	11	5	0.6	3.9	1.6	5.2	0070.3521.xx
35	10	12	14.5	7.5	0.8	4.4	1.8	7.7	0070.3541.xx
35	14	15.5	18.5	7.5	0.8	4.5	2	7.8	0070.3561.xx
35	20	21.5	25.5	10	1	5.1	2.2	10.2	0070.3581.xx
40	5	7	8.5	5	0.6	3.9	1.8	5.3	0070.4011.xx
40	7	9	11	5	0.6	4.1	1.8	5.3	0070.4021.xx
40	10	12	14.5	7.5	0.8	4.8	2.1	7.8	0070.4041.xx
40	14	15.5	18.5	7.5	0.8	4.9	2.2	7.8	0070.4061.xx
40	20	21.5	25.5	10	1	5.4	2.4	10.3	0070.4081.xx
50	5	7	8.5	5	0.6	3.3	1.2	5.1	0070.5011.xx
50	7	9	11	5	0.6	3.3	1.2	5.1	0070.5021.xx
50	10	12	14.5	7.5	0.8	3.9	1.4	7.6	0070.5041.xx
50	14	15.5	18.5	7.5	0.8	3.9	1.4	7.6	0070.5061.xx
50	20	21.5	25.5	10	1	4.3	1.5	10.1	0070.5081.xx
60	5	7	8.5	5	0.6	3.3	1.2	5.1	0070.6011.xx
60	7	9	11	5	0.6	3.3	1.2	5.1	0070.6021.xx
60	10	12	14.5	7.5	0.8	4	1.4	7.6	0070.6041.xx
60	14	15.5	18.5	7.5	0.8	4	1.5	7.6	0070.6061.xx
60	20	21.5	25.5	10	1	4.4	1.6	10.1	0070.6081.xx
75	5	7	8.5	5	0.6	3.4	1.3	5.2	0070.7511.xx
75	7	9	11	5	0.6	3.6	1.3	5.2	0070.7521.xx
75	10	12	14.5	7.5	0.8	4.2	1.5	7.6	0070.7541.xx
75	14	15.5	18.5	7.5	0.8	4.2	1.5	7.6	0070.7561.xx

Rated Voltage	Disc size	A max	B max	C	D	E	F	G	Order Number
[VAC]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
75	20	21.5	25.5	10	1	4.6	1.6	10.1	0070.7581.xx
95	5	7	8.5	5	0.6	3.4	1.3	5.2	0070.9511.xx
95	7	9	11	5	0.6	3.4	1.3	5.2	0070.9521.xx
95	10	12	14.5	7.5	0.8	4	1.5	7.6	0070.9541.xx
95	14	15.5	18.5	7.5	0.8	4	1.5	7.6	0070.9561.xx
95	20	21.5	25.5	10	1	4.5	1.6	10.1	0070.9581.xx

Electrical parameters can be found in the table of variants below.

Temperature Derating Curves

Rated Voltage, Peak Current, Energy Absorption



Variants

Rated Voltage	Rated Voltage	Disc size	Peak Current, 8/20 µs, 1 Pulse	Peak Current, 8/20 µs, 2 Pulses	Energy, 10/1000 µs	Min. Voltage @ 1 mA DC	Max. Voltage @ 1 mA DC	Max. Clamping Voltage	Peak Current, 8/20 µs, Clamping	Typ. Capacity @ 1 kHz		Order Number
[VAC]	[VDC]	[mm]	[A]	[A]	[J]	[V]	[V]	[V]	[A]	[pF]		
11	14	5	250	125	0.6	16	20	40	1	2200	●	0070.1111.xx
11	14	7	500	250	1.1	16	20	36	2.5	3500	●	0070.1121.xx
11	14	10	1000	500	2.6	16	20	36	5	7500	●	0070.1141.xx
11	14	14	2000	1000	5.2	16	20	36	10	18000	●	0070.1161.xx
11	14	20	3000	2000	13	16	20	36	20	37000	●	0070.1181.xx
14	18	5	250	125	0.7	20	24	48	1	2000	●	0070.1411.xx
14	18	7	500	250	1.3	20	24	43	2.5	2800	●	0070.1421.xx
14	18	10	1000	500	3.2	20	24	43	5	6000	●	0070.1441.xx
14	18	14	2000	1000	6.3	20	24	43	10	15000	●	0070.1461.xx
14	18	20	3000	2000	16	20	24	43	20	30000	●	0070.1481.xx
17	22	5	250	125	0.9	24	30	60	1	1600	●	0070.1711.xx
17	22	7	500	250	1.6	24	30	53	2.5	2000	●	0070.1721.xx
17	22	10	1000	500	3.9	24	30	53	5	4000	●	0070.1741.xx
17	22	14	2000	1000	7.8	24	30	53	10	10000	●	0070.1761.xx
17	22	20	3000	2000	19	24	30	53	20	22000	●	0070.1781.xx
20	26	5	250	125	1.1	30	36	73	1	1675	●	0070.2011.xx
20	26	7	500	250	2	30	36	65	2.5	3614	●	0070.2021.xx
20	26	10	1000	500	4.8	30	36	65	5	6655	●	0070.2041.xx
20	26	14	2000	1000	9.5	30	36	65	10	14447	●	0070.2061.xx
20	26	20	3000	2000	24	30	36	65	20	33064	●	0070.2081.xx
25	31	5	250	125	1.2	35	43	86	1	1417	●	0070.2511.xx
25	31	7	500	250	2.4	35	43	77	2.5	3058	●	0070.2521.xx
25	31	10	1000	500	5.6	35	43	77	5	5632	●	0070.2541.xx
25	31	14	2000	1000	11	35	43	77	10	12225	●	0070.2561.xx
25	31	20	3000	2000	28	35	43	77	20	27977	●	0070.2581.xx
30	38	5	250	125	1.5	42	52	99	1	1176	●	0070.3011.xx
30	38	7	500	250	2.5	42	52	93	2.5	2537	●	0070.3021.xx
30	38	10	1000	500	6.8	42	52	93	5	4673	●	0070.3041.xx

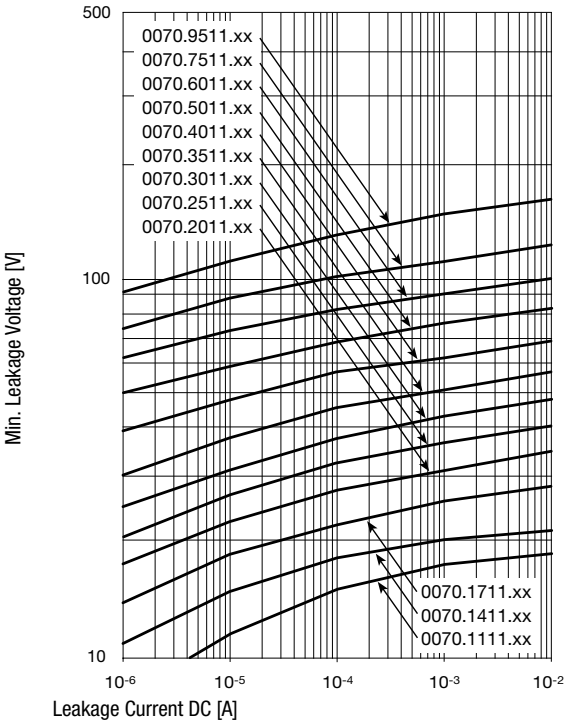
Rated Voltage [VAC]	Rated Voltage [VDC]	Disc size [mm]	Peak Current, 8/20 µs, 1 Pulse [A]	Peak Current, 8/20 µs, 2 Pulses [A]	Energy, 10/1000 µs [J]	Min. Voltage @ 1 mA DC [V]	Max. Voltage @ 1 mA DC [V]	Max. Clamping Voltage [V]	Peak Current, 8/20 µs, Clamping [A]	Typ. Capacity @ 1 kHz [pF]		Order Number
30	38	14	2000	1000	14	42	52	93	10	10144	●	0070.3061.xx
30	38	20	3000	2000	34	42	52	93	20	23215	●	0070.3081.xx
35	45	5	250	125	1.8	50	62	117	1	987	●	0070.3511.xx
35	45	7	500	250	3.4	50	62	110	2.5	2130	●	0070.3521.xx
35	45	10	1000	500	8.1	50	62	110	5	3922	●	0070.3541.xx
35	45	14	2000	1000	16	50	62	110	10	8514	●	0070.3561.xx
35	45	20	3000	2000	41	50	62	110	20	19484	●	0070.3581.xx
40	56	5	250	125	2.2	61	75	138	1	438	●	0070.4011.xx
40	56	7	500	250	5.2	61	75	135	2.5	945	●	0070.4021.xx
40	56	10	1000	500	13	61	75	135	5	1627	●	0070.4041.xx
40	56	14	2000	1000	20	61	75	135	10	3285	●	0070.4061.xx
40	56	20	3000	2000	49	61	75	135	20	7517	●	0070.4081.xx
50	66	5	800	600	3.5	74	90	163	5	364	●	0070.5011.xx
50	66	7	1750	1250	7	74	90	157	10	767	●	0070.5021.xx
50	66	10	3500	2500	14	74	90	147	25	1375	●	0070.5041.xx
50	66	14	6000	5000	28	74	90	147	50	2829	●	0070.5061.xx
50	66	20	10000	7000	56	74	90	147	100	5041	●	0070.5081.xx
60	81	5	800	600	4.5	90	110	190	5	299	●	0070.6011.xx
60	81	7	1750	1250	9	90	110	180	10	629	●	0070.6021.xx
60	81	10	3500	2500	18	90	110	175	25	1128	●	0070.6041.xx
60	81	14	6000	5000	36	90	110	175	50	2319	●	0070.6061.xx
60	81	20	10000	7000	72	90	110	175	100	5264	●	0070.6081.xx
75	102	5	800	600	5.5	108	132	220	5	249	●	0070.7511.xx
75	102	7	1750	1250	11	108	132	220	10	524	●	0070.7521.xx
75	102	10	3500	2500	22	108	132	210	25	940	●	0070.7541.xx
75	102	14	6000	5000	44	108	132	210	50	1933	●	0070.7561.xx
75	102	20	10000	7000	88	108	132	210	100	4387	●	0070.7581.xx
95	127	5	800	600	6.6	135	165	240	5	118	●	0070.9511.xx
95	127	7	1750	1250	13	135	165	255	10	255	●	0070.9521.xx
95	127	10	3500	2500	25	135	165	255	25	469	●	0070.9541.xx
95	127	14	6000	5000	53	135	165	255	50	1019	●	0070.9561.xx
95	127	20	10000	7000	106	135	165	255	100	2331	●	0070.9581.xx

Packaging Unit

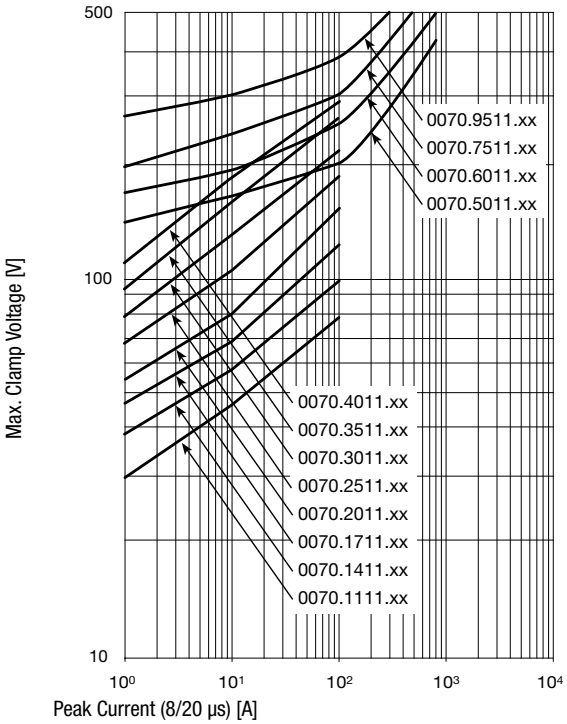
.xx = .B1 Plastic Bag (100 pcs.)
.xx = .T2 Taped&Reel:
11 - 95 VAC: 5 + 7 mm Disc Size 1500 pieces
11 - 95 VAC: 10 mm Disc Size 1000 pieces
11 - 95 VAC: 14 mm Disc Size 1000 pieces
11 - 95 VAC: 20 mm Disc Size 500 pieces
.xx = .A2 Ammo Pack
11 - 95 VAC: 5 + 7 mm Disc Size 1500 pieces
11 - 95 VAC: 10 mm Disc Size 1000 pieces
11 - 95 VAC: 14 mm Disc Size 1000 pieces
11 - 95 VAC: 20 mm Disc Size 500 pieces

Voltage-Current Curves

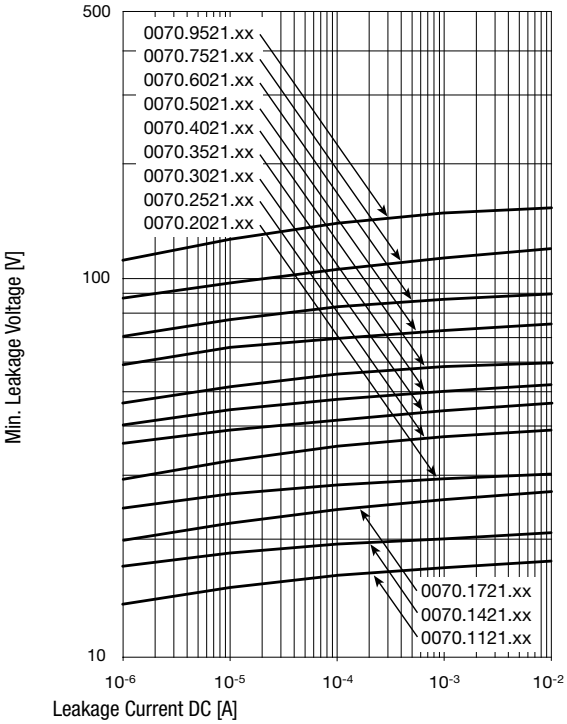
Disc Size: 5 mm Varistor



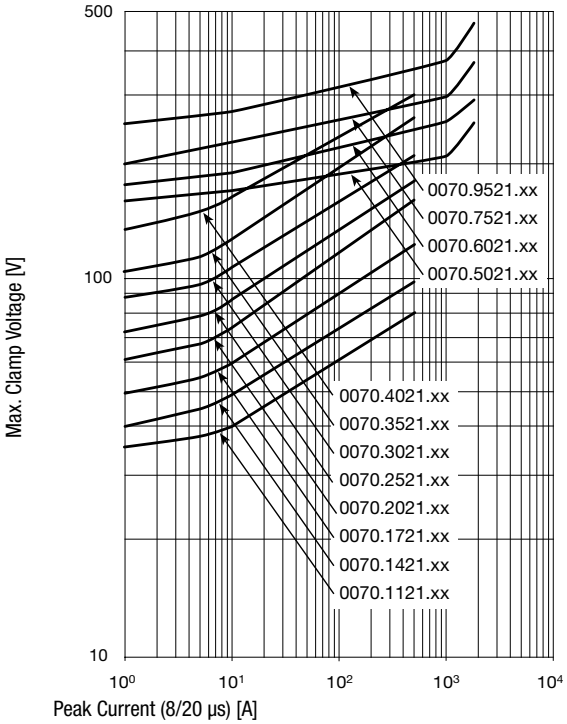
Disc Size: 5 mm Varistor



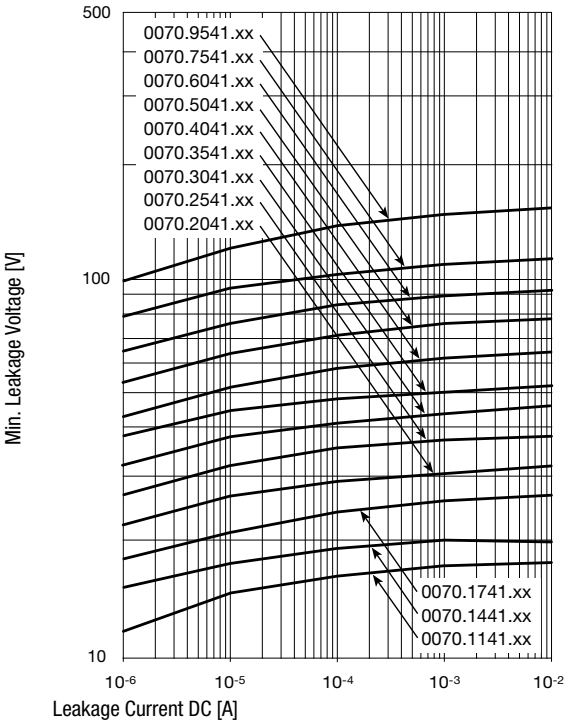
Disc Size: 7 mm



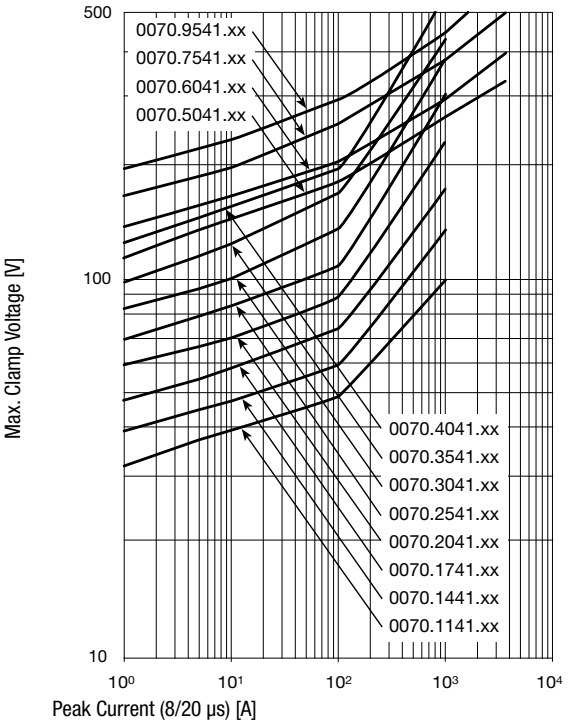
Disc Size: 7 mm



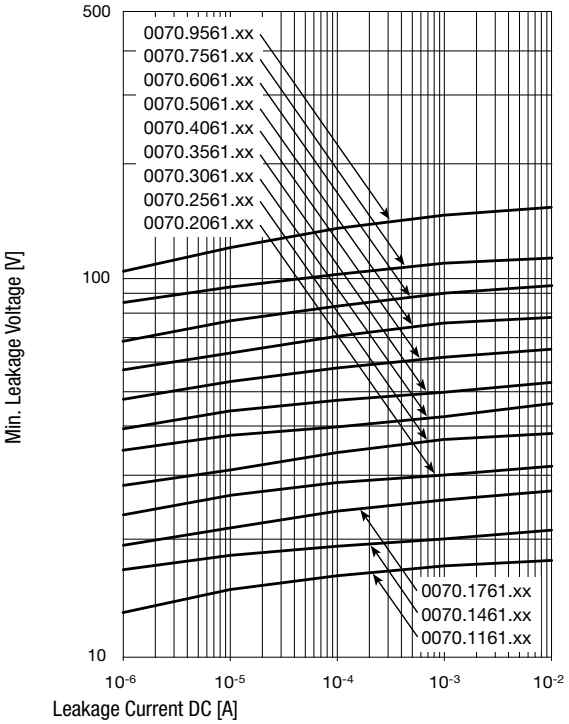
Disc Size: 10 mm



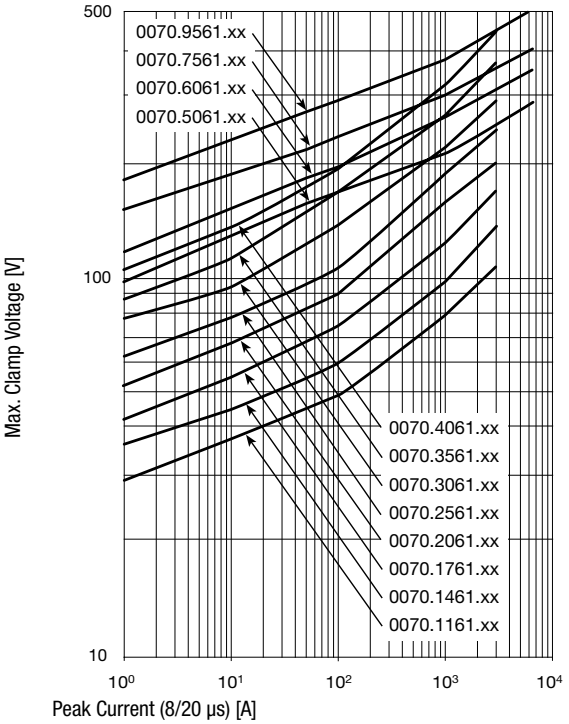
Disc Size: 10 mm



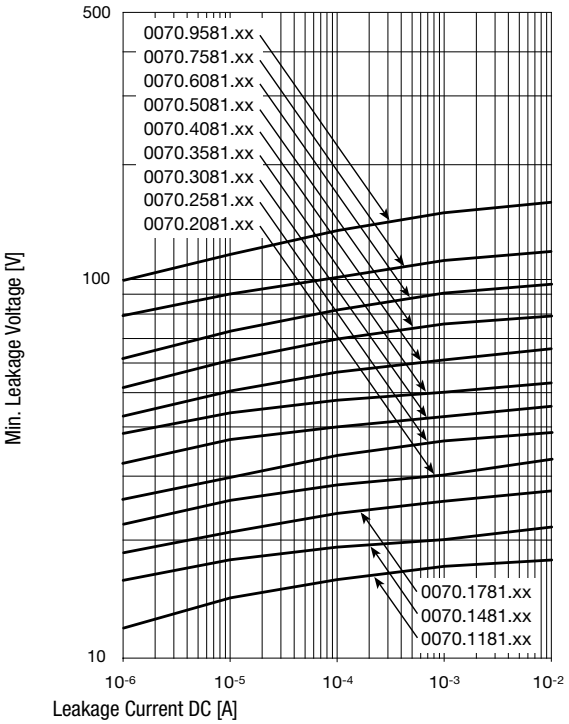
Disc Size: 14 mm



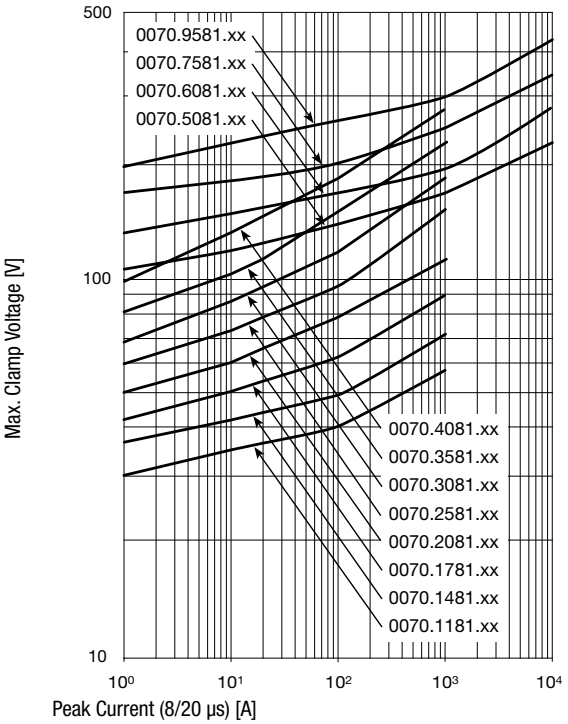
Disc Size: 14 mm



Disc Size: 20 mm



Disc Size: 20 mm Varistor



Pulse Derating Curves

Derating at Quantity of Pulses and Pulse Duration
1, 10, ... = Quantity of Pulses

