

Last order date: 31.10.2012



Disc Size: 5 mm



Disc Size: 10 mm



Disc Size: 20 mm

11 - 95VAC · 250 - 10000A · 5 - 20mm

**Description**

- Radial Leaded Varistor
- Short reaction time
- Low leakage current

Standards

UL 1449 - Transient Voltage Surge Suppressors

Approvals

- UL File Number: E340137 (UL 1449)

Applications

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

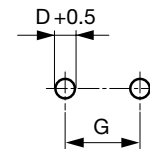
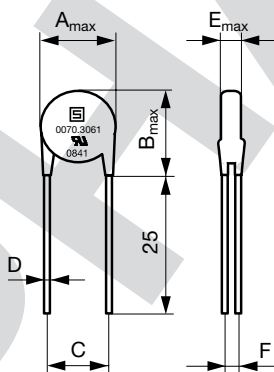
References[Packaging Details](#)**Weblinks**

[pdf](#), [html](#), [General Product Information](#), [Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Shop](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

Technical Data

| | |
|---|------------------------------------|
| Rated Voltage | 11 - 95VAC, 14 - 127VDC |
| Disc Size | 5 - 20mm |
| Peak Current 8/20 μ s, 1 Pulse | 250 - 10000 A |
| Max. Energy Absorption 10/1000 μ s | 0.6 - 106J |
| Current/Energy Derating above 85 °C | - 2.5% / °C |
| Voltage/Temperature Coeffi- cient | - 0.05% / °C |
| Mounting | PCB, THT |
| 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 | 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 M Ω |
| HiPot Encapsulation | 2500 VDC |
| Impulse Response Time | < 50 ns |
| DC Leakage Current | < 200 μ A |
| 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 |

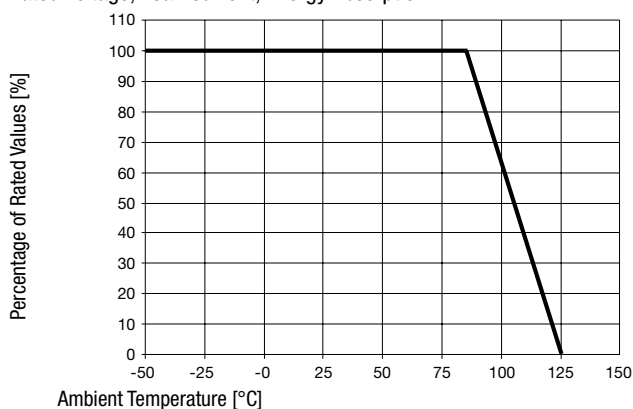


| Rated Voltage | Disc size | A max | B max | C | D | E | F | G | Order Number |
|---------------|-----------|-------|-------|------|------|------|------|------|--------------|
| [VAC] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | |
| 75 | 20 | 21.5 | 25.5 | 10 | 1 | 4.6 | 1.6 | 10.1 | 0070.7581.xx |
| 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 |

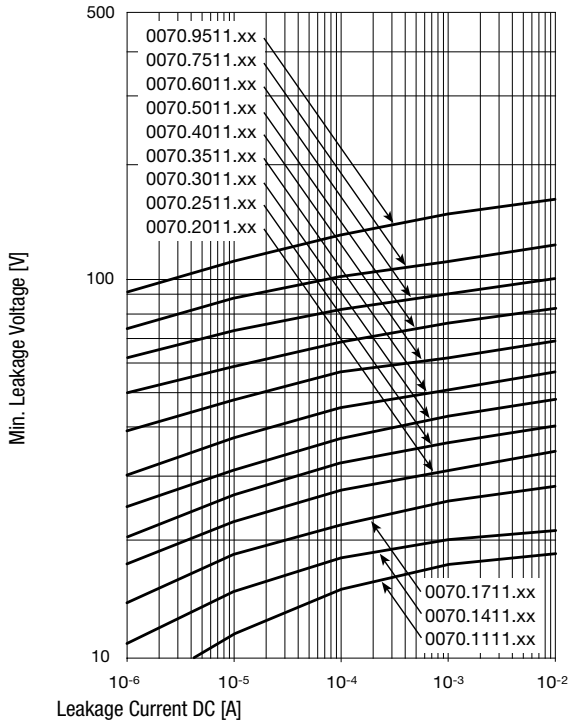
| Rated Voltage | Rated Voltage | Disc size | Peak Current, 8/20 μ s, 1 Pulse | Peak Current, 8/20 μ s, 2 Pulses | Energy, 10/1000 μ s | Min. Voltage @ 1 mA DC | Max. Voltage @ 1 mA DC | Max. Clamping Voltage | Peak Current, 8/20 μ s, Clamping | Typ. Capacity @ 1 kHz |  | Order Number |
|---------------|---------------|-----------|-------------------------------------|--------------------------------------|-------------------------|------------------------|------------------------|-----------------------|--------------------------------------|-----------------------|---|--------------|
| [VAC] | [VDC] | [mm] | [A] | [A] | [J] | [V] | [V] | [V] | [A] | [pF] | | |
| 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 |
| 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

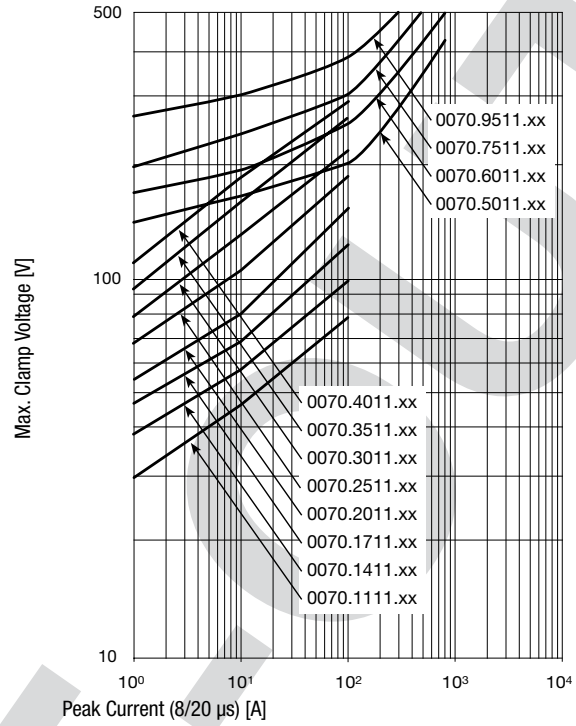
- .xx = .B1 Plastic Bag (100 pcs.)
- .xx = .T2 Taped&Reel:
 - 11 - 95 VAC: 5 + 7 mm Disc Size 1500 pieces
 - 11 - 95 VAC: 10 mm Disc Size 1000 pieces
 - 11 - 95 VAC: 14 mm Disc Size 1000 pieces
 - 11 - 95 VAC: 20 mm Disc Size 500 pieces
- .xx = .A2 Ammo Pack
 - 11 - 95 VAC: 5 + 7 mm Disc Size 1500 pieces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

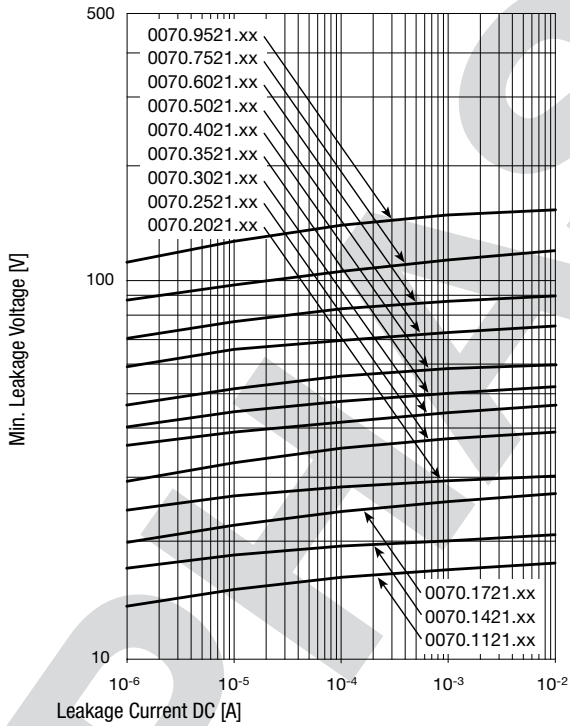
Disc Size: 5 mm Varistor



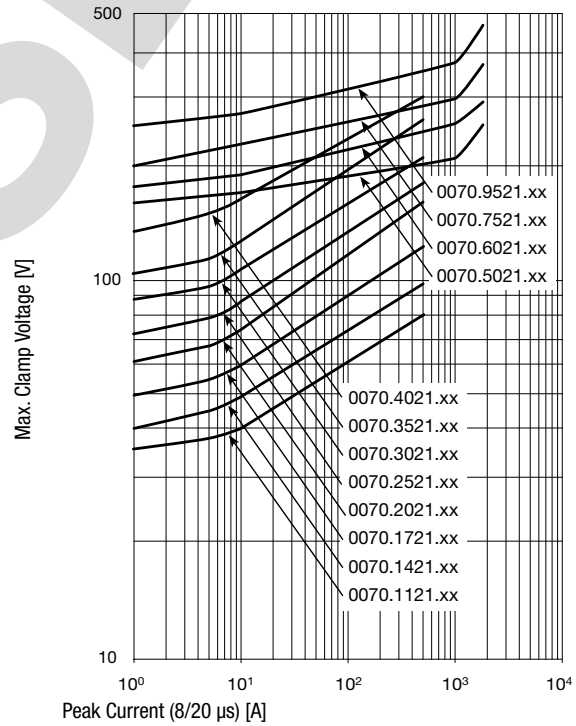
Disc Size: 5 mm Varistor



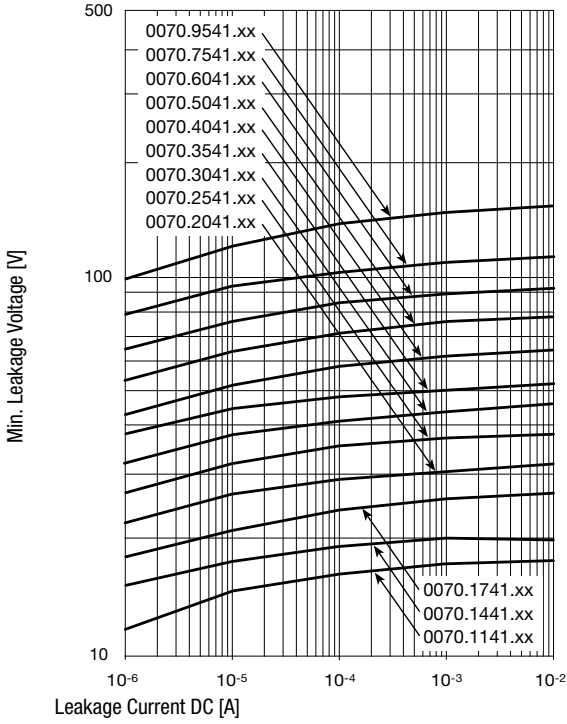
Disc Size: 7 mm



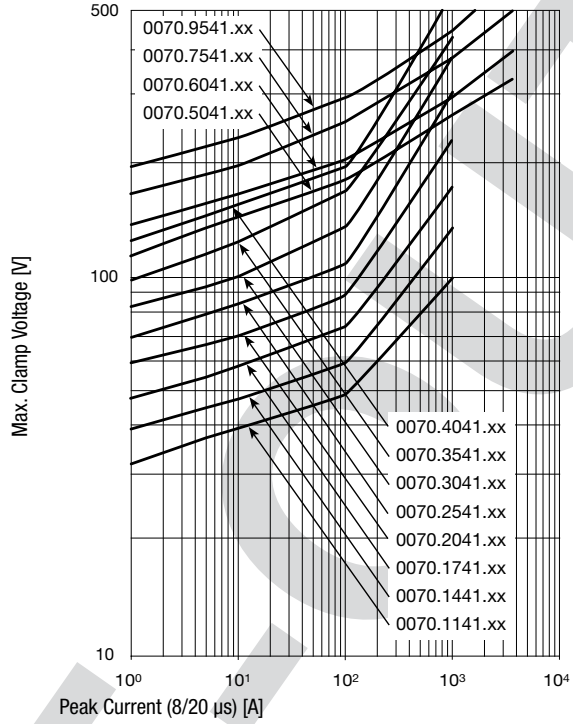
Disc Size: 7 mm



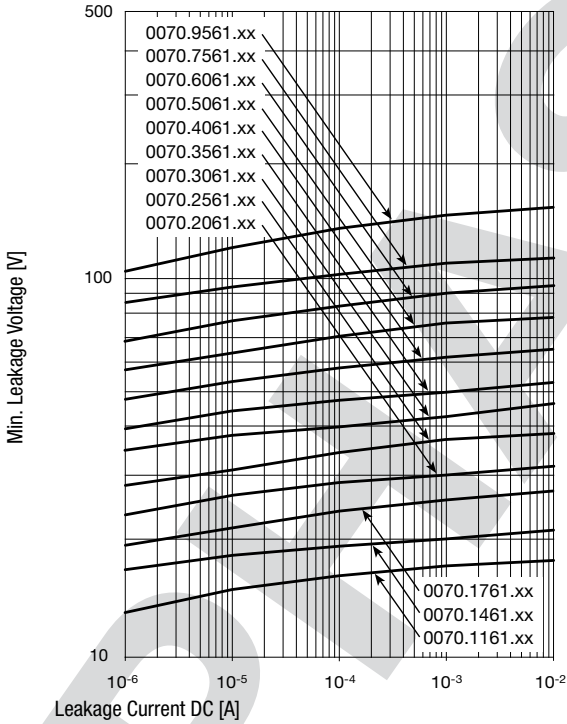
Disc Size: 10 mm



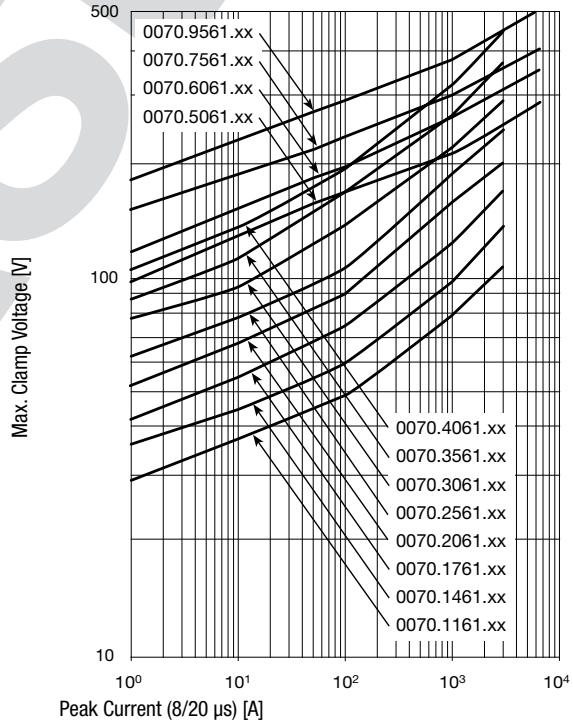
Disc Size: 10 mm



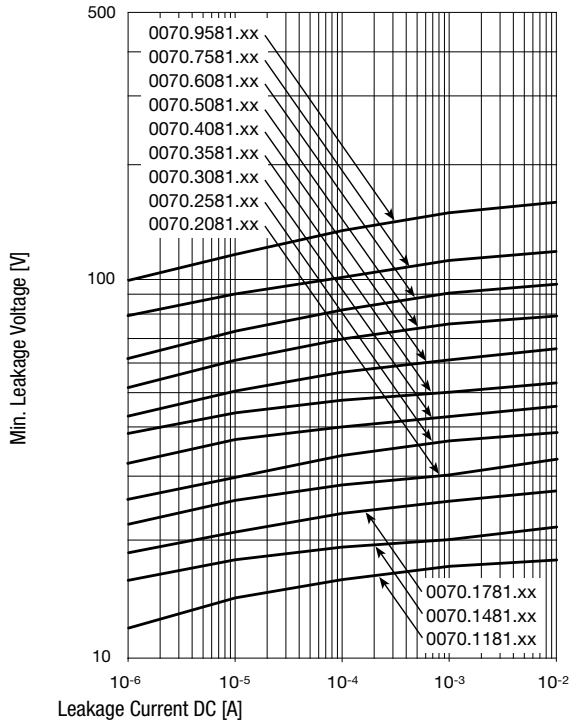
Disc Size: 14 mm



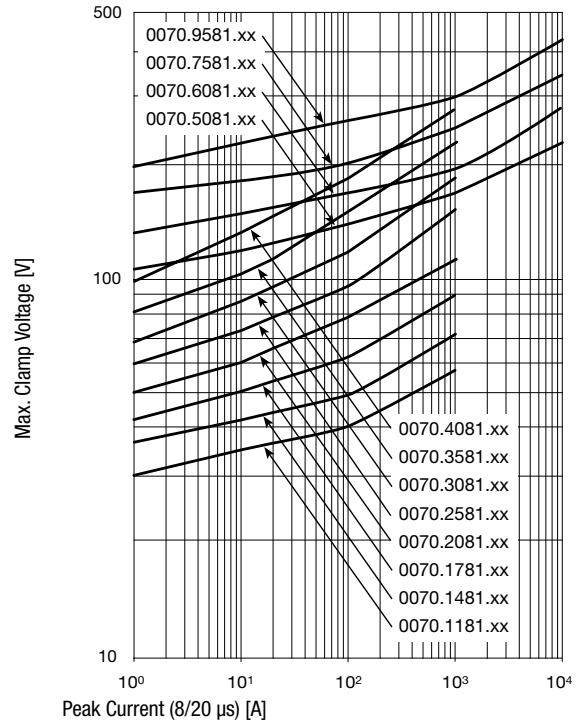
Disc Size: 14 mm



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

