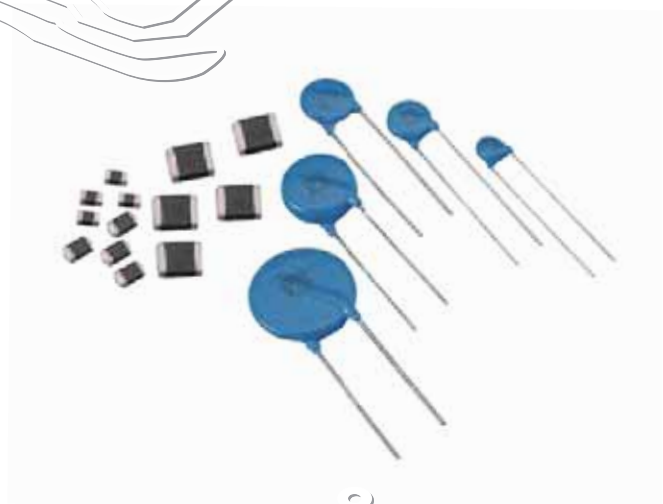


MOV Varistors

www.passivecomponent.com

Product catalog



Product Portfolio



Multilayer Ceramic Capacitors



Chip Resistors



Disc Capacitors



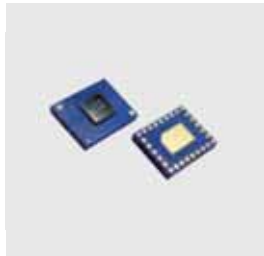
Inductors



RF Filters



Antenna



Antenna Switch & Module



MOV & MLV

IEC-63 Nominal Resistance / Capacitance

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| E1 | 100 | | | | | | | | | | | | | | | | | | | | | | | |
| E3 | 100 | | | | 220 | | | | 470 | | | | | | | | | | | | | | | |
| E6 | 100 | 150 | 220 | 330 | 470 | 680 | | | | | | | | | | | | | | | | | | |
| E12 | 100 | 120 | 150 | 180 | 220 | 270 | 330 | 390 | 470 | 560 | 680 | 820 | | | | | | | | | | | | |
| E24 | 100 | 110 | 120 | 130 | 150 | 160 | 180 | 200 | 220 | 240 | 270 | 300 | 330 | 360 | 390 | 430 | 470 | 510 | 560 | 620 | 680 | 750 | 820 | 910 |
| E96 | 100 | 102 | 121 | 124 | 147 | 150 | 178 | 182 | 215 | 221 | 261 | 267 | 316 | 324 | 383 | 392 | 464 | 475 | 562 | 576 | 681 | 698 | 825 | 845 |
| | 105 | 107 | 127 | 130 | 154 | 158 | 187 | 191 | 226 | 232 | 274 | 280 | 332 | 340 | 402 | 412 | 487 | 499 | 590 | 604 | 715 | 732 | 866 | 887 |
| | 110 | 113 | 133 | 137 | 162 | 165 | 196 | 200 | 237 | 243 | 287 | 294 | 348 | 357 | 422 | 432 | 511 | 523 | 619 | 634 | 750 | 768 | 909 | 931 |
| | 115 | 118 | 140 | 143 | 169 | 174 | 205 | 210 | 249 | 255 | 301 | 309 | 365 | 374 | 442 | 453 | 536 | 549 | 649 | 665 | 787 | 806 | 953 | 976 |

E6: $\sqrt[6]{10} \approx 1.46$ E12: $\sqrt[12]{10} \approx 1.21$

E1 series resistance: 1Ω, 10Ω, 100Ω, 1000Ω, 10000Ω, 100000Ω

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*The specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.

*This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specification before ordering.

■ **HOW TO ORDER**

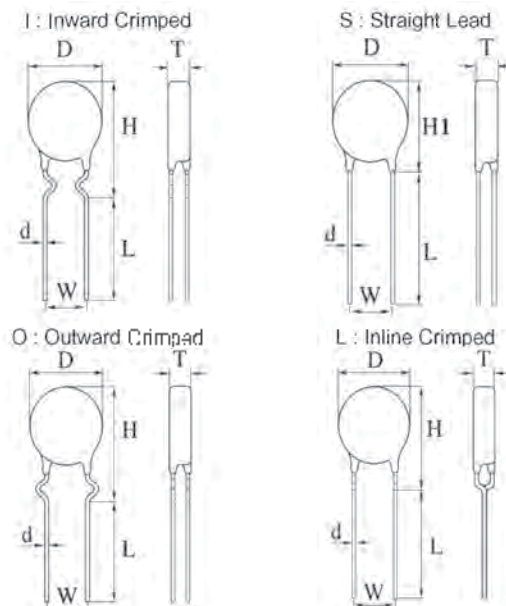
| SR | 241 | K | 10 | D | S | 20C | 7 | E | E | N |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|--------------|
| Type Code | Varistor Voltage | Tolerance | Disk Size code | Disk type | Lead style | Lead Cutting & Taping Code | Lead space+Tol. (mm) | Lead Material (mm) | Coating | Special code |
| SR: Walsin Varistor | (DC volt) (From 180 to 112) Two significant digits Followed by no. of zeros 180=18volt 101=100volt 102=1000volt | K :±10% | 05:5mm 07:7mm 10:10mm 14:14mm 18:18mm 20:20mm 25:25mm | D:Standard E:High Energy | S: Straight Lead L: Inline Crimped O: Outward Crimped I: Inward Crimped | Taping AMD:P=25.4mm, Ammo TMD:P=25.4mm, Reel Please refer: Taping Specifications Bulk 20C:20mm Min 3EA:3.5±0.5mm 05A:5.0±0.5mm 3EB:3.5±1.0mm 05B:5.0±1.0mm | 5:5.0±0.5 E:5.0±0.8 F:5.0±1.0 7:7.5±0.5 M:7.5±0.8 N:7.5±1.0 R:10.0±0.5 0:10.0±1.0 T:10.0±0.8 | D:0.6 CP wire E:0.8 CP wire F:1.0 CP wire | E:Epoxy coating | N:N/A |

■ **DIMENSIONS QUICK REFERENCE** :If specific item's dimensions, please contact sales

| Series | 5D,5E | 7D,7E | 10D,10E | 14D,14E | 18E | 20D,20E | 25D |
|--------|-------|-------|---------|---------|------|---------|------|
| Dmax | 7.0 | 9.0 | 12.0 | 16.5 | 20.0 | 22.5 | 28.0 |
| d* | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 1.0 | 1.0 |
| W** | 5.0 | 5.0 | 7.5 | 7.5 | 7.5 | 10.0 | 12.7 |
| Hmax | 12.5 | 14.5 | 19.0 | 22.5 | 26.0 | 29.0 | 36.5 |
| H1max | 10.0 | 12.0 | 17.0 | 20.5 | 24.0 | 28.0 | 34.0 |
| Tmax | 4.9 | 4.9 | 8.5 | 8.5 | 9.0 | 9.0 | 9.5 |

* ±0.02 ** ±1.0

(Unit: mm)



Remark:
The lead length (L) is 20mm minimum unless requested by customers; please refer to lead cutting code in "How to Order".

CHARACTERISTICS

- High performance transient voltage suppression
- Short response time to surge voltage
- Low standby power dissipation
- Excellent clamping characteristics
- High performance withstanding surge currents
- High reliability
- UL, CSA, VDE and CQC recognized

DEFINITION OF VARISTOR TERMS

Rated RMS Voltage, Rated DC Voltage :

The maximum designated values of power system voltage that may be applied continuously between the terminals of a device.

Varistor Voltage :

Test characteristic that is used to classify varistors by type. A test current of 1mA DC is typically used to determine varistor voltage classification type. Varistor voltage clamping characteristics can be defined at various test levels.

Rated Peak Single Pulse Transient Current :

Maximum surge current, 8/20 μ s waveform which a varistor is rated to withstand for a single surge.

Rated Single Pulse Transient Energy :

Maximum allowable energy for a single impulse (see specified waveforms).

Maximum Clamping Voltage :

Measured peak voltage across the device terminals when a current impulse of specified amplitude and waveform is conducted through the varistor.

Typical Capacitance :

Typical capacitance values are measured at a test frequency of 1kHz. Capacitance values are only for reference purpose only, not subject to outgoing inspection.

APPLICATIONS

- Surge protection in:
 - Consumer electronics
 - Industrial electronics
 - Communication electronics
 - Measuring and controlling systems
 - Electronic home appliances
- Protection against surges induced by lightning striking incoming power lines.
- Suppression of surges caused by switching inductive loads such as transformers, relays and coils.
- Protection of rectification diodes, SCRs, power transistors, semiconductor devices, etc

GENERAL CHARACTERISTICS

Storage Temperature : -40°C to +125°C

Operating Ambient Temperature : -40°C to +125°C (without derating)

Maximum Voltage-Temperature Coefficient : < -0.05% / °C

Insulation Resistance : 1000 Mega-ohm minimum

Hi Pot (Leads To Case, 1 Min.) : 2500 VDC

Typical Response Time : <25 Nano-seconds

Epoxy Rating : 94V-0

Current / Energy Derating (>85°C) : -2.5% / °C

DC Leakage Current : 200 μ A maximum (at rated DC working voltage)

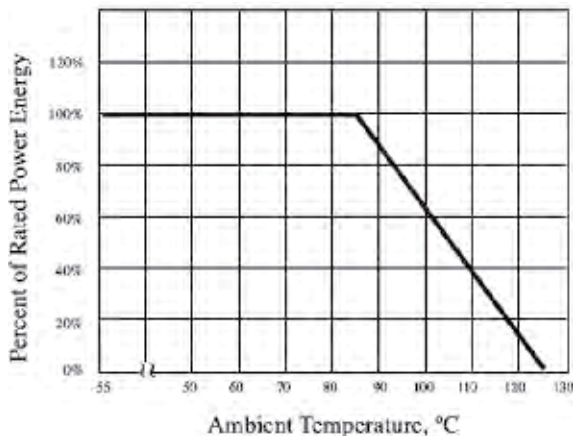
Solderability : MIL-STD-202F

Power Dissipation Ratings(P, in-watts) :

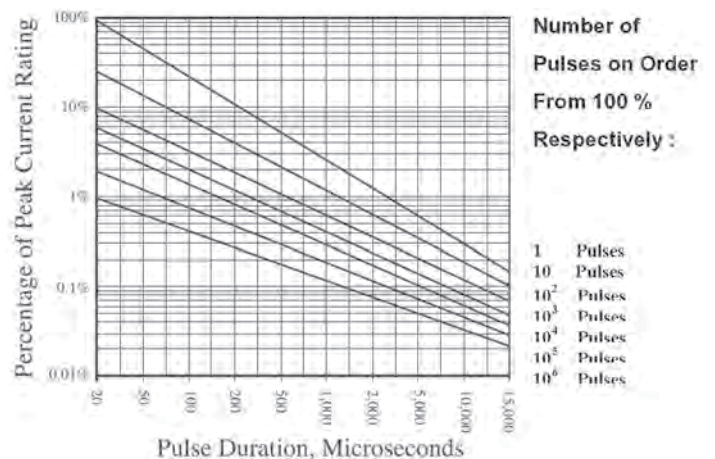
| Disc Size | 11Vac~40Vac | 50Vac~680Vac |
|--------------|-------------|--------------|
| 5mm | 0.01 | 0.15 |
| 7mm | 0.02 | 0.25 |
| 10mm | 0.05 | 0.4 |
| 14mm | 0.1 | 0.6 |
| 18mm | -- | 0.8 |
| 20mm | 0.2 | 1.0 |
| 25mm | -- | 1.2 |
| 32mm | -- | 1.6 |
| 34mm(single) | -- | 2.1 |
| 34mm(dual) | -- | 2.73 |
| 40mm | -- | 2.1 |
| 53mm | -- | 2.5 |

All definitions are according to IEEE specifications C62.33.

ENERGY DERATING VERSUS TEMPERATURE



PEAK CURRENT PER PULSE VERSUS PULSE DURATION



| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μ s) | | Max. Clamping Voltage (8/20 μ s) | | Maximum Energy | | Typical Capacitance | Safety Approval | |
|-------------|---------------------------|-------|------------------|-----|-------------------------------------------|---------|--------------------------------------|------|----------------|-----------------|---------------------|-----------------|---|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000 μ s | @1kHz | | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | | |
| SR180K05D | 11 | 14 | 16 | 20 | 100 | 50 | 36 | 1 | 0.4 | 0.6 | 1500 | △ | ☆ |
| SR220K05D | 14 | 18 | 20 | 24 | 100 | 50 | 43 | 1 | 0.6 | 0.8 | 1260 | △ | ☆ |
| SR270K05D | 17 | 22 | 24 | 30 | 100 | 50 | 53 | 1 | 0.7 | 0.9 | 1050 | △ | ☆ |
| SR330K05D | 20 | 26 | 30 | 36 | 100 | 50 | 65 | 1 | 0.9 | 1.2 | 850 | △ | ☆ |
| SR390K05D | 25 | 31 | 35 | 43 | 100 | 50 | 77 | 1 | 1.1 | 1.3 | 600 | △ | ☆ |
| SR470K05D | 30 | 38 | 42 | 52 | 100 | 50 | 93 | 1 | 1.4 | 1.6 | 500 | △ | ☆ |
| SR560K05D | 35 | 45 | 50 | 62 | 100 | 50 | 110 | 1 | 1.5 | 1.9 | 400 | △ | ☆ |
| SR680K05D | 40 | 56 | 61 | 75 | 100 | 50 | 135 | 1 | 1.8 | 2.3 | 360 | △ | ☆ |
| SR820K05D | 50 | 66 | 74 | 90 | 400 | 200 | 135 | 5 | 2.4 | 3.0 | 350 | △ | ☆ |
| SR101K05D | 60 | 85 | 90 | 110 | 400 | 200 | 165 | 5 | 2.4 | 3.5 | 320 | △ | ☆ |
| SR121K05D | 75 | 102 | 108 | 132 | 400 | 200 | 200 | 5 | 3.0 | 5.0 | 250 | △ | ☆ |
| SR151K05D | 95 | 127 | 135 | 165 | 400 | 200 | 250 | 5 | 3.5 | 5.5 | 180 | △ | ☆ |
| SR181K05D | 120 | 160 | 170 | 207 | 400 | 200 | 320 | 5 | 4.2 | 8.0 | 155 | △ | ☆ |
| SR201K05D | 130 | 175 | 185 | 225 | 400 | 200 | 340 | 5 | 5.0 | 8.5 | 140 | △ | ☆ |
| SR221K05D | 140 | 180 | 198 | 242 | 400 | 200 | 360 | 5 | 6.0 | 9.0 | 125 | △ | ☆ |
| SR241K05D | 150 | 200 | 216 | 264 | 400 | 200 | 395 | 5 | 6.5 | 10.0 | 115 | △ | ☆ |
| SR271K05D | 180 | 230 | 255 | 311 | 400 | 200 | 475 | 5 | 7.5 | 11.0 | 105 | △ | ☆ |
| SR301K05D | 195 | 250 | 270 | 330 | 400 | 200 | 525 | 5 | 8.0 | 11.5 | 95 | △ | ☆ |
| SR331K05D | 210 | 275 | 297 | 363 | 400 | 200 | 540 | 5 | 8.5 | 11.7 | 85 | △ | ☆ |
| SR361K05D | 230 | 300 | 324 | 396 | 400 | 200 | 595 | 5 | 9.0 | 13.0 | 80 | △ | ☆ |
| SR391K05D | 250 | 330 | 351 | 429 | 400 | 200 | 650 | 5 | 10 | 15 | 75 | △ | ☆ |
| SR431K05D | 275 | 370 | 387 | 473 | 400 | 200 | 710 | 5 | 11 | 16 | 65 | △ | ☆ |
| SR471K05D | 300 | 385 | 423 | 517 | 400 | 200 | 775 | 5 | 13 | 19 | 55 | △ | ☆ |
| SR511K05D | 320 | 420 | 459 | 561 | 400 | 200 | 865 | 5 | 15 | 21 | 39 | △ | ☆ |
| SR561K05D | 360 | 470 | 522 | 638 | 400 | 200 | 960 | 5 | 17 | 25 | 36 | △ | ☆ |
| SR621K05D | 390 | 505 | 558 | 682 | 400 | 200 | 1040 | 5 | 19 | 27 | 33 | △ | ☆ |
| SR681K05D | 420 | 560 | 612 | 748 | 400 | 200 | 1120 | 5 | 21 | 30 | 30 | △ | ☆ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) **CQC** recognized for all part numbers (CQC04001010926)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|-----|--------------------------------------|---------|---------------------------------|------|----------------|-----------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | |
| SR180K07D | 11 | 14 | 16 | 20 | 250 | 125 | 36 | 2.5 | 0.8 | 1 | 2900 | △ ☆ ◇ |
| SR220K07D | 14 | 18 | 20 | 24 | 250 | 125 | 43 | 2.5 | 0.9 | 1.3 | 2400 | △ ☆ ◇ |
| SR270K07D | 17 | 22 | 24 | 30 | 250 | 125 | 53 | 2.5 | 1 | 1.4 | 1800 | △ ☆ ◇ |
| SR330K07D | 20 | 26 | 30 | 36 | 250 | 125 | 65 | 2.5 | 1.2 | 1.7 | 1500 | △ ☆ ◇ |
| SR390K07D | 25 | 31 | 35 | 43 | 250 | 125 | 77 | 2.5 | 1.5 | 2.1 | 1230 | △ ☆ ◇ |
| SR470K07D | 30 | 38 | 42 | 52 | 250 | 125 | 93 | 2.5 | 1.8 | 2.5 | 950 | △ ☆ ◇ |
| SR560K07D | 35 | 45 | 50 | 62 | 250 | 125 | 110 | 2.5 | 2.2 | 3.1 | 890 | △ ☆ ◇ |
| SR680K07D | 40 | 56 | 61 | 75 | 250 | 125 | 135 | 2.5 | 2.5 | 3.8 | 850 | △ ☆ ◇ |
| SR820K07D | 50 | 66 | 74 | 90 | 1200 | 600 | 135 | 10 | 3.5 | 5.5 | 830 | △ ☆ ◇ |
| SR101K07D | 60 | 85 | 90 | 110 | 1200 | 600 | 165 | 10 | 4 | 6.5 | 730 | △ ☆ ◇ |
| SR121K07D | 75 | 102 | 108 | 132 | 1200 | 600 | 200 | 10 | 5 | 7.8 | 570 | △ ☆ ◇ |
| SR151K07D | 95 | 127 | 135 | 165 | 1200 | 600 | 250 | 10 | 6.5 | 9.7 | 400 | △ ☆ ◇ |
| SR181K07D | 120 | 160 | 170 | 207 | 1200 | 600 | 300 | 10 | 8.8 | 12 | 305 | △ ☆ ◇ |
| SR201K07D | 130 | 175 | 185 | 225 | 1200 | 600 | 340 | 10 | 10 | 13 | 275 | △ ☆ ◇ |
| SR221K07D | 140 | 180 | 198 | 242 | 1200 | 600 | 360 | 10 | 11 | 14 | 250 | △ ☆ ◇ |
| SR241K07D | 150 | 200 | 216 | 264 | 1200 | 600 | 395 | 10 | 11 | 16 | 230 | △ ☆ ◇ |
| SR271K07D | 180 | 230 | 255 | 311 | 1200 | 600 | 455 | 10 | 12 | 18 | 205 | △ ☆ ◇ |
| SR301K07D | 195 | 250 | 270 | 330 | 1200 | 600 | 505 | 10 | 13 | 19 | 185 | △ ☆ ◇ |
| SR331K07D | 210 | 275 | 297 | 363 | 1200 | 600 | 540 | 10 | 14 | 20 | 170 | △ ☆ ◇ |
| SR361K07D | 230 | 300 | 324 | 396 | 1200 | 600 | 595 | 10 | 15 | 25 | 155 | △ ☆ ◇ |
| SR391K07D | 250 | 330 | 351 | 429 | 1200 | 600 | 650 | 10 | 17 | 26 | 145 | △ ☆ ◇ |
| SR431K07D | 275 | 370 | 387 | 473 | 1200 | 600 | 710 | 10 | 20 | 28 | 130 | △ ☆ ◇ |
| SR471K07D | 300 | 385 | 423 | 517 | 1200 | 600 | 775 | 10 | 21 | 30 | 115 | △ ☆ ◇ |
| SR511K07D | 320 | 420 | 459 | 561 | 1200 | 600 | 850 | 10 | 23 | 32 | 88 | △ ☆ ◇ |
| SR561K07D | 360 | 470 | 522 | 638 | 1200 | 600 | 960 | 10 | 27 | 39 | 85 | △ ☆ ◇ |
| SR621K07D | 390 | 505 | 558 | 682 | 1200 | 600 | 1040 | 10 | 29 | 43 | 82 | △ ☆ ◇ |
| SR681K07D | 420 | 560 | 612 | 748 | 1200 | 600 | 1120 | 10 | 32 | 45 | 78 | △ ☆ ◇ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) ◇: **VDE/CECC 42000/42200/42201**, IEC 61051-1/61051-2/61051-2-2 (Certificate # 40010090)
 - (4) **CQC** recognized for all part numbers (CQC04001010927)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|-----------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | |
| SR180K10D | 11 | 14 | 16 | 20 | 500 | 250 | 36 | 5 | 1.5 | 2.1 | 6000 | △ ☆ ◇ |
| SR220K10D | 14 | 18 | 20 | 24 | 500 | 250 | 43 | 5 | 2 | 2.5 | 5000 | △ ☆ ◇ |
| SR270K10D | 17 | 22 | 24 | 30 | 500 | 250 | 53 | 5 | 2.5 | 3 | 4000 | △ ☆ ◇ |
| SR330K10D | 20 | 26 | 30 | 36 | 500 | 250 | 65 | 5 | 3 | 4 | 3500 | △ ☆ ◇ |
| SR390K10D | 25 | 31 | 35 | 43 | 500 | 250 | 77 | 5 | 3.5 | 4.6 | 3100 | △ ☆ ◇ |
| SR470K10D | 30 | 38 | 42 | 52 | 500 | 250 | 93 | 5 | 4.5 | 5.5 | 2800 | △ ☆ ◇ |
| SR560K10D | 35 | 45 | 50 | 62 | 500 | 250 | 110 | 5 | 5.5 | 7 | 2400 | △ ☆ ◇ |
| SR680K10D | 40 | 56 | 61 | 75 | 500 | 250 | 135 | 5 | 6.5 | 8.2 | 2100 | △ ☆ ◇ |
| SR820K10D | 50 | 66 | 74 | 90 | 2500 | 1250 | 135 | 25 | 8 | 12 | 1600 | △ ☆ ◇ |
| SR101K10D | 60 | 85 | 90 | 110 | 2500 | 1250 | 165 | 25 | 10 | 15 | 1400 | △ ☆ ◇ |
| SR121K10D | 75 | 102 | 108 | 132 | 2500 | 1250 | 200 | 25 | 12 | 18 | 1200 | △ ☆ ◇ |
| SR151K10D | 95 | 127 | 135 | 165 | 2500 | 1250 | 250 | 25 | 16 | 22 | 1100 | △ ☆ ◇ |
| SR181K10D | 120 | 160 | 170 | 207 | 2500 | 1250 | 300 | 25 | 18.5 | 27.5 | 700 | △ ☆ ◇ |
| SR201K10D | 130 | 175 | 185 | 225 | 2500 | 1250 | 340 | 25 | 20 | 30 | 640 | △ ☆ ◇ |
| SR221K10D | 140 | 180 | 198 | 242 | 2500 | 1250 | 360 | 25 | 23 | 32 | 600 | △ ☆ ◇ |
| SR241K10D | 150 | 200 | 216 | 264 | 2500 | 1250 | 395 | 25 | 25 | 35 | 560 | △ ☆ ◇ |
| SR271K10D | 180 | 230 | 255 | 311 | 2500 | 1250 | 455 | 25 | 30 | 40 | 500 | △ ☆ ◇ |
| SR301K10D | 195 | 250 | 270 | 330 | 2500 | 1250 | 505 | 25 | 32 | 42.5 | 450 | △ ☆ ◇ |
| SR331K10D | 210 | 275 | 297 | 363 | 2500 | 1250 | 540 | 25 | 33.5 | 44.5 | 415 | △ ☆ ◇ |
| SR361K10D | 230 | 300 | 324 | 396 | 2500 | 1250 | 595 | 25 | 35 | 47 | 380 | △ ☆ ◇ |
| SR391K10D | 250 | 330 | 351 | 429 | 2500 | 1250 | 650 | 25 | 40 | 60 | 350 | △ ☆ ◇ |
| SR431K10D | 275 | 370 | 387 | 473 | 2500 | 1250 | 710 | 25 | 45 | 65 | 310 | △ ☆ ◇ |
| SR471K10D | 300 | 385 | 423 | 517 | 2500 | 1250 | 775 | 25 | 46 | 70 | 280 | △ ☆ ◇ |
| SR511K10D | 320 | 420 | 459 | 561 | 2500 | 1250 | 840 | 25 | 47 | 71 | 260 | △ ☆ ◇ |
| SR561K10D | 360 | 470 | 522 | 638 | 2500 | 1250 | 910 | 25 | 48 | 72 | 240 | △ ☆ ◇ |
| SR621K10D | 390 | 505 | 558 | 682 | 2500 | 1250 | 1025 | 25 | 49 | 73 | 150 | △ ☆ ◇ |
| SR681K10D | 420 | 560 | 612 | 748 | 2500 | 1250 | 1120 | 25 | 50 | 74 | 130 | △ ☆ ◇ |
| SR751K10D | 460 | 615 | 675 | 825 | 2500 | 1250 | 1240 | 25 | 51 | 75 | 120 | △ ☆ ◇ |
| SR781K10D | 485 | 640 | 702 | 858 | 2500 | 1250 | 1290 | 25 | 52 | 80 | 120 | △ ☆ ◇ |
| SR821K10D | 510 | 675 | 738 | 902 | 2500 | 1250 | 1350 | 25 | 55 | 85 | 110 | △ ☆ ◇ |
| SR911K10D | 550 | 745 | 819 | 1001 | 2500 | 1250 | 1400 | 25 | 60 | 93 | 90 | △ ☆ ◇ |
| SR102K10D | 625 | 825 | 900 | 1100 | 2500 | 1250 | 1620 | 25 | 65 | 102 | 80 | △ ☆ ◇ |
| SR112K10D | 680 | 895 | 962 | 1175 | 2500 | 1250 | 1800 | 25 | 70 | 115 | 70 | △ ☆ ◇ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) ◇: **VDE/CECC 42000/42200/42201**, IEC 61051-1/61051-2/61051-2-2 (Certificate # 40010090)
 - (4) **CQC** recognized for all part numbers (CQC04001010928)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|-----------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | |
| SR180K14D | 11 | 14 | 16 | 20 | 1000 | 500 | 36 | 10 | 3.5 | 4 | 15000 | △ ☆ ◇ # |
| SR220K14D | 14 | 18 | 20 | 24 | 1000 | 500 | 43 | 10 | 4 | 5 | 12000 | △ ☆ ◇ # |
| SR270K14D | 17 | 22 | 24 | 30 | 1000 | 500 | 53 | 10 | 5 | 6 | 8500 | △ ☆ ◇ # |
| SR330K14D | 20 | 26 | 30 | 36 | 1000 | 500 | 65 | 10 | 6 | 7.5 | 7200 | △ ☆ ◇ # |
| SR390K14D | 25 | 31 | 35 | 43 | 1000 | 500 | 77 | 10 | 7 | 8.6 | 6300 | △ ☆ ◇ # |
| SR470K14D | 30 | 38 | 42 | 52 | 1000 | 500 | 93 | 10 | 8.5 | 10 | 5500 | △ ☆ ◇ # |
| SR560K14D | 35 | 45 | 50 | 62 | 1000 | 500 | 110 | 10 | 10 | 11 | 4800 | △ ☆ ◇ # |
| SR680K14D | 40 | 56 | 61 | 75 | 1000 | 500 | 135 | 10 | 12 | 14 | 4000 | △ ☆ ◇ # |
| SR820K14D | 50 | 66 | 74 | 90 | 4500 | 2500 | 135 | 50 | 15 | 22 | 3300 | △ ☆ ◇ # |
| SR101K14D | 60 | 85 | 90 | 110 | 4500 | 2500 | 165 | 50 | 20 | 30 | 2900 | △ ☆ ◇ # |
| SR121K14D | 75 | 102 | 108 | 132 | 4500 | 2500 | 200 | 50 | 22 | 34 | 2600 | △ ☆ ◇ # |
| SR151K14D | 95 | 127 | 135 | 165 | 4500 | 2500 | 250 | 50 | 30 | 45 | 2000 | △ ☆ ◇ # |
| SR181K14D | 120 | 160 | 170 | 207 | 4500 | 2500 | 300 | 50 | 33 | 53 | 1400 | △ ☆ ◇ # |
| SR201K14D | 130 | 175 | 185 | 225 | 4500 | 2500 | 340 | 50 | 38 | 60 | 1370 | △ ☆ ◇ # |
| SR221K14D | 140 | 180 | 198 | 242 | 4500 | 2500 | 360 | 50 | 40 | 60 | 1150 | △ ☆ ◇ # |
| SR241K14D | 150 | 200 | 216 | 264 | 4500 | 2500 | 395 | 50 | 45 | 66 | 1060 | △ ☆ ◇ # |
| SR271K14D | 180 | 230 | 255 | 311 | 4500 | 2500 | 455 | 50 | 52 | 72 | 950 | △ ☆ ◇ # |
| SR301K14D | 195 | 250 | 270 | 330 | 4500 | 2500 | 505 | 50 | 56 | 78 | 890 | △ ☆ ◇ # |
| SR331K14D | 210 | 275 | 297 | 363 | 4500 | 2500 | 545 | 50 | 63 | 87 | 800 | △ ☆ ◇ # |
| SR361K14D | 230 | 300 | 324 | 396 | 4500 | 2500 | 595 | 50 | 70 | 98 | 725 | △ ☆ ◇ # |
| SR391K14D | 250 | 330 | 351 | 429 | 4500 | 2500 | 650 | 50 | 72 | 102 | 665 | △ ☆ ◇ # |
| SR431K14D | 275 | 370 | 387 | 473 | 4500 | 2500 | 710 | 50 | 75 | 115 | 600 | △ ☆ ◇ # |
| SR471K14D | 300 | 385 | 423 | 517 | 4500 | 2500 | 775 | 50 | 80 | 125 | 570 | △ ☆ ◇ # |
| SR511K14D | 320 | 420 | 459 | 561 | 4500 | 2500 | 840 | 50 | 82 | 128 | 530 | △ ☆ ◇ # |
| SR561K14D | 360 | 470 | 522 | 638 | 4500 | 2500 | 910 | 50 | 85 | 139 | 480 | △ ☆ ◇ # |
| SR621K14D | 390 | 505 | 558 | 682 | 4500 | 2500 | 1025 | 50 | 88 | 142 | 270 | △ ☆ ◇ # |
| SR681K14D | 420 | 560 | 612 | 748 | 4500 | 2500 | 1120 | 50 | 90 | 142 | 240 | △ ☆ ◇ # |
| SR751K14D | 460 | 615 | 675 | 825 | 4500 | 2500 | 1240 | 50 | 100 | 143 | 210 | △ ☆ ◇ # |
| SR781K14D | 485 | 640 | 702 | 858 | 4500 | 2500 | 1290 | 50 | 105 | 148 | 205 | △ ☆ ◇ # |
| SR821K14D | 510 | 675 | 738 | 902 | 4500 | 2500 | 1350 | 50 | 110 | 157 | 200 | △ ☆ ◇ # |
| SR911K14D | 550 | 745 | 819 | 1001 | 4500 | 2500 | 1400 | 50 | 120 | 175 | 175 | △ ☆ ◇ # |
| SR102K14D | 625 | 825 | 900 | 1100 | 4500 | 2500 | 1620 | 50 | 130 | 190 | 145 | △ ☆ ◇ # |
| SR112K14D | 680 | 895 | 962 | 1175 | 4500 | 2500 | 1800 | 50 | 140 | 215 | 140 | △ ☆ ◇ # |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) ◇: **VDE/CECC 42000/42200/42201**, IEC 61051-1/61051-2/61051-2-2 (Certificate # 40010090)
 - (4) #: **VDE/IEC 60950-1, Annex Q** (Certificate # 40010090)
 - (5) **CQC** recognized for all part numbers (CQC04001010929)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|-----------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | |
| SR390K20D | 25 | 31 | 35 | 43 | 2000 | 1000 | 77 | 20 | 24 | 26 | 10000 | △ ☆ ◇ |
| SR470K20D | 30 | 38 | 42 | 52 | 2000 | 1000 | 93 | 20 | 30 | 33 | 9350 | △ ☆ ◇ |
| SR560K20D | 35 | 45 | 50 | 62 | 2000 | 1000 | 110 | 20 | 35 | 38 | 8000 | △ ☆ ◇ |
| SR680K20D | 40 | 56 | 61 | 75 | 2000 | 1000 | 135 | 20 | 40 | 43 | 6800 | △ ☆ ◇ |
| SR820K20D | 50 | 66 | 74 | 90 | 6500 | 4000 | 135 | 100 | 37 | 48 | 5600 | △ ☆ ◇ |
| SR101K20D | 60 | 85 | 90 | 110 | 6500 | 4000 | 165 | 100 | 38 | 50 | 4700 | △ ☆ ◇ |
| SR121K20D | 75 | 102 | 108 | 132 | 6500 | 4000 | 200 | 100 | 40 | 55 | 4100 | △ ☆ ◇ |
| SR151K20D | 95 | 127 | 135 | 165 | 6500 | 4000 | 250 | 100 | 50 | 70 | 3200 | △ ☆ ◇ |
| SR181K20D | 120 | 160 | 170 | 207 | 6500 | 4000 | 300 | 100 | 60 | 85 | 2500 | △ ☆ ◇ |
| SR201K20D | 130 | 175 | 185 | 225 | 6500 | 4000 | 340 | 100 | 70 | 95 | 2200 | △ ☆ ◇ |
| SR221K20D | 140 | 180 | 198 | 242 | 6500 | 4000 | 360 | 100 | 75 | 100 | 2000 | △ ☆ ◇ |
| SR241K20D | 150 | 200 | 216 | 264 | 6500 | 4000 | 395 | 100 | 82 | 110 | 1900 | △ ☆ ◇ |
| SR271K20D | 180 | 230 | 255 | 311 | 6500 | 4000 | 455 | 100 | 90 | 127 | 1700 | △ ☆ ◇ |
| SR301K20D | 195 | 250 | 270 | 330 | 6500 | 4000 | 505 | 100 | 100 | 135 | 1540 | △ ☆ ◇ |
| SR331K20D | 210 | 275 | 297 | 363 | 6500 | 4000 | 540 | 100 | 110 | 148 | 1400 | △ ☆ ◇ |
| SR361K20D | 230 | 300 | 324 | 396 | 6500 | 4000 | 595 | 100 | 120 | 163 | 1320 | △ ☆ ◇ |
| SR391K20D | 250 | 330 | 351 | 429 | 6500 | 4000 | 650 | 100 | 130 | 180 | 1210 | △ ☆ ◇ |
| SR431K20D | 275 | 370 | 387 | 473 | 6500 | 4000 | 710 | 100 | 140 | 190 | 1120 | △ ☆ ◇ |
| SR471K20D | 300 | 385 | 423 | 517 | 6500 | 4000 | 775 | 100 | 150 | 220 | 1000 | △ ☆ ◇ |
| SR511K20D | 320 | 420 | 459 | 561 | 6500 | 4000 | 840 | 100 | 152 | 222 | 950 | △ ☆ ◇ |
| SR561K20D | 360 | 470 | 522 | 638 | 6500 | 4000 | 910 | 100 | 154 | 226 | 900 | △ ☆ ◇ |
| SR621K20D | 390 | 505 | 558 | 682 | 6500 | 4000 | 1025 | 100 | 158 | 228 | 770 | △ ☆ ◇ |
| SR681K20D | 420 | 560 | 612 | 748 | 6500 | 4000 | 1120 | 100 | 160 | 230 | 700 | △ ☆ ◇ |
| SR751K20D | 460 | 615 | 675 | 825 | 6500 | 4000 | 1240 | 100 | 175 | 255 | 640 | △ ☆ ◇ |
| SR781K20D | 485 | 640 | 702 | 858 | 6500 | 4000 | 1290 | 100 | 180 | 265 | 590 | △ ☆ ◇ |
| SR821K20D | 510 | 675 | 738 | 902 | 6500 | 4000 | 1350 | 100 | 190 | 282 | 510 | △ ☆ ◇ |
| SR911K20D | 550 | 745 | 819 | 1001 | 6500 | 4000 | 1400 | 100 | 215 | 310 | 430 | △ ☆ ◇ |
| SR102K20D | 625 | 825 | 900 | 1100 | 6500 | 4000 | 1620 | 100 | 230 | 342 | 380 | △ ☆ ◇ |
| SR112K20D | 680 | 895 | 962 | 1175 | 6500 | 4000 | 1800 | 100 | 250 | 383 | 340 | △ ☆ ◇ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) ◇: **VDE/CECC 42000/42200/42201, IEC 61051-1/61051-2/61051-2-2** (Certificate # 40010090)
 - (4) **CQC** recognized for all part numbers (CQC04001010931)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μ s) | | Max. Clamping Voltage (8/20 μ s) | | Maximum Energy | | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|-------------------------------------------|---------|--------------------------------------|------|----------------|-----------------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 2ms | 10/1000 μ s | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | | pF | |
| SR181K25D | 120 | 160 | 170 | 207 | 18000 | 12000 | 300 | 100 | 90 | 180 | 3900 | △ ☆ |
| SR201K25D | 130 | 175 | 185 | 225 | 18000 | 12000 | 340 | 100 | 100 | 200 | 3600 | △ ☆ |
| SR221K25D | 140 | 180 | 198 | 242 | 18000 | 12000 | 360 | 100 | 105 | 225 | 3300 | △ ☆ |
| SR241K25D | 150 | 200 | 216 | 264 | 18000 | 12000 | 395 | 100 | 110 | 235 | 3050 | △ ☆ |
| SR271K25D | 180 | 230 | 255 | 311 | 18000 | 12000 | 455 | 100 | 120 | 245 | 2600 | △ ☆ |
| SR301K25D | 195 | 250 | 270 | 330 | 18000 | 12000 | 505 | 100 | 125 | 255 | 2400 | △ ☆ |
| SR331K25D | 210 | 275 | 297 | 363 | 18000 | 12000 | 545 | 100 | 130 | 270 | 2200 | △ ☆ |
| SR361K25D | 230 | 300 | 324 | 396 | 18000 | 12000 | 595 | 100 | 160 | 315 | 2050 | △ ☆ |
| SR391K25D | 250 | 330 | 351 | 429 | 18000 | 12000 | 650 | 100 | 175 | 342 | 1900 | △ ☆ |
| SR431K25D | 275 | 370 | 387 | 473 | 18000 | 12000 | 710 | 100 | 190 | 370 | 1700 | △ ☆ |
| SR471K25D | 300 | 385 | 423 | 517 | 18000 | 12000 | 775 | 100 | 200 | 390 | 1600 | △ ☆ |
| SR511K25D | 320 | 420 | 459 | 561 | 18000 | 12000 | 840 | 100 | 210 | 422 | 1400 | △ ☆ |
| SR561K25D | 360 | 470 | 522 | 638 | 18000 | 12000 | 910 | 100 | 215 | 460 | 1200 | △ ☆ |
| SR621K25D | 390 | 505 | 558 | 682 | 18000 | 12000 | 1025 | 100 | 225 | 495 | 1800 | △ ☆ |
| SR681K25D | 420 | 560 | 612 | 748 | 18000 | 12000 | 1120 | 100 | 230 | 515 | 1100 | △ ☆ |
| SR751K25D | 460 | 615 | 675 | 825 | 18000 | 12000 | 1240 | 100 | 250 | 530 | 1000 | △ ☆ |
| SR781K25D | 485 | 640 | 702 | 858 | 18000 | 12000 | 1290 | 100 | 260 | 540 | 980 | △ ☆ |
| SR821K25D | 510 | 675 | 738 | 902 | 18000 | 12000 | 1350 | 100 | 270 | 550 | 920 | △ ☆ |
| SR911K25D | 550 | 745 | 819 | 1001 | 18000 | 12000 | 1400 | 100 | 300 | 600 | 880 | △ ☆ |
| SR102K25D | 625 | 825 | 900 | 1100 | 18000 | 12000 | 1620 | 100 | 340 | 630 | 760 | △ ☆ |
| SR112K25D | 680 | 895 | 962 | 1175 | 18000 | 12000 | 1800 | 100 | 390 | 700 | 650 | △ ☆ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) **CQC** recognized for all part numbers (CQC04001010932)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μ s) | | Max. Clamping Voltage (8/20 μ s) | | Maximum Energy | Typical Capacitance | Safety Approval | |
|-------------|---------------------------|-------|------------------|-----|-------------------------------------------|---------|--------------------------------------|------|-----------------|---------------------|-----------------|---|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000 μ s | @1kHz | | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | | |
| SR820K05E | 50 | 66 | 74 | 90 | 800 | 600 | 135 | 5 | 3.5 | 355 | △ | ☆ |
| SR181K05E | 120 | 160 | 170 | 207 | 800 | 600 | 320 | 5 | 8 | 130 | △ | ☆ |
| SR201K05E | 130 | 175 | 185 | 225 | 800 | 600 | 340 | 5 | 8.5 | 120 | △ | ☆ |
| SR221K05E | 140 | 180 | 198 | 242 | 800 | 600 | 360 | 5 | 9 | 110 | △ | ☆ |
| SR241K05E | 150 | 200 | 216 | 264 | 800 | 600 | 395 | 5 | 10.5 | 100 | △ | ☆ |
| SR271K05E | 180 | 230 | 255 | 311 | 800 | 600 | 475 | 5 | 11 | 90 | △ | ☆ |
| SR301K05E | 195 | 250 | 270 | 330 | 800 | 600 | 525 | 5 | 12 | 84 | △ | ☆ |
| SR331K05E | 210 | 275 | 297 | 363 | 800 | 600 | 540 | 5 | 13 | 75 | △ | ☆ |
| SR361K05E | 230 | 300 | 324 | 396 | 800 | 600 | 595 | 5 | 16 | 69 | △ | ☆ |
| SR391K05E | 250 | 330 | 351 | 429 | 800 | 600 | 650 | 5 | 17 | 63 | △ | ☆ |
| SR431K05E | 275 | 370 | 387 | 473 | 800 | 600 | 710 | 5 | 20 | 57 | △ | ☆ |
| SR471K05E | 300 | 385 | 423 | 517 | 800 | 600 | 775 | 5 | 21 | 50 | △ | ☆ |
| SR511K05E | 320 | 420 | 459 | 561 | 800 | 600 | 865 | 5 | 22 | 35 | △ | ☆ |
| SR561K05E | 360 | 470 | 522 | 638 | 800 | 600 | 960 | 5 | 23 | 32 | △ | ☆ |
| SR621K05E | 390 | 505 | 558 | 682 | 800 | 600 | 1040 | 5 | 25 | 30 | △ | ☆ |
| SR681K05E | 420 | 560 | 612 | 748 | 800 | 600 | 1120 | 5 | 26 | 27 | △ | ☆ |

Remark:

1. Please refer "How to Order" for details
2. All parts approved as follows:
 - (1) △: **UL 1449** recognized (File # E309297).
 - (2) ☆: **cUL** (CSA 22.2 #1 certified, File # E309297).
 - (3) ◇: **VDE/CECC 42000/42200/42201**, IEC 61051-1/61051-2/61051-2-2 (Certificate # 40003435)
 - (4) #: **VDE/IEC 60950-1,Annex Q** (Certificate # 40003435)
 - (5) **CQC** recognized for all part numbers (CQC04001010926 ~ CQC04001010931)

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μ s) | | Max. Clamping Voltage (8/20 μ s) | | Maximum Energy | Typical Capacitance | Safety Approval | | |
|-------------|---------------------------|-------|------------------|-----|-------------------------------------------|---------|--------------------------------------|------|-----------------|---------------------|-----------------|---|---|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000 μ s | @1kHz | | | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | | | |
| SR820K07E | 50 | 66 | 74 | 90 | 1750 | 1250 | 135 | 10 | 7.0 | 790 | △ | ☆ | ◇ |
| SR181K07E | 120 | 160 | 170 | 207 | 1750 | 1250 | 320 | 10 | 16.0 | 210 | △ | ☆ | ◇ |
| SR201K07E | 130 | 175 | 185 | 225 | 1750 | 1250 | 340 | 10 | 17.5 | 200 | △ | ☆ | ◇ |
| SR221K07E | 140 | 180 | 198 | 242 | 1750 | 1250 | 360 | 10 | 19.0 | 190 | △ | ☆ | ◇ |
| SR241K07E | 150 | 200 | 216 | 264 | 1750 | 1250 | 395 | 10 | 21.0 | 170 | △ | ☆ | ◇ |
| SR271K07E | 180 | 230 | 255 | 311 | 1750 | 1250 | 475 | 10 | 24.0 | 150 | △ | ☆ | ◇ |
| SR301K07E | 195 | 250 | 270 | 330 | 1750 | 1250 | 525 | 10 | 26.0 | 140 | △ | ☆ | ◇ |
| SR331K07E | 210 | 275 | 297 | 363 | 1750 | 1250 | 540 | 10 | 28.0 | 130 | △ | ☆ | ◇ |
| SR361K07E | 230 | 300 | 324 | 396 | 1750 | 1250 | 595 | 10 | 32.0 | 123 | △ | ☆ | ◇ |
| SR391K07E | 250 | 330 | 351 | 429 | 1750 | 1250 | 650 | 10 | 35.0 | 116 | △ | ☆ | ◇ |
| SR431K07E | 275 | 370 | 387 | 473 | 1750 | 1250 | 710 | 10 | 40.0 | 108 | △ | ☆ | ◇ |
| SR471K07E | 300 | 385 | 423 | 517 | 1750 | 1250 | 775 | 10 | 42.0 | 100 | △ | ☆ | ◇ |
| SR511K07E | 320 | 420 | 459 | 561 | 1750 | 1250 | 865 | 10 | 46.0 | 78 | △ | ☆ | ◇ |
| SR561K07E | 360 | 470 | 522 | 638 | 1750 | 1250 | 960 | 10 | 47.0 | 75 | △ | ☆ | ◇ |
| SR621K07E | 390 | 505 | 558 | 682 | 1750 | 1250 | 1040 | 10 | 51.0 | 72 | △ | ☆ | ◇ |
| SR681K07E | 420 | 560 | 612 | 748 | 1750 | 1250 | 1120 | 10 | 57.0 | 69 | △ | ☆ | ◇ |

1. Please refer "How to Order" for details

2. Safety approval: please refer to "Remark" above.

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | Typical Capacitance | Safety Approval | |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|---------------------|-----------------|-----|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000μs | @1kHz | | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | | |
| SR820K10E | 50 | 66 | 74 | 90 | 3500 | 2500 | 135 | 25 | 14 | 1780 | △ | ☆ ◇ |
| SR181K10E | 120 | 160 | 170 | 207 | 3500 | 2500 | 320 | 25 | 33 | 460 | △ | ☆ ◇ |
| SR201K10E | 130 | 175 | 185 | 225 | 3500 | 2500 | 340 | 25 | 35 | 430 | △ | ☆ ◇ |
| SR221K10E | 140 | 180 | 198 | 242 | 3500 | 2500 | 360 | 25 | 39 | 410 | △ | ☆ ◇ |
| SR241K10E | 150 | 200 | 216 | 264 | 3500 | 2500 | 395 | 25 | 42 | 380 | △ | ☆ ◇ |
| SR271K10E | 180 | 230 | 255 | 311 | 3500 | 2500 | 475 | 25 | 49 | 350 | △ | ☆ ◇ |
| SR301K10E | 195 | 250 | 270 | 330 | 3500 | 2500 | 525 | 25 | 53 | 320 | △ | ☆ ◇ |
| SR331K10E | 210 | 275 | 297 | 363 | 3500 | 2500 | 540 | 25 | 58 | 300 | △ | ☆ ◇ |
| SR361K10E | 230 | 300 | 324 | 396 | 3500 | 2500 | 595 | 25 | 65 | 285 | △ | ☆ ◇ |
| SR391K10E | 250 | 330 | 351 | 429 | 3500 | 2500 | 650 | 25 | 70 | 270 | △ | ☆ ◇ |
| SR431K10E | 275 | 370 | 387 | 473 | 3500 | 2500 | 710 | 25 | 80 | 255 | △ | ☆ ◇ |
| SR471K10E | 300 | 385 | 423 | 517 | 3500 | 2500 | 775 | 25 | 85 | 230 | △ | ☆ ◇ |
| SR511K10E | 320 | 420 | 459 | 561 | 3500 | 2500 | 865 | 25 | 92 | 210 | △ | ☆ ◇ |
| SR561K10E | 360 | 470 | 522 | 638 | 3500 | 2500 | 960 | 25 | 97 | 170 | △ | ☆ ◇ |
| SR621K10E | 390 | 505 | 558 | 682 | 3500 | 2500 | 1040 | 25 | 107 | 146 | △ | ☆ ◇ |
| SR681K10E | 420 | 560 | 612 | 748 | 3500 | 2500 | 1120 | 25 | 110 | 136 | △ | ☆ ◇ |
| SR751K10E | 460 | 615 | 675 | 825 | 3500 | 2500 | 1240 | 25 | 115 | 124 | △ | ☆ ◇ |
| SR781K10E | 485 | 640 | 702 | 858 | 3500 | 2500 | 1290 | 25 | 120 | 120 | △ | ☆ ◇ |
| SR821K10E | 510 | 675 | 738 | 902 | 3500 | 2500 | 1350 | 25 | 125 | 110 | △ | ☆ ◇ |
| SR911K10E | 550 | 745 | 819 | 1001 | 3500 | 2500 | 1400 | 25 | 130 | 90 | △ | ☆ ◇ |
| SR102K10E | 625 | 825 | 900 | 1100 | 3500 | 2500 | 1620 | 25 | 145 | 80 | △ | ☆ ◇ |
| SR112K10E | 680 | 895 | 962 | 1175 | 3500 | 2500 | 1800 | 25 | 155 | 70 | △ | ☆ ◇ |

1. Please refer "How to Order" for details

2. Safety approval: please refer to "Remark" on page 9.

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | Typical Capacitance | Safety Approval | |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|---------------------|-----------------|-------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000μs | @1kHz | | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | | |
| SR820K14E | 50 | 66 | 74 | 90 | 6000 | 5000 | 135 | 50 | 28 | 3310 | △ | ☆ ◇ # |
| SR181K14E | 120 | 160 | 170 | 207 | 6000 | 5000 | 320 | 50 | 56 | 800 | △ | ☆ ◇ # |
| SR201K14E | 130 | 175 | 185 | 225 | 6000 | 5000 | 340 | 50 | 70 | 770 | △ | ☆ ◇ # |
| SR221K14E | 140 | 180 | 198 | 242 | 6000 | 5000 | 360 | 50 | 78 | 740 | △ | ☆ ◇ # |
| SR241K14E | 150 | 200 | 216 | 264 | 6000 | 5000 | 395 | 50 | 84 | 700 | △ | ☆ ◇ # |
| SR271K14E | 180 | 230 | 255 | 311 | 6000 | 5000 | 475 | 50 | 99 | 640 | △ | ☆ ◇ # |
| SR301K14E | 195 | 250 | 270 | 330 | 6000 | 5000 | 525 | 50 | 107 | 620 | △ | ☆ ◇ # |
| SR331K14E | 210 | 275 | 297 | 363 | 6000 | 5000 | 540 | 50 | 115 | 580 | △ | ☆ ◇ # |
| SR361K14E | 230 | 300 | 324 | 396 | 6000 | 5000 | 595 | 50 | 140 | 540 | △ | ☆ ◇ # |
| SR391K14E | 250 | 330 | 351 | 429 | 6000 | 5000 | 650 | 50 | 150 | 500 | △ | ☆ ◇ # |
| SR431K14E | 275 | 370 | 387 | 473 | 6000 | 5000 | 710 | 50 | 165 | 460 | △ | ☆ ◇ # |
| SR471K14E | 300 | 385 | 423 | 517 | 6000 | 5000 | 775 | 50 | 175 | 400 | △ | ☆ ◇ # |
| SR511K14E | 320 | 420 | 459 | 561 | 6000 | 5000 | 865 | 50 | 190 | 350 | △ | ☆ ◇ # |
| SR561K14E | 360 | 470 | 522 | 638 | 6000 | 5000 | 960 | 50 | 210 | 320 | △ | ☆ ◇ # |
| SR621K14E | 390 | 505 | 558 | 682 | 6000 | 5000 | 1040 | 50 | 215 | 270 | △ | ☆ ◇ # |
| SR681K14E | 420 | 560 | 612 | 748 | 6000 | 5000 | 1120 | 50 | 225 | 250 | △ | ☆ ◇ # |
| SR751K14E | 460 | 615 | 675 | 825 | 6000 | 5000 | 1240 | 50 | 230 | 230 | △ | ☆ ◇ # |
| SR781K14E | 485 | 640 | 702 | 858 | 6000 | 5000 | 1290 | 50 | 235 | 210 | △ | ☆ ◇ # |
| SR821K14E | 510 | 675 | 738 | 902 | 6000 | 5000 | 1350 | 50 | 240 | 190 | △ | ☆ ◇ # |
| SR911K14E | 550 | 745 | 819 | 1001 | 6000 | 5000 | 1400 | 50 | 255 | 170 | △ | ☆ ◇ # |
| SR102K14E | 625 | 825 | 900 | 1100 | 6000 | 5000 | 1620 | 50 | 290 | 165 | △ | ☆ ◇ # |
| SR112K14E | 680 | 895 | 962 | 1175 | 6000 | 5000 | 1800 | 50 | 310 | 140 | △ | ☆ ◇ # |

1. Please refer "How to Order" for details

2. Safety approval: please refer to "REMARK" ON PAGE 9.

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | |
| SR820K18E | 50 | 66 | 74 | 90 | 8000 | 5000 | 135 | 75 | 46 | 3500 | △ ☆ ◇ # |
| SR181K18E | 120 | 160 | 170 | 207 | 9000 | 6000 | 320 | 75 | 70 | 1600 | △ ☆ ◇ # |
| SR201K18E | 130 | 175 | 185 | 225 | 9000 | 6000 | 340 | 75 | 130 | 1270 | △ ☆ ◇ # |
| SR221K18E | 140 | 180 | 198 | 242 | 9000 | 6000 | 360 | 75 | 135 | 1220 | △ ☆ ◇ # |
| SR241K18E | 150 | 200 | 216 | 264 | 9000 | 6000 | 395 | 75 | 140 | 1200 | △ ☆ ◇ # |
| SR271K18E | 180 | 230 | 255 | 311 | 9000 | 6000 | 475 | 75 | 150 | 1050 | △ ☆ ◇ # |
| SR301K18E | 195 | 250 | 270 | 330 | 9000 | 6000 | 525 | 75 | 170 | 1010 | △ ☆ ◇ # |
| SR331K18E | 210 | 275 | 297 | 363 | 9000 | 6000 | 540 | 75 | 190 | 950 | △ ☆ ◇ # |
| SR361K18E | 230 | 300 | 324 | 396 | 9000 | 6000 | 595 | 75 | 215 | 870 | △ ☆ ◇ # |
| SR391K18E | 250 | 330 | 351 | 429 | 9000 | 6000 | 650 | 75 | 240 | 800 | △ ☆ ◇ # |
| SR431K18E | 275 | 370 | 387 | 473 | 9000 | 6000 | 710 | 75 | 260 | 730 | △ ☆ ◇ # |
| SR471K18E | 300 | 385 | 423 | 517 | 9000 | 6000 | 775 | 75 | 290 | 660 | △ ☆ ◇ # |
| SR511K18E | 320 | 420 | 459 | 561 | 9000 | 6000 | 865 | 75 | 314 | 570 | △ ☆ ◇ # |
| SR561K18E | 360 | 470 | 522 | 638 | 9000 | 6000 | 960 | 75 | 320 | 520 | △ ☆ ◇ # |
| SR621K18E | 390 | 505 | 558 | 682 | 9000 | 6000 | 1040 | 75 | 330 | 470 | △ ☆ ◇ # |
| SR681K18E | 420 | 560 | 612 | 748 | 9000 | 6000 | 1120 | 75 | 340 | 430 | △ ☆ ◇ # |
| SR751K18E | 460 | 615 | 675 | 825 | 9000 | 6000 | 1240 | 75 | 360 | 390 | △ ☆ ◇ # |
| SR781K18E | 485 | 640 | 702 | 858 | 9000 | 6000 | 1290 | 75 | 365 | 370 | △ ☆ ◇ # |
| SR821K18E | 510 | 675 | 738 | 902 | 9000 | 6000 | 1350 | 75 | 388 | 310 | △ ☆ ◇ # |
| SR911K18E | 550 | 745 | 819 | 1001 | 9000 | 6000 | 1400 | 75 | 405 | 280 | △ ☆ ◇ # |
| SR102K18E | 625 | 825 | 900 | 1100 | 9000 | 6000 | 1620 | 75 | 450 | 250 | △ ☆ ◇ # |
| SR112K18E | 680 | 895 | 962 | 1175 | 9000 | 6000 | 1800 | 75 | 500 | 230 | △ ☆ ◇ # |

1. Please refer "How to Order" for details

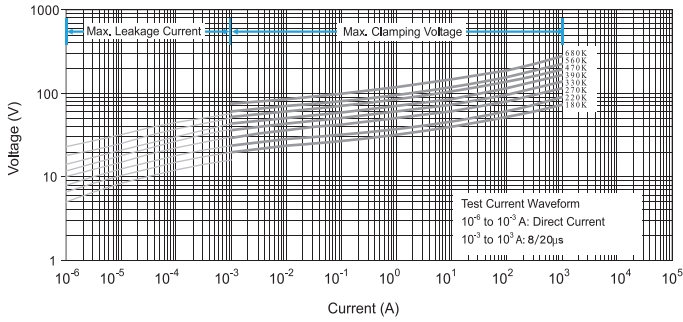
2. Safety approval: please refer to "Remark" on page 9.

| Type Number | Maximum Allowable Voltage | | Varistor Voltage | | Withstanding Surge Current (8/20 μs) | | Max. Clamping Voltage (8/20 μs) | | Maximum Energy | Typical Capacitance | Safety Approval |
|-------------|---------------------------|-------|------------------|------|--------------------------------------|---------|---------------------------------|------|----------------|---------------------|-----------------|
| | Acrms | DC | DC Volts | | 1 time | 2 times | Vc | Ip | 10/1000μs | @1kHz | |
| | Volts | Volts | Min | Max | Amps | | Volts | Amps | Joules | pF | |
| SR820K20E | 50 | 66 | 74 | 90 | 10000 | 6500 | 135 | 100 | 56 | 5300 | △ ☆ ◇ # |
| SR181K20E | 120 | 160 | 170 | 207 | 12000 | 7500 | 320 | 100 | 135 | 1800 | △ ☆ ◇ # |
| SR201K20E | 130 | 175 | 185 | 225 | 12000 | 7500 | 340 | 100 | 140 | 1700 | △ ☆ ◇ # |
| SR221K20E | 140 | 180 | 198 | 242 | 12000 | 7500 | 360 | 100 | 155 | 1600 | △ ☆ ◇ # |
| SR241K20E | 150 | 200 | 216 | 264 | 12000 | 7500 | 395 | 100 | 170 | 1500 | △ ☆ ◇ # |
| SR271K20E | 180 | 230 | 255 | 311 | 12000 | 7500 | 475 | 100 | 190 | 1300 | △ ☆ ◇ # |
| SR301K20E | 195 | 250 | 270 | 330 | 12000 | 7500 | 525 | 100 | 210 | 1200 | △ ☆ ◇ # |
| SR331K20E | 210 | 275 | 297 | 363 | 12000 | 7500 | 540 | 100 | 228 | 1100 | △ ☆ ◇ # |
| SR361K20E | 230 | 300 | 324 | 396 | 12000 | 7500 | 595 | 100 | 275 | 1050 | △ ☆ ◇ # |
| SR391K20E | 250 | 330 | 351 | 429 | 12000 | 7500 | 650 | 100 | 305 | 1000 | △ ☆ ◇ # |
| SR431K20E | 275 | 370 | 387 | 473 | 12000 | 7500 | 710 | 100 | 330 | 950 | △ ☆ ◇ # |
| SR471K20E | 300 | 385 | 423 | 517 | 12000 | 7500 | 775 | 100 | 350 | 900 | △ ☆ ◇ # |
| SR511K20E | 320 | 420 | 459 | 561 | 12000 | 7500 | 865 | 100 | 382 | 800 | △ ☆ ◇ # |
| SR561K20E | 360 | 470 | 522 | 638 | 12000 | 7500 | 960 | 100 | 395 | 760 | △ ☆ ◇ # |
| SR621K20E | 390 | 505 | 558 | 682 | 12000 | 7500 | 1040 | 100 | 410 | 710 | △ ☆ ◇ # |
| SR681K20E | 420 | 560 | 612 | 748 | 12000 | 7500 | 1120 | 100 | 423 | 670 | △ ☆ ◇ # |
| SR751K20E | 460 | 615 | 675 | 825 | 12000 | 7500 | 1240 | 100 | 435 | 620 | △ ☆ ◇ # |
| SR781K20E | 485 | 640 | 702 | 858 | 12000 | 7500 | 1290 | 100 | 450 | 580 | △ ☆ ◇ # |
| SR821K20E | 510 | 675 | 738 | 902 | 12000 | 7500 | 1350 | 100 | 460 | 530 | △ ☆ ◇ # |
| SR911K20E | 550 | 745 | 819 | 1001 | 12000 | 7500 | 1400 | 100 | 510 | 470 | △ ☆ ◇ # |
| SR102K20E | 625 | 825 | 900 | 1100 | 12000 | 7500 | 1620 | 100 | 560 | 425 | △ ☆ ◇ # |
| SR112K20E | 680 | 895 | 962 | 1175 | 12000 | 7500 | 1800 | 100 | 620 | 380 | △ ☆ ◇ # |

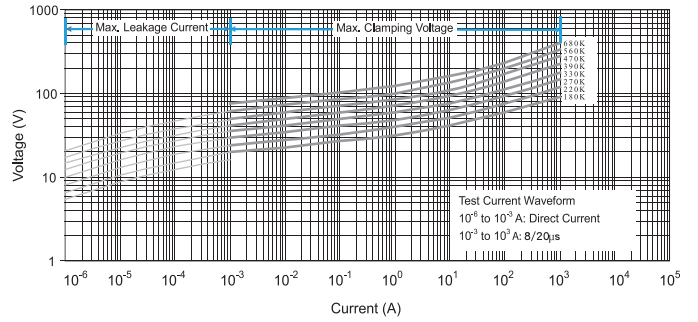
1. Please refer "How to Order" for details

2. Safety approval: please refer to "Remark" on page 9.

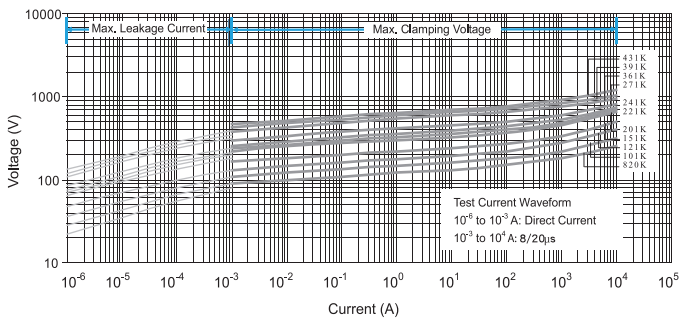
V-I Curve for SR180K~680K05D(E) Series



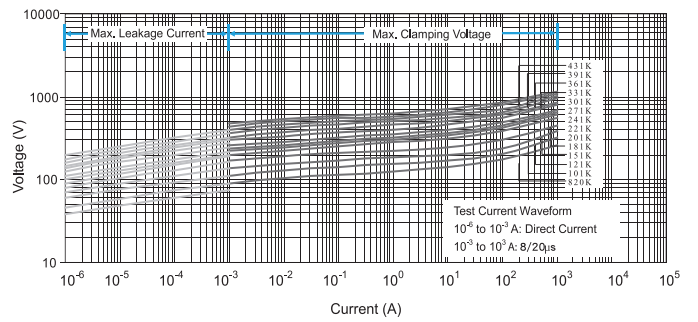
V-I Curve for SR180K~680K07D(E) Series



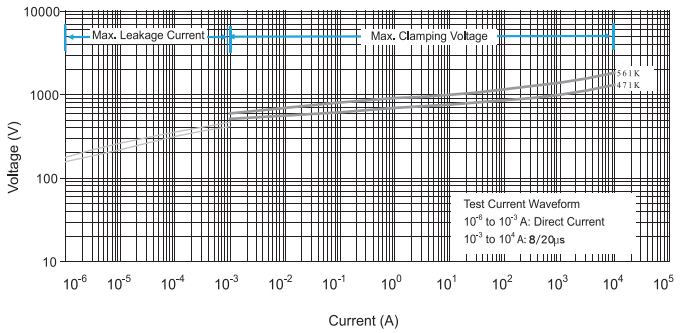
V-I Curve for SR820K~431K05D(E) Series



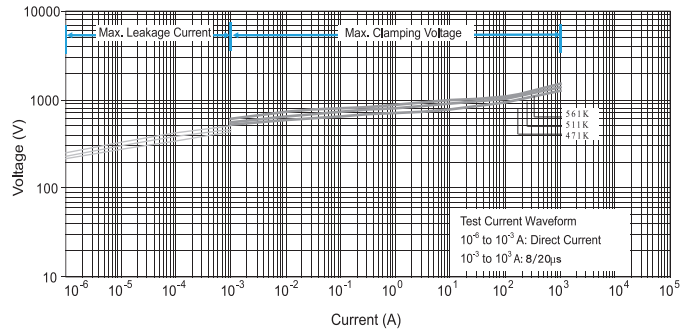
V-I Curve for SR820K~431K07D(E) Series



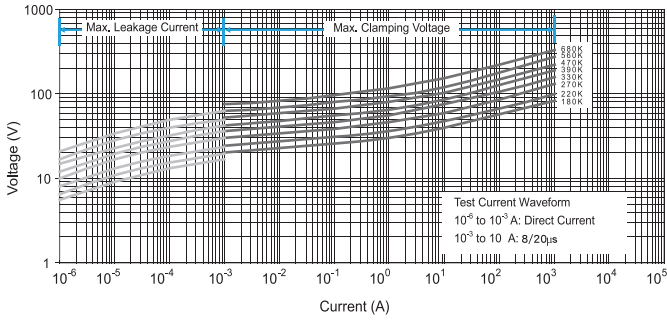
V-I Curve for SR471K~561K05D(E) Series



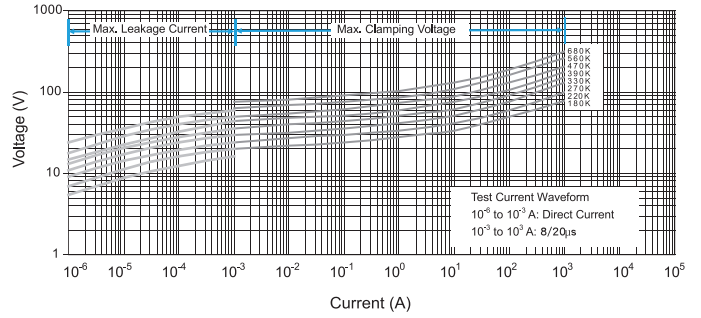
V-I Curve for SR471K~561K07D(E) Series



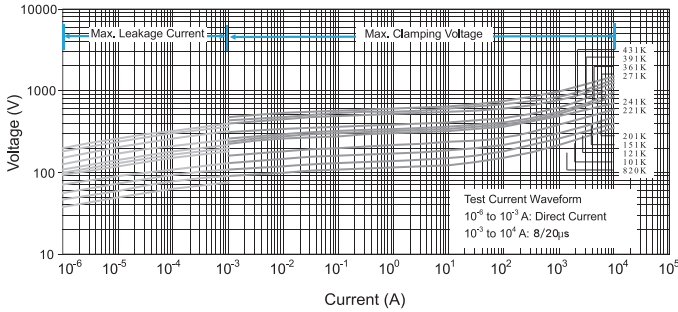
V-I Curve for SR180K~680K10D(E) Series



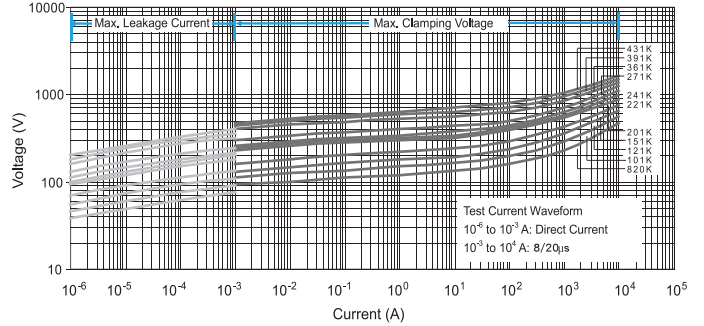
V-I Curve for SR180K ~ 680K14D(E) Series



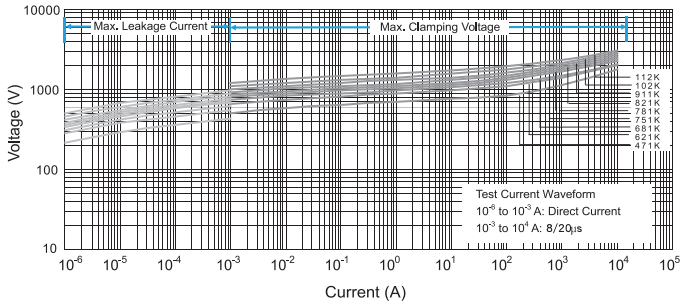
V-I Curve for SR820K ~ 431K10D(E) Series



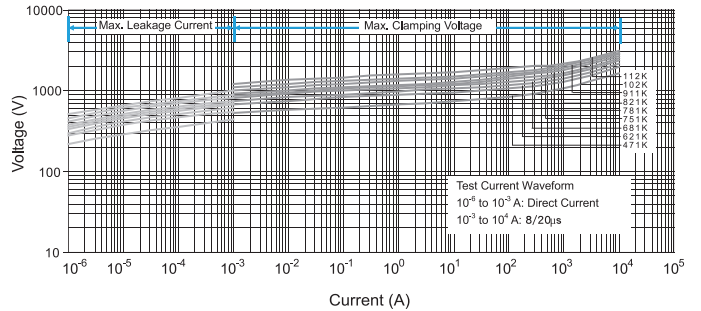
V-I Curve for SR820K~431K14D(E) Series



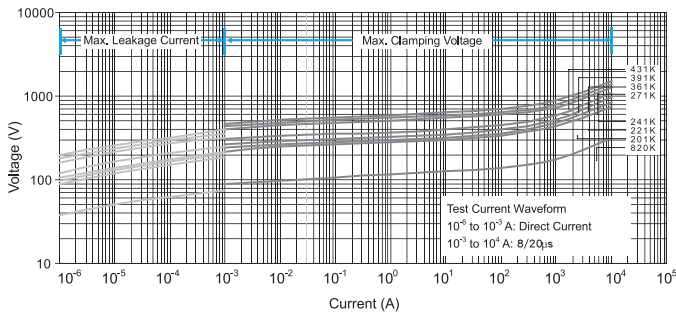
V-I Curve for 471K~112K10D (E) Series



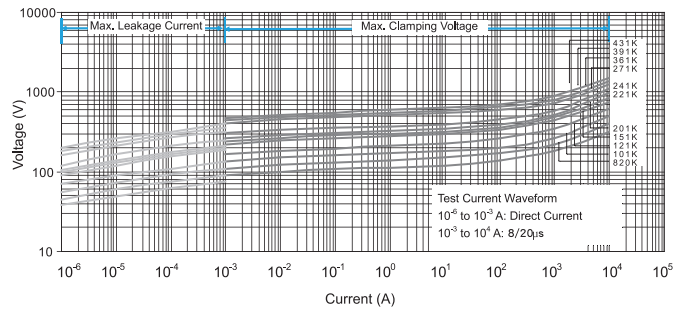
V-I Curve for SR471K ~ 112K14D(E) Series



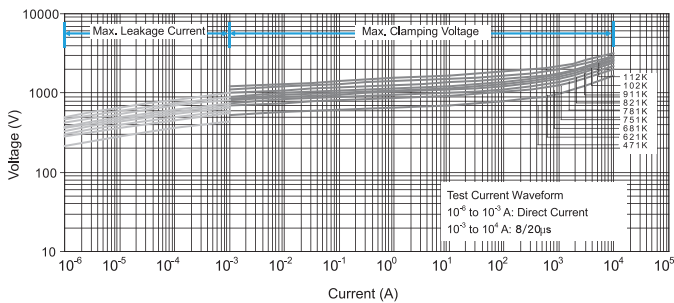
V-I Curve for SR820K~ 431K18E Series



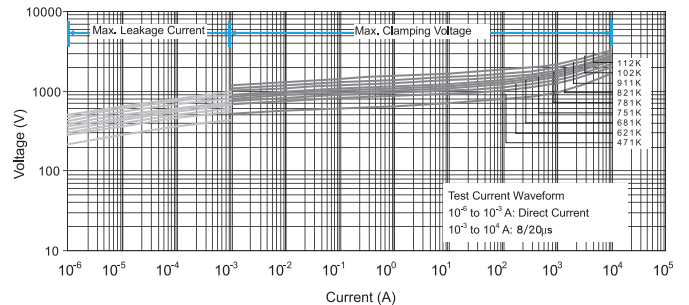
V-I Curve for SR820K~ 431K20DE Series



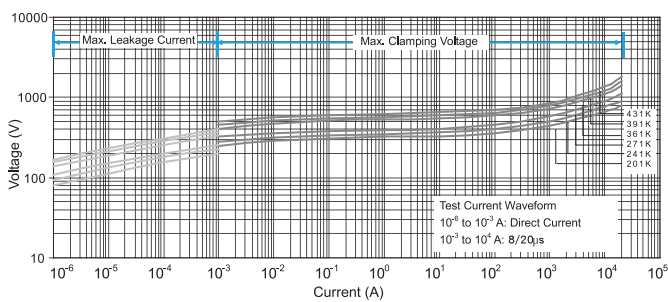
V-I Curve for SR471K~ 112K18E Series



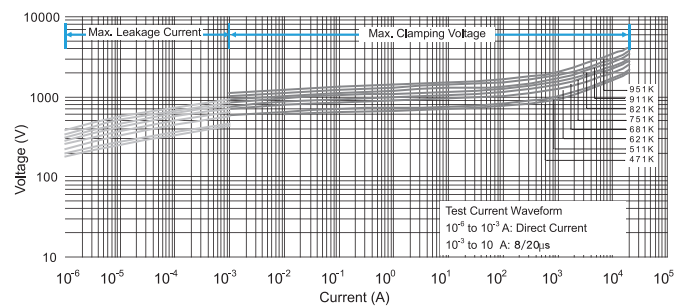
V-I Curve for SR471K~ 112K20D(E) Series



V-I Curve for SR201K~ 431K25D Series

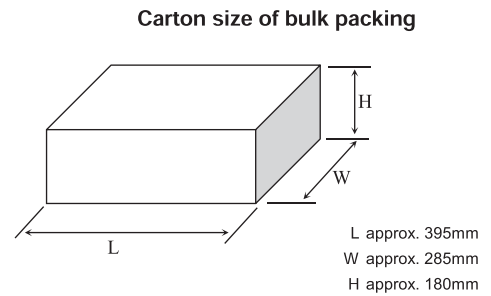


V-I Curve for SR471K~ 951K25D Series



A. Bulk packing:

| Disk size mm | Varistor Voltage | Q'ty pcs/bag | Q'ty pcs/Carton |
|--------------|------------------|--------------|-----------------|
| 5Ø | All | 1000 | 10000 |
| 7Ø | All | 500 | 5000 |
| 10Ø | 180K-471K | 500 | 5000 |
| | Above 511K | 300 | 3000 |
| 14Ø | 180K-751K | 300 | 3000 |
| | Above 821K | 200 | 2000 |
| 18Ø | All | 200 | 2000 |
| 20Ø | 180K-621K | 100 | 1000 |
| | Above 681K | 50 | 500 |
| 25Ø | 180K-621K | 50 | 500 |
| | Above 681K | 30 | 300 |

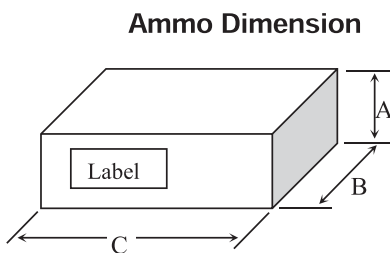


B. Tape and Reel:

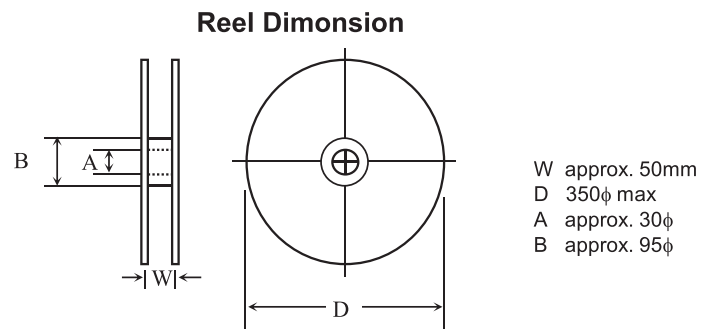
| Disk size mm | Varistor Voltage | AMMO BOX | | REEL | | |
|--------------|------------------|-----------|--------------|------------|-------------|--------------|
| | | PCS / BOX | BOX / CARTON | PCS / REEL | REELS / BOX | BOX / CARTON |
| 5Ø | ≤431K | 1500 | 10 | 1500 | 2 | 5 |
| 5Ø | ≥471K | 1000 | 10 | 1000 | 2 | 5 |
| 7Ø | ≤431K | 1500 | 10 | 1500 | 2 | 5 |
| 7Ø | ≥471K | 1000 | 10 | 1000 | 2 | 5 |
| 10Ø | ≤431K | 500 | 10 | 500 | 2 | 5 |
| 10Ø | ≥471K | 300 | 10 | 300 | 2 | 5 |
| 14Ø | ≤431K | 500 | 8 | 500 | 2 | 5 |
| 14Ø | ≥471K | 300 | 8 | 300 | 2 | 5 |
| 18Ø | ≤431K | 500 | 8 | 500 | 2 | 5 |
| 18Ø | ≥471K | 300 | 8 | 300 | 2 | 5 |
| 20Ø | ≤431K | 500 | 8 | 500 | 2 | 5 |
| 20Ø | ≥471K | 300 | 8 | 300 | 2 | 5 |

Note: Ammo box and reel quantities may vary. Please contact sales for details.

■ Dimensions of Ammo Box and Reel:

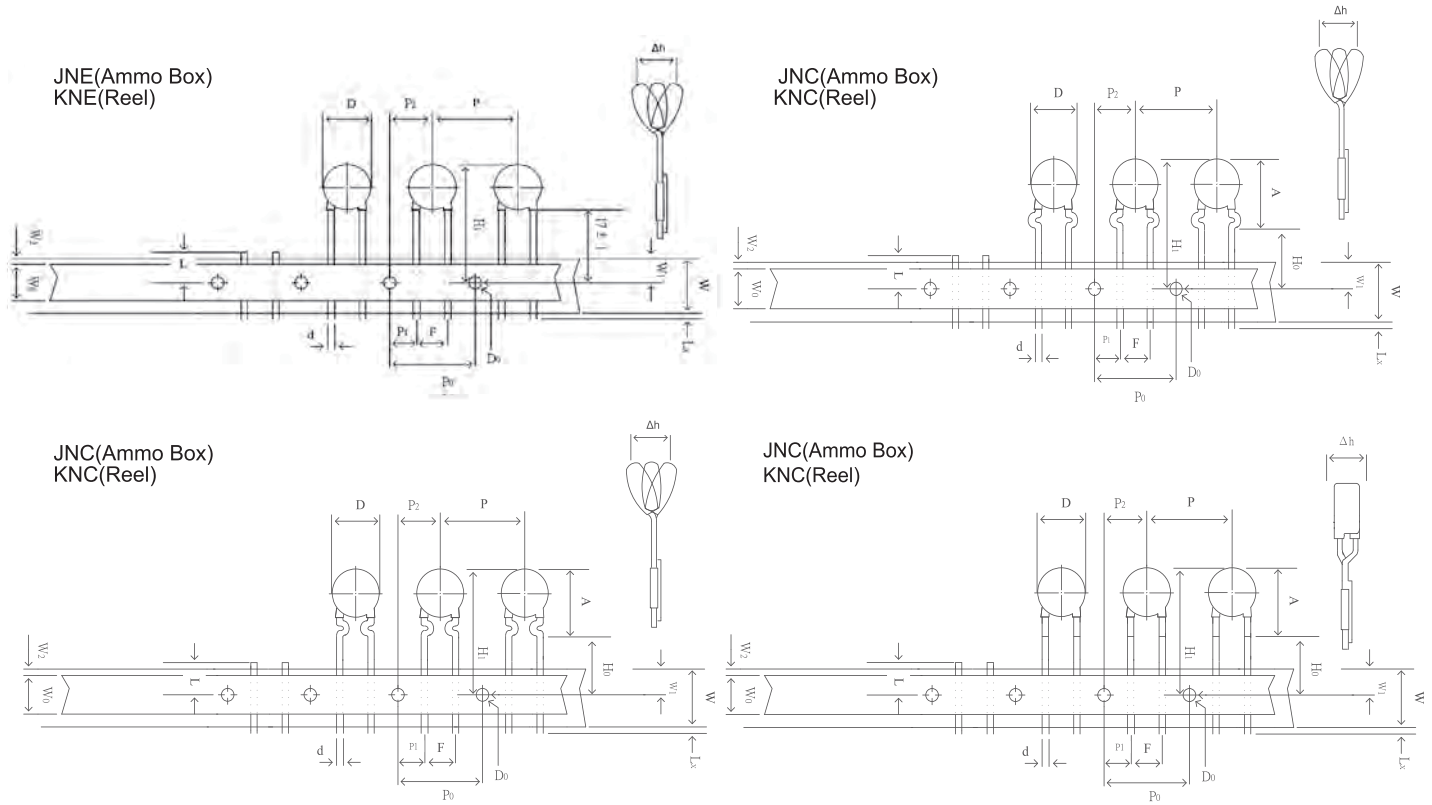


| Disk size | A (max.) | B (max.) | C (max.) |
|------------|----------|----------|----------|
| 5 Ø | 50mm | 270mm | 350mm |
| 7 Ø | 50mm | 270mm | 350mm |
| 10 Ø | 70mm | 270mm | 370mm |
| 14 Ø | 70mm | 270mm | 370mm |
| 18 Ø, 20 Ø | 70mm | 270mm | 370mm |



■ Taping Code:

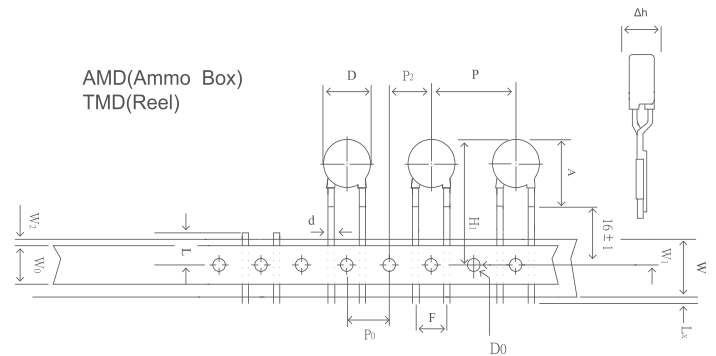
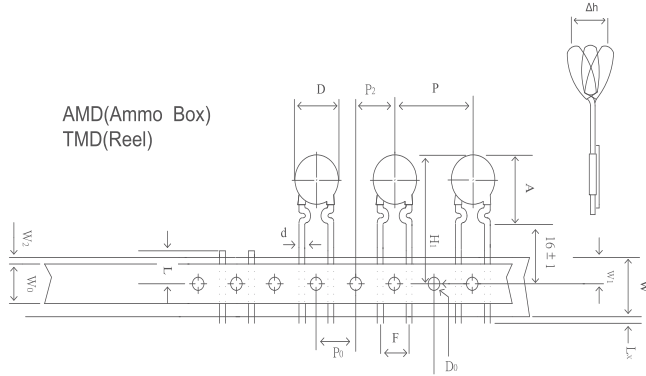
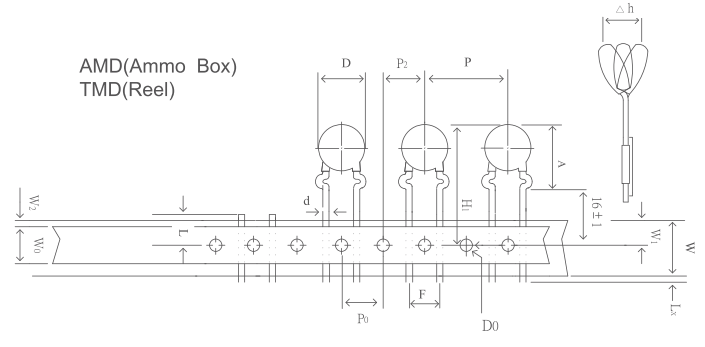
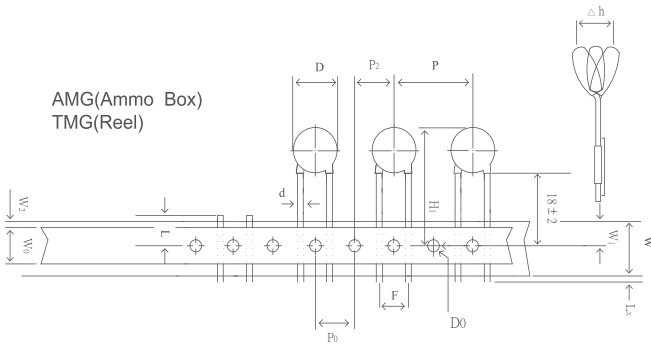
| Varistor series | Lead spacing | Packing type | Lead type | | | |
|-----------------|--------------|--------------|-----------|-----------------|----------------|----------------|
| | | | Straight | Outward crimped | Inward crimped | Inline crimped |
| 5D,5E | 5 mm | Ammo Reel | JNE, KNE | | JNC, KNC | |
| 7D,7E | 5 mm | Ammo Reel | JNE, KNE | | JNC, KNC | |
| 10D,10E | 7.5 mm | Ammo Reel | AMG, TMG | | AMD, TMD | |
| 14D,14E | 7.5 mm | Ammo Reel | AMG, TMG | | AMD, TMD | |
| 18E | 7.5 mm | Ammo Reel | AMG, TMG | | AMD, TMD | |
| 20D,20E | 7.5/10 mm | Ammo Reel | AMG, TMG | | AMD, TMD | |



| Item | Disk Size | | | | | | |
|------------------------------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | 5Ø (5D, 5E) | | | 7Ø (7D, 7E) | | |
| Taping Code | | JNE, KNE | JNC, KNC | | JNE, KNE | JNC, KNC | |
| Body Diameter | D | 7Max | 7Max | 7Max | 9Max | 9Max | 9Max |
| Lead Wire Diameter | d | 0.6±0.05 | 0.6±0.05 | 0.6±0.05 | 0.6±0.05 | 0.6±0.05 | 0.6±0.05 |
| Pitch of Component | P | 12.7±1 | 12.7±1 | 12.7±1 | 12.7±1 | 12.7±1 | 12.7±1 |
| Feed Hole Pitch | P ₀ | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 |
| Feed Hole Center to Lead | P ₁ | 3.85±0.7 | 3.85±0.7 | 3.85±0.7 | 3.85±0.7 | 3.85±0.7 | 3.85±0.7 |
| Lead to Lead Distance (Center to Center) | F | 5.0±0.8 | 5.0±0.8 | 5.0±0.8 | 5.0±0.8 | 5.0±0.8 | 5.0±0.8 |
| Component Alignment | Δh | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max |
| Base paper Tape Width | W | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 |
| Adhesive Tape Width | W ₀ | 10Min | 10Min | 10Min | 10Min | 10Min | 10Min |
| Hole Position | W ₁ | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 |
| Adhesive Tape Border | W ₂ | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max |
| Component Height | H ₁ | 30Max | 30Max | 30Max | 32Max | 32Max | 30Max |
| Lead-Wire Clinch Height | H ₀ | — | 16±0.5 | 16±0.5 | — | 16±0.5 | 16±0.5 |
| Lead-Wire Protrusion | L _x | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max |
| Feed Hole Diameter | D ₀ | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 |
| Total Tape Thickness | t | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Length of Clipped Lead | L | 11Max | 11Max | 11Max | 11Max | 11Max | 11Max |
| Component Height from Seating Plane | A | — | 13Max | 13Max | — | 15Max | 15Max |
| Hole Center to Component Center | P ₂ | 6.35±0.7 | 6.35±0.7 | 6.35±0.7 | 6.35±0.7 | 6.35±0.7 | 6.35±0.7 |

Based on EIA-468-B Specification

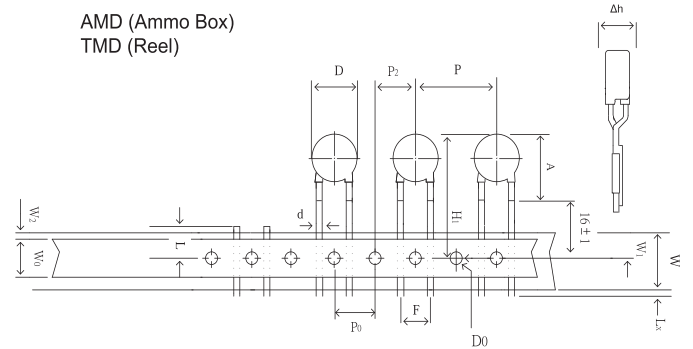
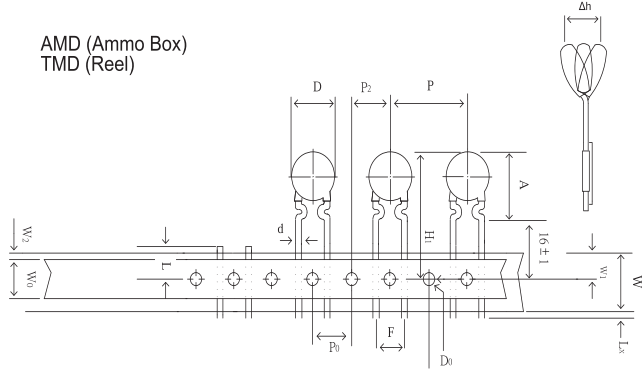
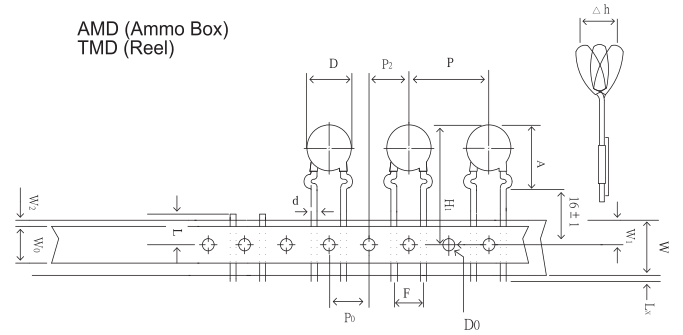
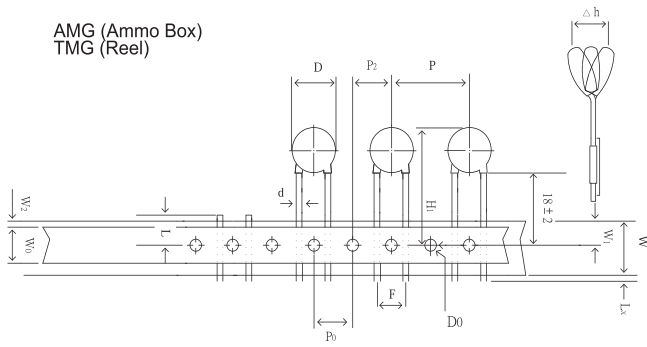
All dimensions are in millimeters.



| Item | | Disk Size | | | | | |
|------------------------------------------|----|----------------|-------------|-------------|----------------|-------------|-------------|
| | | 10Ø (10D, 10E) | | | 14Ø (14D, 14E) | | |
| | | AMG, TMG | AMD, TMD | | AMG, TMG | AMD, TMD | |
| Taping Code | | | | | | | |
| Body Diameter | D | 14Max | 14Max | 14Max | 17.5Max | 17.5Max | 17.5Max |
| Lead Wire Diameter | d | 0.8±0.05 | 0.8±0.05 | 0.8±0.05 | 0.8±0.05 | 0.8±0.05 | 0.8±0.05 |
| Pitch of Component | P | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 |
| Hole Center to Component Center | P2 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 |
| Feed Hole Pitch | P0 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 |
| Lead to Lead Distance (Center to Center) | F | 7.5±0.8 | 7.5±0.8 | 7.5±0.8 | 7.5±0.8 | 7.5±0.8 | 7.5±0.8 |
| Component Alignment | Δh | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max |
| Base paper Tape Width | W | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 |
| Adhesive Tape Width | W0 | 10Min | 10Min | 10Min | 10Min | 10Min | 10Min |
| Hole Position | W1 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 |
| Adhesive Tape Border | W2 | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max |
| Component Height | H1 | 33Max | 35Max | 35.5Max | 37Max | 40Max | 40Max |
| Lead-Wire Protrusion | Lx | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max |
| Feed Hole Diameter | D0 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 |
| Total Tape Thickness | t | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Length of Clipped Lead | L | 11Max | 11Max | 11Max | 11Max | 11Max | 11Max |
| Component Height from Seating Plane | A | — | 19.5Max | 19.5Max | — | 22.5Max | 22.5Max |

Based on EIA-468-B Specification

All dimensions are in millimeters.



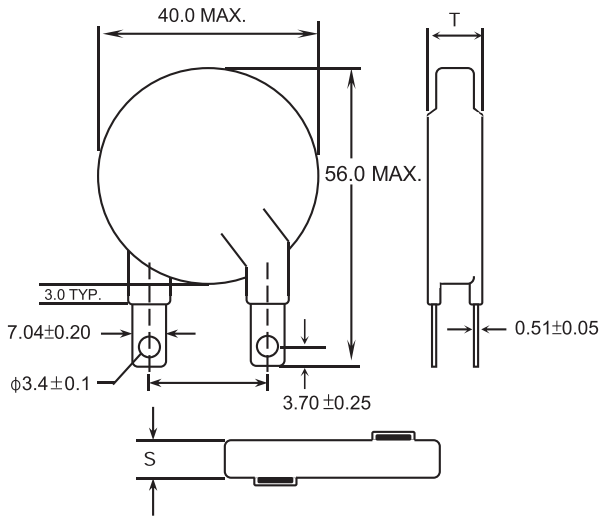
| Item | | Disk Size | | | | | |
|------------------------------------------|----------------|---------------------------|-------------|-------------|----------------------|-------------|-------------|
| | | 20Ø (20D, 20E), 18Ø (18E) | | | 20Ø (20D, 20E) | | |
| | | Lead Spacing 7.5 mm | | | Lead Spacing 10.0 mm | | |
| Taping Code | | AMG, TMG | AMD, TMD | | AMG, TMG | AMD, TMD | |
| Body Diameter | D | 24Max* | 24Max* | 24Max* | 24Max | 24Max | 24Max |
| Lead Wire Diameter | d | 0.8±0.05 | 0.8±0.05 | 0.8±0.05 | 1.0±0.05 | 1.0±0.05 | 1.0±0.05 |
| Pitch of Component | P | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 | 25.4±1 |
| Hole Center to Component Center | P ₂ | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 |
| Feed Hole Pitch | P ₀ | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 | 12.7±0.3 |
| Lead to Lead Distance (Center to Center) | F | 7.5±0.8 | 7.5±0.8 | 7.5±0.8 | 10.0±1.0 | 10.0±1.0 | 10.0±1.0 |
| Component Alignment | Δh | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max | 2.0Max |
| Base paper Tape Width | W | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 | 18+1.0/-0.5 |
| Adhesive Tape Width | W ₀ | 10Min | 10Min | 10Min | 10Min | 10Min | 10Min |
| Hole Position | W ₁ | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 | 9±0.5 |
| Adhesive Tape Border | W ₂ | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max | 1.5Max |
| Component Height | H ₂ | 48Max* | 48Max* | 48Max* | 48Max | 48Max | 48Max |
| Lead-Wire Protrusion | L _x | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max | 1.0Max |
| Feed Hole Diameter | D ₀ | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 | 4±0.2 |
| Total Tape Thickness | t | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Length of Clipped Lead | L | 11Max | 11Max | 11Max | 11Max | 11Max | 11Max |
| Component Height from Seating Plane | A | — | 29Max* | 28Max* | — | 29Max | 28Max |

Based on EIA-468-B Specification

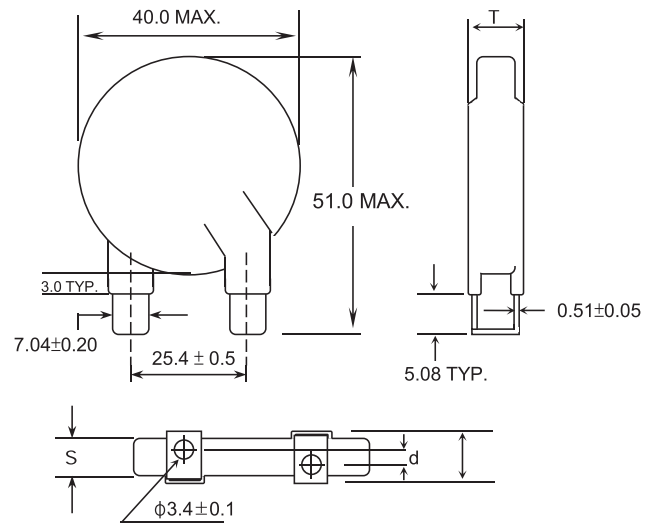
* For 18Ø, D=22max, H1=46max and A=26max.

All dimensions are in millimeters.

Straight Leads Part Number No Suffix



90° Bend Leads Part Number Suffix "Q"



| Part Number | Maximum Ratings | | | | | Electrical Characteristics | | | | | Tmax. | s | d |
|-------------|--------------------------|----------|------------------------------|--------------|---------------|----------------------------|-----------|------------------------------------------------|------|---------------------------------|-------|---------|---------|
| | Continuous Rated Voltage | | Rated Single Pulse Transient | | | Varistor Voltage @ 1mA DC | | Maximum Clamping Voltage @ Test Current 8/20µs | | Typical Capacitance @ 1KHZ 25°C | | | |
| | AC RMS Volts | DC Volts | Energy | 8/20µs Peak | | Min Volts | Max Volts | Volts | Amps | PF | | | |
| | | | 10/1000µs Jules | 1 time Kamps | 2 times Kamps | | | | | | | | |
| SR201K32D□ | 130 | 175 | 210 | 30 | 20 | 184 | 224 | 340 | 200 | 4700 | 7.5 | 2.5±1.0 | 5.7±1.0 |
| SR221K32D□ | 140 | 180 | 225 | 30 | 20 | 198 | 242 | 360 | 200 | 4300 | 7.5 | 2.5±1.0 | 5.5±1.0 |
| SR241K32D□ | 150 | 200 | 240 | 30 | 20 | 216 | 264 | 395 | 200 | 4000 | 7.5 | 2.8±1.0 | 5.4±1.0 |
| SR271K32D□ | 180 | 230 | 255 | 30 | 20 | 255 | 311 | 455 | 200 | 3500 | 8.5 | 2.8±1.0 | 5.2±1.0 |
| SR331K32D□ | 210 | 275 | 300 | 30 | 20 | 297 | 363 | 550 | 200 | 3000 | 9.0 | 3.1±1.0 | 4.8±1.0 |
| SR361K32D□ | 230 | 300 | 315 | 30 | 20 | 324 | 396 | 595 | 200 | 2800 | 9.0 | 3.3±1.0 | 4.6±1.0 |
| SR391K32D□ | 250 | 330 | 330 | 30 | 20 | 351 | 429 | 650 | 200 | 2500 | 9.0 | 3.6±1.0 | 4.4±1.0 |
| SR431K32D□ | 275 | 370 | 360 | 30 | 20 | 387 | 473 | 710 | 200 | 2200 | 9.0 | 3.6±1.0 | 4.2±1.0 |
| SR471K32D□ | 300 | 385 | 380 | 30 | 20 | 423 | 517 | 775 | 200 | 2000 | 9.7 | 3.8±1.0 | 4.2±1.0 |
| SR511K32D□ | 320 | 420 | 430 | 30 | 20 | 459 | 561 | 840 | 200 | 1900 | 9.7 | 3.8±1.0 | 4.0±1.0 |
| SR621K32D□ | 390 | 505 | 470 | 30 | 20 | 558 | 682 | 1025 | 200 | 1600 | 9.7 | 4.3±1.0 | 3.9±1.0 |
| SR681K32D□ | 420 | 560 | 495 | 30 | 20 | 612 | 748 | 1120 | 200 | 1500 | 9.7 | 4.6±1.0 | 3.6±1.0 |
| SR751K32D□ | 460 | 615 | 520 | 30 | 20 | 675 | 825 | 1240 | 200 | 1400 | 10.5 | 4.8±1.0 | 3.3±1.0 |
| SR781K32D□ | 485 | 640 | 550 | 30 | 20 | 702 | 858 | 1290 | 200 | 1300 | 10.5 | 4.8±1.0 | 3.1±1.0 |
| SR821K32D□ | 510 | 675 | 580 | 30 | 20 | 738 | 902 | 1355 | 200 | 1200 | 10.5 | 5.1±1.0 | 2.9±1.0 |
| SR911K32D□ | 550 | 745 | 620 | 30 | 20 | 819 | 1001 | 1500 | 200 | 1150 | 11.5 | 5.6±1.0 | 2.5±1.0 |
| SR951K32D□ | 575 | 765 | 650 | 30 | 20 | 855 | 1043 | 1570 | 200 | 1100 | 11.5 | 5.6±1.0 | 2.3±1.0 |
| SR102K32D□ | 625 | 825 | 680 | 30 | 20 | 900 | 1100 | 1650 | 200 | 1000 | 12.0 | 5.8±1.0 | 2.1±1.0 |
| SR112K32D□ | 680 | 895 | 760 | 30 | 20 | 962 | 1175 | 1815 | 200 | 900 | 12.0 | 6.4±1.0 | 2.1±1.0 |

□ - Part Number Suffix Code (ie: SR201K32DML)

No suffix - Straight Lead

Q - 90° Bend Lead

F - Un-Coated Disk - with Leads

ML - One Side coated Disk - with one Left Orientation Lead only

NL - Uncoated Disk - with one Left Orientation Lead only

L - Straight Lead - Left Side Lead Orientation

R - Uncoated Disk - without Leads

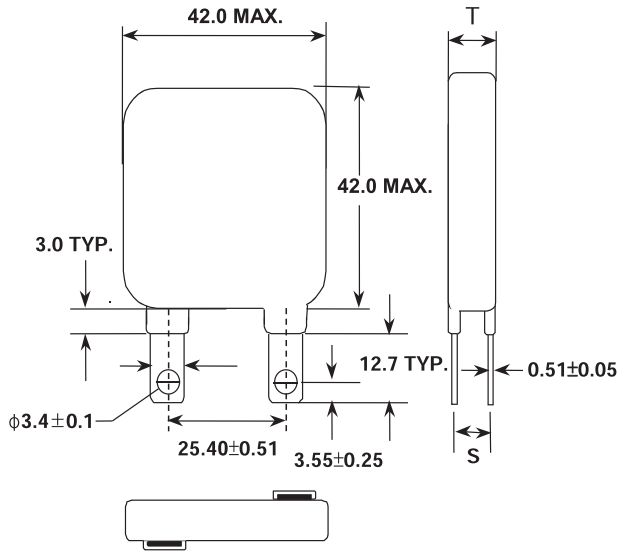
M - One Side Coated Disk - with one Right Orientation Lead only

N - Uncoated Disk - with one Right Orientation Lead only

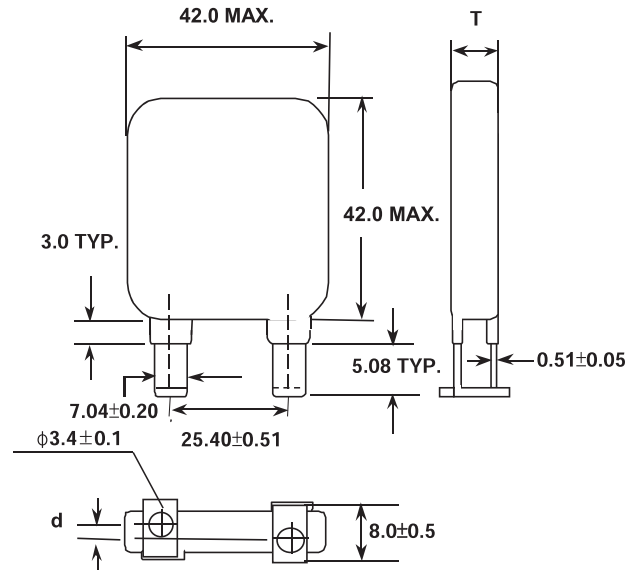
UL 1449 recognized (File # E309297)

CSA 22.2 #1 certified (File # 206608)

Straight Leads Part Number No Suffix



90° Bend Leads Part Number Suffix "Q"



| Part Number | Maximum Ratings | | | | | Electrical Characteristics | | | | | Tmax. | s | d |
|-------------|--------------------------|----------|------------------------------|--------------|---------------|----------------------------|-----------|------------------------------------------------|------|--------------------------------|-------|---------|---------|
| | Continuous Rated Voltage | | Rated Single Pulse Transient | | | Varistor Voltage @ 1mA DC | | Maximum Clamping Voltage @ Test Current 8/20µs | | Typical Capacitance @1KHZ 25°C | | | |
| | AC RMS Volts | DC Volts | Energy | 8/20µs Peak | | Min Volts | Max Volts | Volts | Amps | PF | | | |
| | | | 10/1000µs Jules | 1 time KAmps | 2 times KAmps | | | | | | | | |
| SR201K34R□ | 130 | 175 | 310 | 40 | 25 | 185 | 225 | 340 | 300 | 10000 | 7.5 | 2.5±1.0 | 5.7±1.0 |
| SR221K34R□ | 140 | 180 | 330 | 40 | 25 | 198 | 242 | 360 | 300 | 9000 | 7.5 | 2.5±1.0 | 5.5±1.0 |
| SR241K34R□ | 150 | 200 | 360 | 40 | 25 | 216 | 264 | 395 | 300 | 8000 | 7.5 | 2.8±1.0 | 5.4±1.0 |
| SR271K34R□ | 180 | 230 | 390 | 40 | 25 | 255 | 311 | 455 | 300 | 7100 | 8.5 | 2.8±1.0 | 5.2±1.0 |
| SR301K34R□ | 195 | 250 | 405 | 40 | 25 | 270 | 330 | 505 | 300 | 6500 | 9.0 | 3.0±1.0 | 5.0±1.0 |
| SR331K34R□ | 210 | 275 | 430 | 40 | 25 | 297 | 363 | 550 | 300 | 6000 | 9.0 | 3.1±1.0 | 4.8±1.0 |
| SR361K34R□ | 230 | 300 | 460 | 40 | 25 | 324 | 396 | 595 | 300 | 5600 | 9.0 | 3.3±1.0 | 4.6±1.0 |
| SR391K34R□ | 250 | 330 | 490 | 40 | 25 | 351 | 429 | 650 | 300 | 5000 | 9.0 | 3.6±1.0 | 4.4±1.0 |
| SR431K34R□ | 275 | 370 | 550 | 40 | 25 | 387 | 473 | 710 | 300 | 4500 | 9.0 | 3.6±1.0 | 4.2±1.0 |
| SR471K34R□ | 300 | 385 | 600 | 40 | 25 | 423 | 517 | 775 | 300 | 4000 | 9.7 | 3.8±1.0 | 4.2±1.0 |
| SR511K34R□ | 320 | 420 | 640 | 40 | 25 | 459 | 561 | 840 | 300 | 3800 | 9.7 | 3.8±1.0 | 4.0±1.0 |
| SR561K34R□ | 360 | 470 | 710 | 40 | 25 | 522 | 638 | 910 | 300 | 3500 | 9.7 | 4.0±1.0 | 4.0±1.0 |
| SR621K34R□ | 390 | 505 | 800 | 40 | 25 | 558 | 682 | 1025 | 300 | 3200 | 9.7 | 4.3±1.0 | 3.9±1.0 |
| SR681K34R□ | 420 | 560 | 910 | 40 | 25 | 612 | 748 | 1120 | 300 | 2900 | 9.7 | 4.6±1.0 | 3.6±1.0 |
| SR751K34R□ | 460 | 615 | 980 | 40 | 25 | 675 | 825 | 1240 | 300 | 2700 | 10.5 | 4.8±1.0 | 3.3±1.0 |
| SR781K34R□ | 485 | 640 | 1020 | 40 | 25 | 702 | 858 | 1290 | 300 | 2500 | 10.5 | 5.1±1.0 | 3.1±1.0 |
| SR821K34R□ | 510 | 675 | 1100 | 40 | 25 | 738 | 902 | 1355 | 300 | 2300 | 10.5 | 5.6±1.0 | 2.9±1.0 |
| SR911K34R□ | 550 | 745 | 1150 | 40 | 25 | 819 | 1001 | 1500 | 300 | 2100 | 11.5 | 5.6±1.0 | 2.5±1.0 |
| SR951K34R□ | 575 | 765 | 1200 | 40 | 25 | 855 | 1045 | 1570 | 300 | 1900 | 11.5 | 5.6±1.0 | 2.3±1.0 |
| SR102K34R□ | 625 | 825 | 1250 | 40 | 25 | 900 | 1100 | 1650 | 300 | 1700 | 12.0 | 5.8±1.0 | 2.1±1.0 |
| SR112K34R□ | 680 | 895 | 1350 | 40 | 25 | 962 | 1175 | 1815 | 300 | 1500 | 12.0 | 6.4±1.0 | 2.1±1.0 |

□ - Part Number Suffix Code (ie: SR201K34RML)

No suffix - Straight Lead

Q - 90° Bend Lead

F - Un-Coated Disk - with Leads

ML - One Side coated Disk - with one Left Orientation Lead only

NL - Uncoated Disk - with one Left Orientation Lead only

L - Straight Lead - Left Side Lead Orientation

R - Uncoated Disk - without Leads

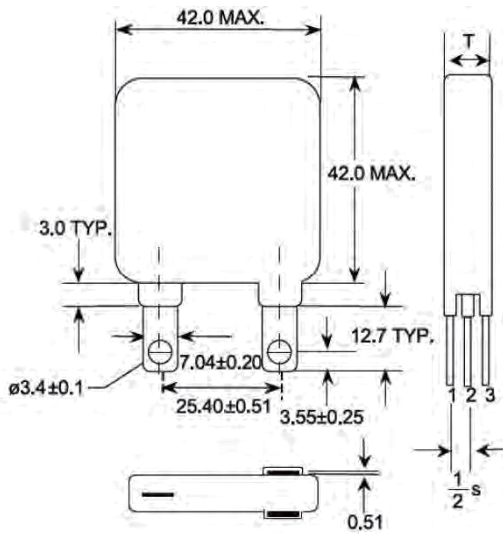
M - One Side Coated Disk - with one Right Orientation Lead only

N - Uncoated Disk - with one Right Orientation Lead only

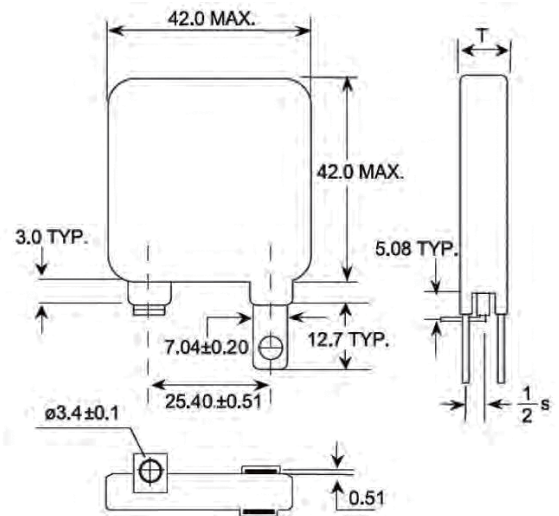
UL 1449 recognized (File # E309297)

CSA 22.2 #1 certified (File #206608)

Straight Leads Part Number No Suffix



90° Bend Leads Part Number Suffix "Q"



| Part Number | Maximum Ratings | | | | | | | Electrical Characteristics | | | | | Tmax. | s |
|-------------|--------------------------|----------|------------------------------|-----------------|--------------|---------------|----|----------------------------|-----------|------------------------------------------------|------|---------------------------------|-------|----------|
| | Continuous Rated Voltage | | Rated Single Pulse Transient | | | | | Varistor Voltage @ 1mA DC | | Maximum Clamping Voltage @ Test Current 8/20µs | | Typical Capacitance @ 1KHZ 25°C | | |
| | AC RMS Volts | DC Volts | Energy 10/1000µs Jules | 8/20µs Peak | | | | Min Volts | Max Volts | Volts | Amps | PF | | |
| | | | | Lead 1-2 or 2-3 | | Lead 1-3 | | | | | | | | |
| | | | 1 time Kamps | 2 times Kamps | 1 time Kamps | 2 times Kamps | | | | | | mm | mm | |
| SR221K34RD□ | 130 | 175 | 310 | 40 | 25 | 80 | 50 | 185 | 225 | 340 | 300 | 7900 | 9.1 | 4.1±1.0 |
| SR221K34RD□ | 140 | 180 | 330 | 40 | 25 | 80 | 50 | 198 | 242 | 360 | 300 | 7200 | 9.2 | 4.2±1.0 |
| SR241K34RD□ | 150 | 200 | 360 | 40 | 25 | 80 | 50 | 216 | 264 | 395 | 300 | 6600 | 9.3 | 4.6±1.0 |
| SR271K34RD□ | 180 | 230 | 390 | 40 | 25 | 80 | 50 | 255 | 311 | 455 | 300 | 5600 | 9.5 | 4.8±1.0 |
| SR301K34RD□ | 195 | 250 | 405 | 40 | 25 | 80 | 50 | 270 | 330 | 505 | 300 | 5200 | 10.5 | 5.2±1.0 |
| SR331K34RD□ | 210 | 275 | 430 | 40 | 25 | 80 | 50 | 297 | 363 | 550 | 300 | 4800 | 11.3 | 5.4±1.0 |
| SR361K34RD□ | 230 | 300 | 460 | 40 | 25 | 80 | 50 | 324 | 396 | 595 | 300 | 4400 | 11.5 | 5.8±1.0 |
| SR391K34RD□ | 250 | 330 | 490 | 40 | 25 | 80 | 50 | 351 | 429 | 650 | 300 | 4100 | 11.6 | 6.2±1.0 |
| SR431K34RD□ | 275 | 370 | 550 | 40 | 25 | 80 | 50 | 387 | 473 | 710 | 300 | 3800 | 11.9 | 6.5±1.0 |
| SR471K34RD□ | 300 | 385 | 600 | 40 | 25 | 80 | 50 | 423 | 517 | 775 | 300 | 3400 | 12.8 | 6.9±1.0 |
| SR511K34RD□ | 320 | 420 | 640 | 40 | 25 | 80 | 50 | 459 | 561 | 840 | 300 | 3200 | 13.1 | 7.2±1.0 |
| SR561K34RD□ | 360 | 470 | 710 | 40 | 25 | 80 | 50 | 522 | 638 | 910 | 300 | 2700 | 13.4 | 7.7±1.0 |
| SR621K34RD□ | 390 | 505 | 800 | 40 | 25 | 80 | 50 | 558 | 682 | 1025 | 300 | 2600 | 13.6 | 8.2±1.0 |
| SR681K34RD□ | 420 | 560 | 910 | 40 | 25 | 80 | 50 | 612 | 748 | 1120 | 300 | 2400 | 13.9 | 8.8±1.0 |
| SR751K34RD□ | 460 | 615 | 980 | 40 | 25 | 80 | 50 | 675 | 825 | 1240 | 300 | 2200 | 15.3 | 9.3±1.0 |
| SR781K34RD□ | 485 | 640 | 1020 | 40 | 25 | 80 | 50 | 702 | 858 | 1290 | 300 | 2100 | 15.5 | 9.6±1.0 |
| SR821K34RD□ | 510 | 675 | 1100 | 40 | 25 | 80 | 50 | 738 | 902 | 1355 | 300 | 2000 | 15.5 | 10.1±1.0 |
| SR911K34RD□ | 550 | 745 | 1150 | 40 | 25 | 80 | 50 | 819 | 1001 | 1500 | 300 | 1800 | 17.0 | 11.1±1.0 |
| SR951K34RD□ | 575 | 765 | 1200 | 40 | 25 | 80 | 50 | 855 | 1045 | 1570 | 300 | 1700 | 17.2 | 11.3±1.0 |
| SR102K34RD□ | 625 | 825 | 1250 | 40 | 25 | 80 | 50 | 900 | 1100 | 1650 | 300 | 1600 | 18.0 | 11.8±1.0 |
| SR112K34RD□ | 680 | 895 | 1350 | 40 | 25 | 80 | 50 | 962 | 1175 | 1815 | 300 | 1500 | 18.6 | 13.0±1.0 |

□ - Part Number Suffix Code (ie: SR201K34RDQ)

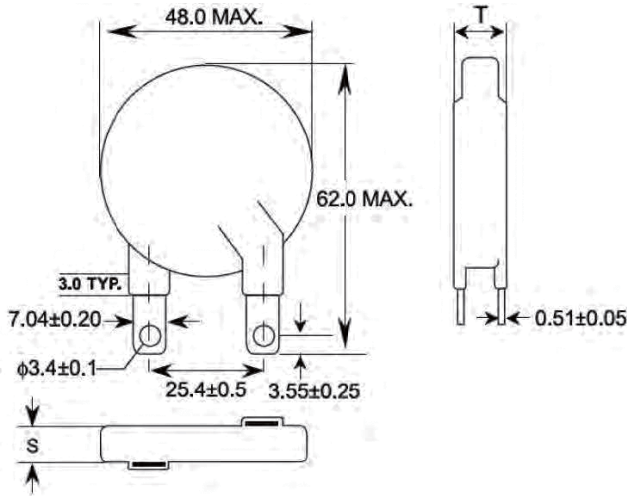
No suffix - Straight Lead

Q - 90° Bend Lead

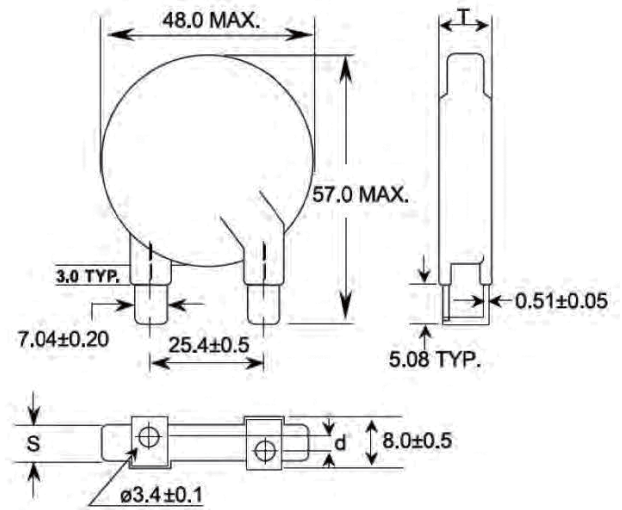
UL 1449 recognized (File # E309297)

CSA 22.2 #1 certified (File #206608)

Straight Leads Part Number No Suffix



90° Bend Leads Part Number Suffix "Q"



| Part Number | Maximum Ratings | | | | | Electrical Characteristics | | | | | Tmax. | s | d |
|-------------|--------------------------|----------|------------------------------|--------------|---------------|----------------------------|-----------|------------------------------------------------|------|--------------------------------|-------|---------|---------|
| | Continuous Rated Voltage | | Rated Single Pulse Transient | | | Varistor Voltage @ 1mA DC | | Maximum Clamping Voltage @ Test Current 8/20µs | | Typical Capacitance @1KHZ 25°C | | | |
| | AC RMS Volts | DC Volts | Energy | 8/20µs Peak | | Min Volts | Max Volts | Volts | Amps | PF | | | |
| | | | 10/1000µs Jules | 1 time Kamps | 2 times Kamps | | | | | | | | |
| SR201K40D□ | 130 | 175 | 310 | 40 | 25 | 185 | 225 | 340 | 300 | 10000 | 7.5 | 2.5±1.0 | 5.7±1.0 |
| SR221K40D□ | 140 | 180 | 330 | 40 | 25 | 198 | 242 | 360 | 300 | 9000 | 7.5 | 2.5±1.0 | 5.5±1.0 |
| SR241K40D□ | 150 | 200 | 360 | 40 | 25 | 216 | 264 | 395 | 300 | 8000 | 7.5 | 2.8±1.0 | 5.4±1.0 |
| SR271K40D□ | 180 | 230 | 390 | 40 | 25 | 255 | 311 | 455 | 300 | 7100 | 8.5 | 2.8±1.0 | 5.2±1.0 |
| SR331K40D□ | 210 | 275 | 460 | 40 | 25 | 297 | 363 | 550 | 300 | 6000 | 9.0 | 3.1±1.0 | 4.8±1.0 |
| SR361K40D□ | 230 | 300 | 475 | 40 | 25 | 324 | 396 | 595 | 300 | 5600 | 9.0 | 3.3±1.0 | 4.6±1.0 |
| SR391K40D□ | 250 | 330 | 490 | 40 | 25 | 351 | 429 | 650 | 300 | 5000 | 9.0 | 3.6±1.0 | 4.4±1.0 |
| SR431K40D□ | 275 | 370 | 550 | 40 | 25 | 387 | 473 | 710 | 300 | 4500 | 9.0 | 3.6±1.0 | 4.2±1.0 |
| SR471K40D□ | 300 | 385 | 600 | 40 | 25 | 423 | 517 | 775 | 300 | 4000 | 9.7 | 3.8±1.0 | 4.2±1.0 |
| SR511K40D□ | 320 | 420 | 640 | 40 | 25 | 459 | 561 | 840 | 300 | 3800 | 9.7 | 3.8±1.0 | 4.0±1.0 |
| SR621K40D□ | 390 | 505 | 800 | 40 | 25 | 558 | 682 | 1025 | 300 | 3300 | 9.7 | 4.3±1.0 | 3.9±1.0 |
| SR681K40D□ | 420 | 560 | 910 | 40 | 25 | 612 | 748 | 1120 | 300 | 3000 | 9.7 | 4.6±1.0 | 3.6±1.0 |
| SR751K40D□ | 460 | 615 | 920 | 40 | 25 | 675 | 825 | 1240 | 300 | 2600 | 10.5 | 4.8±1.0 | 3.3±1.0 |
| SR781K40D□ | 485 | 640 | 930 | 40 | 25 | 702 | 858 | 1290 | 300 | 2500 | 10.5 | 4.8±1.0 | 3.1±1.0 |
| SR821K40D□ | 510 | 675 | 940 | 40 | 25 | 738 | 902 | 1355 | 300 | 2300 | 10.5 | 5.1±1.0 | 2.9±1.0 |
| SR911K40D□ | 550 | 745 | 960 | 40 | 25 | 819 | 1001 | 1500 | 300 | 2200 | 11.5 | 5.6±1.0 | 2.5±1.0 |
| SR951K40D□ | 575 | 765 | 1000 | 40 | 25 | 855 | 1043 | 1570 | 300 | 2000 | 11.5 | 5.6±1.0 | 2.3±1.0 |
| SR102K40D□ | 625 | 825 | 1055 | 40 | 25 | 900 | 1100 | 1650 | 300 | 1900 | 12.0 | 5.8±1.0 | 2.1±1.0 |
| SR112K40D□ | 680 | 895 | 1155 | 40 | 25 | 962 | 1175 | 1815 | 300 | 1800 | 12.0 | 6.4±1.0 | 2.1±1.0 |

□ - Part Number Suffix Code (ie: SR201K40DQ)

No suffix - Straight Lead

Q - 90° Bend Lead

F - Un-Coated Disk - with Leads

ML - One Side coated Disk - with one Left Orientation Lead only

NL - Uncoated Disk - with one Left Orientation Lead only

L - Straight Lead - Left Side Lead Orientation

R - Uncoated Disk - without Leads

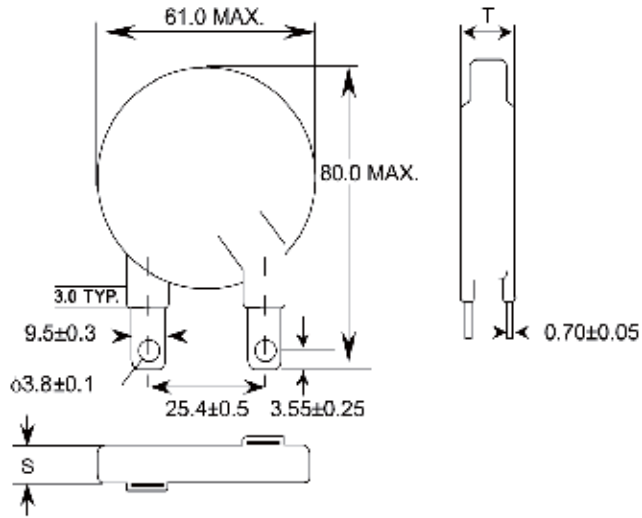
M - One Side Coated Disk - with one Right Orientation Lead only

N - Uncoated Disk - with one Right Orientation Lead only

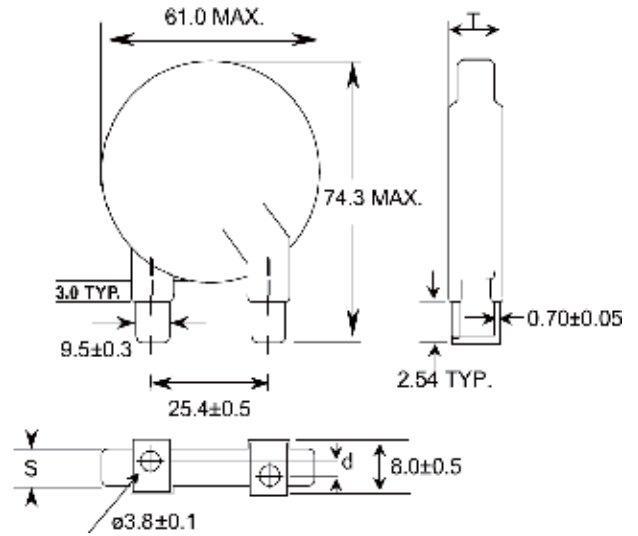
UL 1449 recognized (File # E309297)

CSA 22.2 #1 certified (File #206608)

Straight Leads Part Number No Suffix



90° Bend Leads Part Number Suffix "Q"



| Part Number | Maximum Ratings | | | | | Electrical Characteristics | | | | | Tmax. | s | d |
|-------------|--------------------------|----------|------------------------------|--------------|---------------|----------------------------|-----------|------------------------------------------------|------|--------------------------------|-------|---------|---------|
| | Continuous Rated Voltage | | Rated Single Pulse Transient | | | Varistor Voltage @ 1mA DC | | Maximum Clamping Voltage @ Test Current 8/20µs | | Typical Capacitance @1KHZ 25°C | | | |
| | AC RMS Volts | DC Volts | Energy | 8/20µs Peak | | Min Volts | Max Volts | Volts | Amps | PF | | | |
| | | | 10/1000µs Jules | 1 time KAmps | 2 times KAmps | | | | | | | | |
| SR201K53D□ | 130 | 175 | 490 | 70 | 45 | 185 | 225 | 340 | 500 | 15000 | 7.5 | 2.5±1.0 | 5.7±1.0 |
| SR221K53D□ | 140 | 180 | 530 | 70 | 45 | 198 | 242 | 360 | 500 | 13800 | 7.5 | 2.5±1.0 | 5.5±1.0 |
| SR241K53D□ | 150 | 200 | 570 | 70 | 45 | 216 | 264 | 395 | 500 | 12500 | 7.5 | 2.8±1.0 | 5.4±1.0 |
| SR271K53D□ | 180 | 230 | 630 | 70 | 45 | 255 | 311 | 455 | 500 | 11000 | 8.5 | 2.8±1.0 | 5.2±1.0 |
| SR331K53D□ | 210 | 275 | 680 | 70 | 45 | 297 | 363 | 550 | 500 | 9000 | 9.0 | 3.1±1.0 | 4.8±1.0 |
| SR361K53D□ | 230 | 300 | 730 | 70 | 45 | 324 | 396 | 595 | 500 | 8500 | 9.0 | 3.3±1.0 | 4.6±1.0 |
| SR391K53D□ | 250 | 330 | 880 | 70 | 45 | 351 | 429 | 650 | 500 | 7500 | 9.0 | 3.6±1.0 | 4.4±1.0 |
| SR431K53D□ | 275 | 370 | 950 | 70 | 45 | 387 | 473 | 710 | 500 | 7000 | 9.0 | 3.6±1.0 | 4.2±1.0 |
| SR471K53D□ | 300 | 385 | 1000 | 70 | 45 | 423 | 517 | 775 | 500 | 6500 | 9.7 | 3.8±1.0 | 4.2±1.0 |
| SR511K53D□ | 320 | 420 | 1100 | 70 | 45 | 459 | 561 | 840 | 500 | 6000 | 9.7 | 3.8±1.0 | 4.0±1.0 |
| SR561K53D□ | 360 | 470 | 1200 | 70 | 45 | 522 | 638 | 910 | 500 | 5600 | 9.7 | 4.3±1.0 | 4.0±1.0 |
| SR621K53D□ | 390 | 505 | 1300 | 70 | 45 | 558 | 682 | 1025 | 500 | 5200 | 9.7 | 4.3±1.0 | 3.9±1.0 |
| SR681K53D□ | 420 | 560 | 1500 | 70 | 45 | 612 | 748 | 1120 | 500 | 4800 | 9.7 | 4.6±1.0 | 3.6±1.0 |
| SR751K53D□ | 460 | 615 | 1600 | 70 | 45 | 675 | 825 | 1240 | 500 | 4300 | 10.5 | 4.6±1.0 | 3.3±1.0 |
| SR781K53D□ | 485 | 640 | 1650 | 70 | 45 | 702 | 858 | 1290 | 500 | 3900 | 10.5 | 4.8±1.0 | 3.1±1.0 |
| SR821K53D□ | 510 | 675 | 1800 | 70 | 45 | 738 | 902 | 1355 | 500 | 3700 | 10.5 | 5.1±1.0 | 2.9±1.0 |
| SR911K53D□ | 550 | 745 | 2000 | 70 | 45 | 819 | 1001 | 1500 | 500 | 3300 | 11.5 | 5.6±1.0 | 2.5±1.0 |
| SR951K53D□ | 575 | 765 | 2100 | 70 | 45 | 855 | 1043 | 1570 | 500 | 3200 | 11.5 | 5.6±1.0 | 2.3±1.0 |
| SR102K53D□ | 625 | 825 | 2200 | 70 | 45 | 900 | 1100 | 1650 | 500 | 3000 | 11.5 | 5.8±1.0 | 2.1±1.0 |
| SR112K53D□ | 680 | 895 | 2500 | 70 | 45 | 962 | 1175 | 1815 | 500 | 2800 | 11.5 | 6.4±1.0 | 2.1±1.0 |
| SR122K53D□ | 750 | 970 | 2700 | 70 | 45 | 1062 | 1300 | 1980 | 500 | 2700 | 12.6 | 7.0±1.0 | 1.5±1.0 |

□ - Part Number Suffix Code (ie: SR201K53DQ)

No suffix - Straight Lead

Q - 90° Bend Lead

F - Un-Coated Disk - with Leads

ML - One Side coated Disk - with one Left Orientation Lead only

NL - Uncoated Disk - with one Left Orientation Lead only

L - Straight Lead - Left Side Lead Orientation

R - Uncoated Disk - without Leads

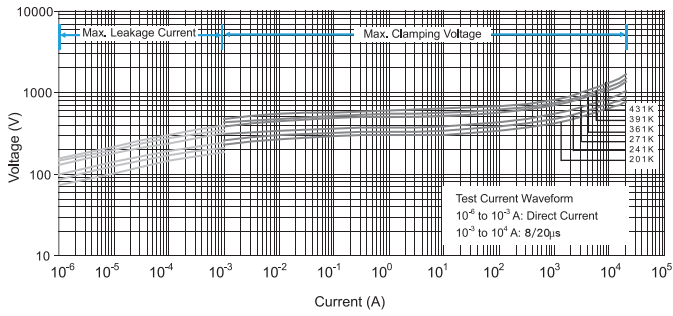
M - One Side Coated Disk - with one Right Orientation Lead only

N - Uncoated Disk - with one Right Orientation Lead only

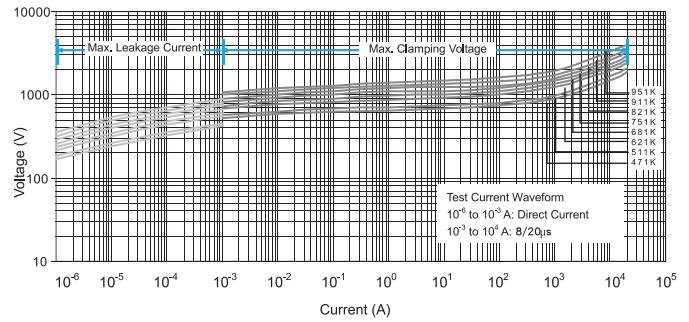
UL 1449 recognized (File # E309297)

CSA 22.2 #1 certified (File #206608)

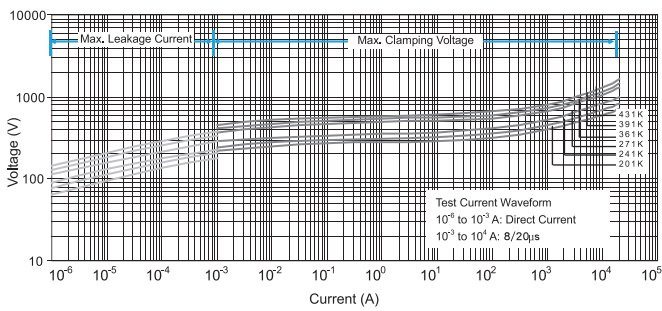
V-I Curve for SR201K~431K32D Series



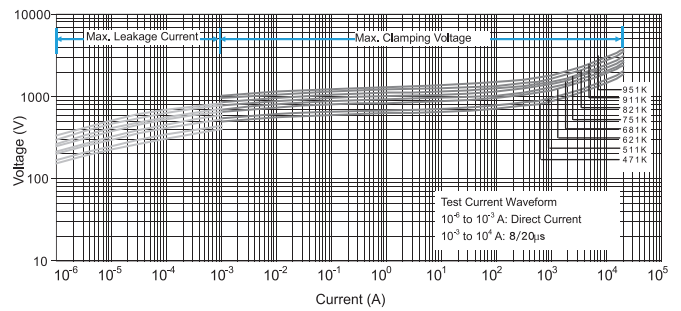
V-I Curve for SR471K~951K32D Series



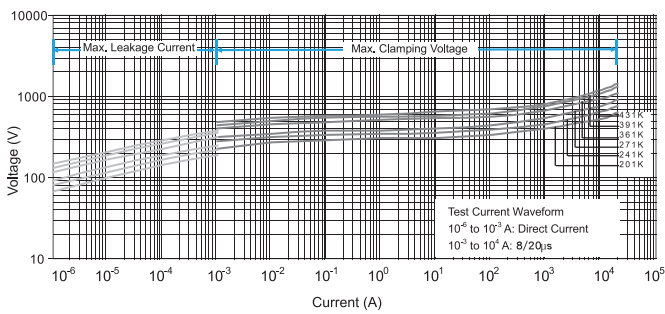
V-I Curve for SR201K~431K34R Series



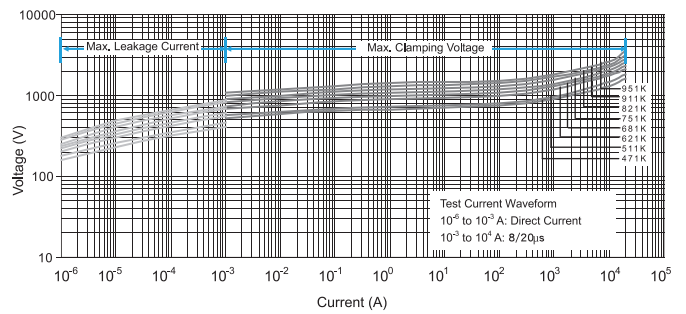
V-I Curve for SR471K~951K34R Series



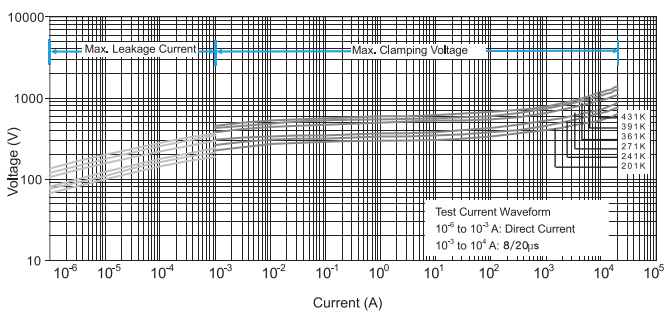
V-I Curve for SR201K~431K40D Series



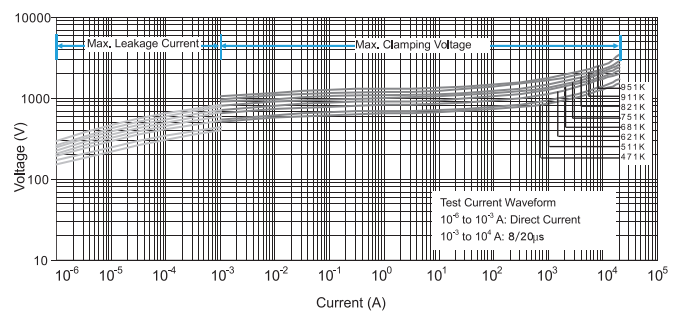
V-I Curve for SR471K~951K40D Series



V-I Curve for SR201K~431K53D Series

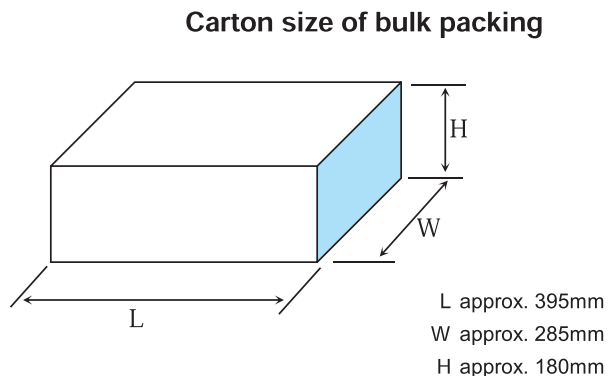


V-I Curve for SR471K~951K53D Series



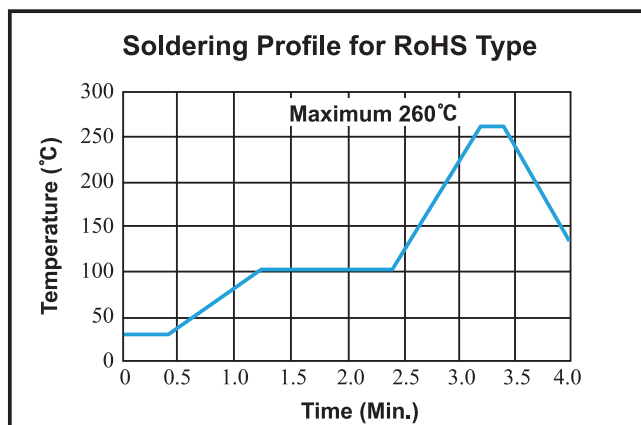
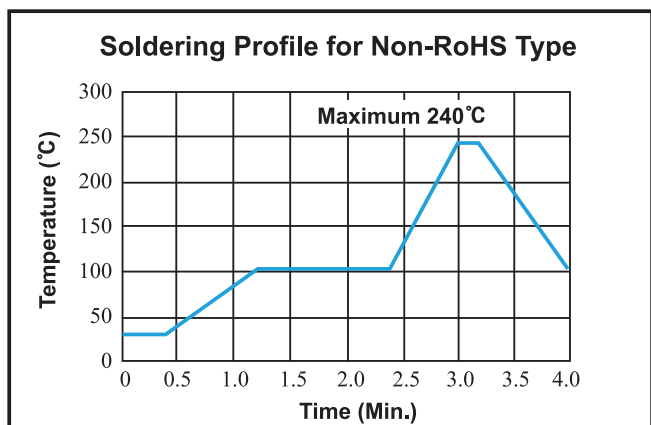
■ **Packing Specification of Big MOV (32~53mm)**

| Disk size mm | Varistor Voltage | Q'ty PCS/BOX | Q'ty PCS/CARTON |
|--------------|------------------|--------------|-----------------|
| 32D | 201K~391K | 80 | 320 |
| | 431K~621K | 60 | 240 |
| | 681K~122K | 40 | 160 |
| 34R | 201K~391K | 80 | 320 |
| | 431K~621K | 60 | 240 |
| | 681K~122K | 40 | 160 |
| 40D | 201K~391K | 80 | 320 |
| | 431K~621K | 60 | 240 |
| | 681K~122K | 40 | 160 |
| 53D | 201K~391K | 80 | 320 |
| | 431K~621K | 60 | 240 |
| | 681K~122K | 40 | 160 |



Please consult sales for detail specification

■ **Wave Soldering Profile**

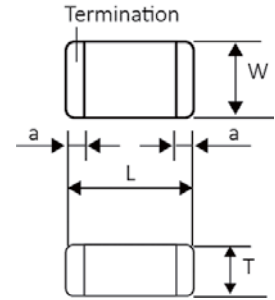


■ INTRODUCTION-PLATED & LEAD-FREE TERMINATION

High Speed ESD Voltage Suppressor is an advanced series of Walsin's Multilayer Chip Varistor (MLV). Nowadays, more and more communication devices become compact and apply denser and higher frequency circuits inside. Protection against the electronic static discharge (ESD) generated from human body transient voltage surge is more important when downsize of high-speed transistor makes its vulnerability to ESD and surge. Walsin's High Speed ESD Voltage Suppressor provides protection from ESD and EFT in high-speed data line and radio frequency (RF) circuits. Also, if capacitance of MLV is a concern to circuit designers, Walsin MLV H Series would supply a solution, MLV with specified capacitance and range. It is compatible with modern reflow and wave soldering procedures. We would give you a solution to transient over voltage and ESD protection to your products.

■ FEATURES

1. Multilayer Fabrication Technology
2. Chip Size 0201, 0402, 0603, 0805, 1206, 1210, 1812, 2220 Available
3. -40°C to +125°C Operating Temperature Range
4. Operating Voltage Range (DC) from 2.5V~127V
5. Able to withstand high surge current
6. Bi-directional Clamping Characteristic
7. Low Capacitance Chip Varistor Types Available
8. Environmentally conscious design
9. Protection against automotive related transient overvoltage



| Size | 0201 | 0402 | 0603 | 0805 | 1206 | 1210 | 1812 | 2220 |
|------|-------------|-----------|-----------|------------|------------|------------|------------|------------|
| L | 0.60 ± 0.05 | 0.96±0.14 | 1.60±0.15 | 2.00±0.20 | 3.20±0.30 | 3.20±0.20 | 4.50±0.20 | 5.70±0.20 |
| W | 0.30 ± 0.05 | 0.50±0.10 | 0.80±0.15 | 1.25±0.20 | 1.60±0.20 | 2.50±0.20 | 3.20±0.20 | 5.00±0.20 |
| T | 0.30 ± 0.05 | 0.50±0.10 | 0.90±0.15 | 1.20(max.) | 1.70(max.) | 1.50(max.) | 2.00(max.) | 2.50(max.) |
| a | 0.20 ± 0.10 | 0.25±0.15 | 0.30±0.20 | 0.50±0.30 | 0.60±0.35 | 0.50±0.20 | 0.50±0.30 | 0.50±0.30 |

Unit: mm

VH Series: For ESD Protection at High Speed Application

| WTC | Working Voltage | Varistor voltage | Clamping voltage | Cap. Value |
|-------------------|----------------------|---------------------|----------------------------------|---------------|
| Part Number | V _{DC(max)} | V _{v @1mA} | V _{clamp(max)} (8/20μs) | pF(typ) @1MHz |
| VH0201M050CGT330N | 5.5 | 8~14 | 28 | 33 |
| VH0201M050CGT470N | 5.5 | 8~14 | 26 | 47 |
| VH0201M050CGT640N | 5.5 | 8~14 | 26 | 64 |

| WTC Part Number | MAXIMUM RATINGS | | SPECIFICATIONS | | | |
|--------------------|---------------------------------|-----------------------------------------------------|------------------------------------|------------------------|---------------------------|----------|
| | Max. Continuous Working Voltage | Max. Clamping Voltage at Specified Current (8/20μs) | Nominal Voltage @ 1mA (DC) Current | | Maximum Capacitance @1MHz | |
| | V _{M(DC)} | V _c | V _{N(DC)Min.} | V _{N(DC)Max.} | C | |
| | (V) | (V) | (V) | (V) | (pF) | % |
| VH0402M050CGT100N | 5.5 | 40 at 1A | 11 | 21 | 10 | ±30% |
| VH0402M050CGT330N | 5.5 | 38 at 1A | 11 | 21 | 33 | ±30% |
| VH0402M050CGT470N | 5.5 | 36 at 1A | 9 | 19 | 47 | ±30% |
| VH0402M050CGT101N | 5.5 | 35 at 1A | 9 | 19 | 100 | ±30% |
| VH0402M050CGT181N | 5.5 | 34 at 1A | 8 | 18 | 180 | ±30% |
| VH0402M050CGT331N | 5.5 | 32 at 1A | 8 | 18 | 330 | ±30% |
| VH0402M050CGT5R0 | 5 | 72 at 1A | 28 | 38 | 4~9 | +80/-20% |
| VH0402M050CGT100 | 5 | 72 at 1A | 28 | 38 | 7~13 | ±30% |
| VH0402M050CGT220 | 5 | 52 at 1A | 18 | 28 | 15.4~28.6 | ±30% |
| VH0402M050CGT330 | 5 | 52 at 1A | 18 | 28 | 23.1~42.9 | ±30% |
| VH0402M050CGT560 | 5 | 52 at 1A | 18 | 28 | 39.2~72.8 | ±30% |
| VH0402M050CGT101 | 5 | 52 at 1A | 18 | 28 | 70~130 | ±30% |
| VH0402M120CGT5R0 | 12 | 72 at 1A | 28 | 38 | 4~9 | +80/-20% |
| VH0402M120CGT100 | 12 | 72 at 1A | 28 | 38 | 10 | ±30% |
| VH0402M120CGT220 | 12 | 55 at 1A | 20 | 30 | 22 | ±30% |
| VH0402M120CGT330 | 12 | 55 at 1A | 20 | 30 | 33 | ±30% |
| VH0402M120CGT560 | 12 | 55 at 1A | 20 | 30 | 56 | ±30% |
| VH0402M120CGT101 | 12 | 55 at 1A | 20 | 30 | 100 | ±30% |
| VH0402M240CGT0R8 | 24 | 200 at 1A | 100 | 150 | 0.8~1.5 | +80/-20% |
| VH0402M240CGT2R5 | 24 | 200 at 1A | 100 | 150 | 2~4.5 | +80/-20% |

VH Series: For ESD Protection at High Speed Application (continuous)

| WTC Part Number | MAXIMUM RATINGS | | SPECIFICATIONS | | | |
|--------------------|---------------------------------|----------------------------------------------------|------------------------------------|------------------------|---------------------------|----------|
| | Max. Continuous Working Voltage | Max. Claming Voltage at Specified Current (8/20μs) | Nominal Voltage @ 1mA (DC) Current | | Maximum Capacitance @1MHz | |
| | V _{M(DC)} | V _c | V _{N(DC)Min.} | V _{N(DC)Max.} | C | |
| | (V) | (V) | (V) | (V) | (pF) | % |
| VH0603M050CGT100N | 5.5 | 40 at 1A | 11 | 21 | 10 | ±30% |
| VH0603M050CGT330N | 5.5 | 38 at 1A | 11 | 21 | 33 | ±30% |
| VH0603M050CGT470N | 5.5 | 37 at 1A | 9 | 19 | 47 | ±30% |
| VH0603M050CGT101N | 5.5 | 36 at 1A | 9 | 19 | 100 | ±30% |
| VH0603M050CGT331N | 5.5 | 32 at 1A | 8 | 18 | 330 | ±30% |
| VH0603M120CGT220N | 12 | 46 at 1A | 15 | 25 | 22 | ±30% |
| VH0603M120CGT151N | 12 | 44 at 1A | 15 | 25 | 150 | ±30% |
| VH0603M120CGT331N | 12 | 42 at 1A | 15 | 25 | 330 | ±30% |
| VH0603M050CGT5R0 | 5 | 55 at 1A | 20 | 30 | 4~9 | +80/-20% |
| VH0603M050CGT100 | 5 | 65 at 1A | 24 | 36 | 10 | ±30% |
| VH0603M050CGT220 | 5 | 34 at 1A | 15 | 25 | 22 | ±30% |
| VH0603M050CGT330 | 5 | 34 at 1A | 15 | 25 | 33 | ±30% |
| VH0603M050CGT560 | 5 | 36 at 1A | 15 | 25 | 56 | ±30% |
| VH0603M050CGT101 | 5 | 36 at 1A | 15 | 25 | 100 | ±30% |
| VH0603M120CGT5R0 | 12 | 85 at 1A | 33 | 50 | 5~9 | +80/-20% |
| VH0603M120CGT100 | 12 | 60 at 1A | 27 | 42 | 10 | ±30% |
| VH0603M120CGT220 | 12 | 55 at 1A | 20 | 30 | 22 | ±30% |
| VH0603M120CGT330 | 12 | 55 at 1A | 20 | 30 | 33 | ±30% |
| VH0603M120CGT101 | 12 | 55 at 1A | 20 | 30 | 100 | ±30% |
| VH0603M240CGT0R8 | 24 | 200 at 1A | 100 | 150 | 0.8~1.5 | +80/-20% |
| VH0603M240CGT2R5 | 24 | 240 at 1A | 100 | 150 | 2~4.5 | +80/-20% |

VZ Series: For Surge & ESD Protection

| WTC Part Number | MAXIMUM RATINGS | | | | | SPECIFICATIONS | | |
|--------------------|---------------------------------|--------------------|--------------------------------------|-------------------------------------|-------------------------------------------|------------------------|------------------------|---------------------|
| | Max. Continuous Working Voltage | | Maximum Non-Repetitive Surge Current | Maximum Non-Repetitive Surge Energy | Max. Claming Voltage at Specified Current | Nominal Voltage | | Typical Capacitance |
| | | | (8/20μs) | (10/1000μs) | (8/20μs) | @ 1mA (DC) Current | | @1KHz |
| | V _{M(DC)} | V _{M(AC)} | I _{TM} | W _{TM} | V _c | V _{N(DC)Min.} | V _{N(DC)Max.} | C |
| (V) | (V) | (A) | (J) | (V) | (V) | (V) | (pF) | |
| VZ0402M050AGTN | 5.5 | 4 | 20 | 0.05 | 24 at 1A | 8 | 18 | 270 |
| VZ0402M090AGTN | 9 | 6 | 20 | 0.05 | 41 at 1A | 11.5 | 21.5 | 130 |
| VZ0402M180AGTN | 18 | 14 | 20 | 0.05 | 54 at 1A | 23 | 33 | 85 |
| VZ0402M200AGTN | 20 | 17 | 20 | 0.05 | 70 at 1A | 32 | 42 | 35 |
| VZ0402M120AGTN | 12 | - | - | - | 110 at 1A | 25 | 40 | 7 |
| VZ0402M12LAGTN | 12 | - | - | - | 150 at 1A | 45 | 65 | 3.5 |
| VZ0402M18LAGTN | 18 | - | - | - | 150 at 1A | 45 | 65 | 3.5 |
| VZ0402M26LAGTN | 26 | - | - | - | 145 at 1A | 45 | 65 | 4 |
| VZ0402M050AGT | 5.5 | 4 | 20 | 0.05 | 20 at 1A | 8 | 11 | 295 |
| VZ0402M090AGT | 9 | 6 | 20 | 0.05 | 23 at 1A | 10.2 | 13.8 | 190 |
| VZ0402M140AGT | 14 | 11 | 20 | 0.05 | 30 at 1A | 15.3 | 20.7 | 135 |
| VZ0402M180AGT | 18 | 14 | 20 | 0.05 | 40 at 1A | 21.6 | 26.4 | 93 |
| VZ0603M050AGTN | 5.5 | 4 | 30 | 0.1 | 24 at 1A | 8 | 18 | 270 |
| VZ0603M090AGTN | 9 | 6 | 30 | 0.1 | 41 at 1A | 11.5 | 21.5 | 210 |
| VZ0603M180AGTN | 18 | 14 | 30 | 0.1 | 54 at 1A | 23 | 33 | 150 |
| VZ0603M260AGTN | 26 | 20 | 30 | 0.1 | 70 at 1A | 32 | 42 | 100 |
| VZ0603M120AGTN | 12 | - | - | - | 110 at 1A | 25 | 40 | 40 |
| VZ0603M12LAGTN | 12 | - | - | - | 150 at 1A | 45 | 65 | 3.5 |
| VZ0603M26LAGTN | 26 | - | - | - | 145 at 1A | 45 | 65 | 4 |
| VZ0603M050AGT | 5.5 | 4 | 30 | 0.1 | 20 at 1A | 8 | 11 | 800 |
| VZ0603M090AGT | 9 | 6 | 30 | 0.1 | 23 at 1A | 10.2 | 13.8 | 680 |
| VZ0603M140AGT | 14 | 11 | 30 | 0.1 | 30 at 1A | 15.3 | 20.7 | 350 |
| VZ0603M180AGT | 18 | 14 | 30 | 0.1 | 39 at 1A | 21.6 | 26.4 | 270 |
| VZ0603M260AGT | 26 | 20 | 30 | 0.1 | 54 at 1A | 29.7 | 36.3 | 200 |

VZ Series: For Surge & ESD Protection (continuous)

| WTC Part Number | MAXIMUM RATINGS | | | | | SPECIFICATIONS | | |
|--------------------|---------------------------------|--------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------------|------------------------|------------------------------|
| | Max. Continuous Working Voltage | | Maximum Non-Repetitive Surge Current (8/20µs) | Maximum Non-Repetitive Surge Energy (10/1000µs) | Max. Clamping Voltage at Specified Current (8/20µs) | Nominal Voltage | | Typical Capacitance @1KHz |
| | | | | | | @ 1mA (DC) Current | | |
| | V _{M(DC)} | V _{M(AC)} | I _{TM} | W _{TM} | V _c | V _{N(DC)Min.} | V _{N(DC)Max.} | C |
| | (V) | (V) | (A) | (J) | (V) | (V) | (V) | (pF) |
| VZ0603M300AGT | 30 | 25 | 30 | 0.1 | 65 at 1A | 35.1 | 42.9 | 120 |
| VZ0603M380AGT | 38 | 30 | 30 | 0.1 | 77 at 1A | 42.3 | 51.7 | 100 |
| VZ0805M050AGTN | 5.5 | 4 | 80 | 0.1 | 22 at 1A | 7.8 | 12 | 500 |
| VZ0805M090AGTN | 9 | 6 | 80 | 0.2 | 30 at 1A | 10.8 | 18 | 420 |
| VZ0805M110AGTN | 11 | 8 | 100 | 0.3 | 32 at 1A | 14 | 20 | 360 |
| VZ0805M140AGTN | 14 | 11 | 100 | 0.1 | 38 at 1A | 17.2 | 21 | 400 |
| VZ0805M160AGTN | 16 | 14 | 120 | 0.3 | 46 at 1A | 22 | 28 | 400 |
| VZ0805M180AGTN | 18 | 14 | 120 | 0.3 | 44 at 1A | 19.8 | 25.2 | 350 |
| VZ0805M22LAGTN | 22 | 17 | 30 | 0.1 | 54 at 1A | 25 | 34 | 100 |
| VZ0805M220AGTN | 22 | 17 | 120 | 0.3 | 50 at 1A | 24.3 | 30.7 | 400 |
| VZ0805M260AGTN | 26 | 20 | 100 | 0.4 | 56 at 1A | 29.7 | 37.3 | 220 |
| VZ0805M300AGTN | 30 | 25 | 100 | 0.3 | 71 at 1A | 35.1 | 43.9 | 250 |
| VZ0805M380AGTN | 38 | 30 | 100 | 0.3 | 81 at 1A | 42.3 | 52.7 | 200 |
| VZ0805M450AGTN | 45 | 35 | 80 | 0.1 | 93 at 1A | 55 | 61 | 170 |
| VZ1206M050CGTN | 5.5 | 4 | 200 | 0.3 | 23 at 1A | 8 | 13 | 1500 |
| VZ1206M140CGTN | 14 | 11 | 200 | 0.5 | 36 at 1A | 18 | 21.6 | 640 |
| VZ1206M180AGTN | 18 | 14 | 150 | 0.4 | 40 at 1A | 19.8 | 24.2 | 1800 |
| VZ1206M180CGTN | 18 | 14 | 200 | 0.4 | 40 at 1A | 19.8 | 24.2 | 650 |
| VZ1206M220CGTN | 22 | 17 | 200 | 0.3 | 48 at 1A | 24.3 | 30.7 | 650 |
| VZ1206M300CGTN | 31 | 25 | 200 | 1 | 69 at 1A | 35.1 | 43.9 | 550 |
| VZ1206M380CGTN | 38 | 30 | 200 | 1.1 | 81 at 1A | 42.3 | 52.7 | 500 |
| VZ1206M560CGTN | 56 | 40 | 200 | 1 | 110 at 1A | 63 | 77 | 180 |
| VZ1206M650AGTN | 65 | 50 | 100 | 0.5 | 138 at 1A | 76 | 92 | 250 |
| VZ1210M050AGT | 5.5 | 4 | 250 | 0.4 | 20 | 7.5 | 10.5 | 5200 |
| VZ1210M180AGT | 18 | 14 | 250 | 0.8 | 39 | 21.6 | 26.4 | 1150 |
| VZ1210M180CGT | 18 | 14 | 400 | 1.4 | 39 | 21.6 | 26.4 | 1600 |
| VZ1210M220CGT | 22 | 17 | 400 | 1.7 | 44 | 24.3 | 29.7 | 1500 |
| VZ1210M260AGT | 26 | 20 | 250 | 1.2 | 54 | 29.7 | 36.3 | 610 |
| VZ1210M260CGT | 26 | 20 | 400 | 1.9 | 54 | 29.7 | 36.3 | 880 |
| VZ1210M300AGT | 30 | 25 | 250 | 1.4 | 65 | 35.1 | 42.9 | 550 |
| VZ1210M300CGT | 30 | 25 | 400 | 1.7 | 65 | 35.1 | 42.9 | 800 |
| VZ1210M380CGT | 38 | 30 | 400 | 2 | 77 | 42.3 | 51.7 | 530 |
| VZ1210M450AGT | 45 | 35 | 250 | 2 | 90 | 50.4 | 61.6 | 400 |
| VZ1210M560AGT | 56 | 40 | 250 | 2.3 | 110 | 61.2 | 74.8 | 300 |
| VZ1812M180CGT | 18 | 14 | 800 | 2.3 | 39 | 21.6 | 26.4 | 3500 |
| VZ1812M300CGT | 30 | 25 | 800 | 3.7 | 65 | 35.1 | 42.9 | 2350 |
| VZ1812M380AGT | 38 | 30 | 500 | 3.5 | 77 | 42.3 | 51.7 | 2200 |
| VZ1812M380CGT | 38 | 30 | 800 | 4.2 | 77 | 42.3 | 51.7 | 1600 |
| VZ1812M450AGT | 45 | 35 | 500 | 4.2 | 90 | 50.4 | 61.6 | 1000 |
| VZ1812M450CGT | 45 | 35 | 800 | 5 | 90 | 50.4 | 61.6 | 1200 |
| VZ1812M127AGT | 127 | 95 | 600 | 4.2 | 270 | 135 | 165 | 330 |
| VZ2220M140CGT | 14 | 11 | 1200 | 5.4 | 30 | 15.3 | 20.7 | 10500 |
| VZ2220M180CGT | 18 | 14 | 1200 | 5.8 | 39 | 21.6 | 26.4 | 8500 |
| VZ2220M220AGT | 22 | 17 | 1000 | 3.8 | 44 | 24.3 | 29.7 | 6600 |
| VZ2220M220CGT | 22 | 17 | 1200 | 7.2 | 44 | 24.3 | 29.7 | 8300 |
| VZ2220M260AGT | 26 | 20 | 1000 | 4.3 | 54 | 29.7 | 36.3 | 6300 |
| VZ2220M260CGT | 26 | 20 | 1200 | 7.8 | 54 | 29.7 | 36.3 | 8000 |
| VZ2220M300AGT | 30 | 25 | 1000 | 5.5 | 65 | 35.1 | 42.9 | 6000 |
| VZ2220M300CGT | 30 | 25 | 1200 | 9.6 | 65 | 35.1 | 42.9 | 7500 |
| VZ2220M380AGT | 38 | 30 | 1000 | 6.3 | 77 | 42.3 | 51.7 | 4000 |
| VZ2220M380CGT | 38 | 30 | 1200 | 12 | 77 | 42.3 | 51.7 | 4600 |
| VZ2220M450CGT | 45 | 35 | 1200 | 12 | 90 | 50.4 | 61.6 | 3500 |
| VZ2220M560AGT | 56 | 40 | 1000 | 8.8 | 110 | 61.2 | 74.8 | 2000 |

VA Series: For Automotive Applications

| WTC Part Number | Working voltage | | Varistor voltage | Clamping Voltage | Capacitance | Peak current | Transient energy |
|--------------------|------------------|-----------------|------------------|------------------|----------------|------------------|------------------|
| | V _{RMS} | V _{DC} | V _V | V _C | C _p | I _{max} | W _{max} |
| | (V) | (V) | (V) | (V) | (pF) | (A) | (J) |
| | (Max.) | (Max.) | | (Max.) | (Typical) | (Max.) | (Max.) |
| | | < 10 μA | 1mA DC | 1A 8/20μs | 1MHz | 8/20μs | 10/1000μs |
| VA0402M020AGT601 | 2.5 | 3.3 | 4 ~ 6.5 | 17 | 600 | 8 | 0.04 |
| VA0402M040AGT241 | 4 | 5.5 | 6.5 ~ 9.4 | 22 | 240 | 20 | 0.04 |
| VA0402M060AGT121 | 6 | 9 | 11 ~ 16.5 | 32 | 120 | 20 | 0.05 |
| VA0402M070AGT121 | 7 | 9 | 11 ~ 16.5 | 33 | 120 | 20 | 0.05 |
| VA0402M080AGT850 | 8 | 11 | 14 ~ 17.5 | 35 | 85 | 20 | 0.05 |
| VA0402M100AGT101 | 11 | 14 | 18 ~ 22.5 | 44 | 100 | 10 | 0.02 |
| VA0402M140AGT750 | 14 | 18 | 20 ~ 26.5 | 45 | 75 | 20 | 0.05 |
| VA0603M020AGT481 | 2.5 | 3.3 | 4 ~ 6.5 | 17 | 900 | 20 | 0.04 |
| VA0603M060AGT241 | 6 | 9 | 11 ~ 15.5 | 30 | 240 | 30 | 0.1 |
| VA0603M070AGT241 | 7 | 9 | 11 ~ 15.5 | 30 | 240 | 30 | 0.1 |
| VA0603M110AGT500 | 11 | 14 | 16.5 ~ 22 | 40 | 50 | 30 | 0.1 |
| VA0603M140AGT150 | 14 | 16 | 23 ~ 34.2 | 70 | 15 | 5 | 0.03 |
| VA0603M170AGT750 | 17 | 22 | 25 ~ 41 | 54 | 75 | 30 | 0.075 |
| VA0603M170AGT500 | 17 | 22 | 24.3 ~ 30.7 | 54 | 50 | 10 | 0.1 |
| VA0603M200AGT800 | 20 | 26 | 30 ~ 43 | 67 | 80 | 30 | 0.1 |
| VA0603M250AGT120 | 25 | 32 | 51.9 ~ 71 | 124 | 12 | 5 | 0.1 |
| VA0603M300AGT350 | 30 | 38 | 42 ~ 51 | 80 | 35 | 30 | 0.1 |

| WTC Part Number | Working voltage | | Varistor voltage | Clamping Voltage | Capacitance | Peak current | Transient energy |
|--------------------|------------------|-----------------|------------------|------------------|----------------|------------------|------------------|
| | V _{RMS} | V _{DC} | V _V | V _C | C _p | I _{max} | W _{max} |
| | (V) | (V) | (V) | (V) | (pF) | (A) | (J) |
| | (Max.) | (Max.) | | (Max.) | (Typical) | (Max.) | (Max.) |
| | | < 10 μA | 1mA DC | 1A 8/20μs | 1KHz | 8/20μs | 10/1000μs |
| VA0603M040AGT301 | 4 | 5.5 | 6.4 ~ 9.7 | 21 | 375 | 30 | 0.1 |
| VA0603M140AGT121 | 14 | 16 | 22 ~ 28 | 46 | 120 | 30 | 0.2 |
| VA0603M140AGT300 | 14 | 17 | 21.6 ~ 34.4 | 70[2A] | 30 | 2 | 0.05 |
| VA0603M140AGT101 | 14 | 18 | 19.8 ~ 25.2 | 44 | 100 | 30 | 0.2 |
| VA0603M140AGT111 | 14 | 18 | 19.8 ~ 24.2 | 40 | 110 | 30 | 0.2 |
| VA0603M140AGT161 | 14 | 19 | 24 ~ 32 | 64[2A] | 160 | 20 | 0.1 |
| VA0603M170AGT101 | 17 | 22 | 24.3 ~ 30.7 | 50 | 100 | 30 | 0.2 |
| VA0603M170AGT161 | 17 | 22 | 24.3 ~ 30.7 | 50 | 160 | 30 | 0.2 |
| VA0603M250AGT900 | 25 | 31 | 35 ~ 43.9 | 71 | 90 | 30 | 0.2 |
| VA0805M040AGT501 | 4 | 5.5 | 7.8~12 | 22 | 500 | 80 | 0.1 |
| VA0805M060AGT421 | 6 | 9 | 10.8~18 | 30 | 420 | 80 | 0.2 |
| VA0805M080AGT361 | 8 | 11 | 14~20 | 32 | 360 | 100 | 0.3 |
| VA0805M110AGT401 | 11 | 14 | 17.2~21 | 38 | 400 | 100 | 0.1 |
| VA0805M140AGT401 | 14 | 16 | 22~28 | 46 | 400 | 120 | 0.3 |
| VA0805M140AGT351 | 14 | 18 | 19.8~25.2 | 44 | 350 | 120 | 0.3 |
| VA0805M170AGT101 | 17 | 22 | 25~34 | 54 | 100 | 30 | 0.1 |
| VA0805M170AGT401 | 17 | 22 | 24.3~30.7 | 50 | 400 | 120 | 0.3 |
| VA0805M200AGT221 | 20 | 26 | 29.7~37.3 | 56 | 220 | 100 | 0.4 |
| VA0805M250AGT251 | 25 | 31 | 35.1~43.9 | 71 | 250 | 100 | 0.3 |
| VA0805M300AGT201 | 30 | 38 | 42.3~52.7 | 81 | 200 | 100 | 0.3 |
| VA0805M350AGT171 | 35 | 45 | 55~61 | 93 | 170 | 80 | 0.1 |
| VA1206M040AGT152 | 4 | 5.5 | 8~13 | 23 | 1500 | 200 | 0.3 |
| VA1206M110AGT461 | 11 | 14 | 18~21.6 | 38 | 460 | 100 | 0.3 |
| VA1206M110AGT641 | 11 | 14 | 18~21.6 | 36 | 640 | 200 | 0.5 |
| VA1206M140AGT801 | 14 | 16 | 22~28 | 44 | 800 | 200 | 0.6 |
| VA1206M140AGT841 | 14 | 16 | 24.3~29.7 | 50 | 840 | 100 | 0.4 |
| VA1206M140AGT701 | 14 | 16 | 19.8~25.2 | 42 | 700 | 200 | 0.5 |
| VA1206M170AGT651 | 17 | 22 | 24.3~30.7 | 48 | 650 | 200 | 0.3 |
| VA1206M170AGT841 | 17 | 22 | 24.3~29.7 | 50 | 840 | 100 | 0.4 |
| VA1206M200AGT601 | 20 | 26 | 29.7~37.3 | 58 | 600 | 200 | 0.7 |
| VA1206M250AGT551 | 25 | 31 | 35.1~43.9 | 69 | 550 | 200 | 1 |
| VA1206M300AGT501 | 30 | 38 | 42.3~52.7 | 81 | 500 | 200 | 1.1 |
| VA1206M350AGT201 | 35 | 45 | 54~62 | 108 | 200 | 200 | 1.1 |
| VA1206M400AGT181 | 40 | 56 | 63~77 | 110 | 180 | 200 | 1 |
| VA1206M500AGT251 | 50 | 65 | 76~92 | 138 | 250 | 100 | 0.5 |
| VA1206M600AGT121 | 60 | 85 | 100~120 | 168 | 120 | 100 | 0.7 |

A series of horizontal dashed lines spanning the width of the page, intended for writing.

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