

CV Series

Low and Medium Voltage Leaded Varistors

Description: The CV Series of transient surge suppressors is disc-shaped varistors that can be operated continuously in low and medium voltage electronic circuits, as well as across AC power lines.

Due to their radial lead construction, these components require very little mounting space. They are available in five model sizes from 5 to 20mm and feature a wide range of AC operating voltages from 50V to 680V.



Features:

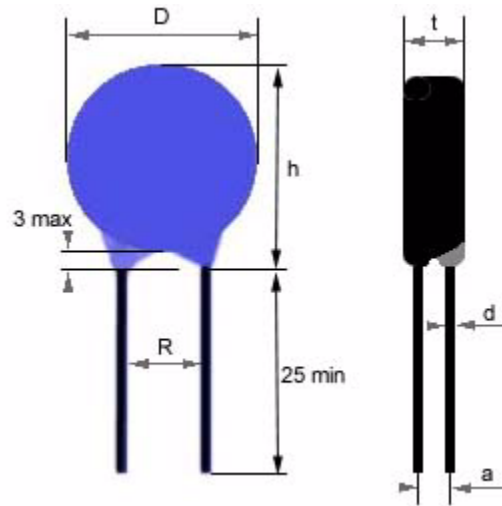
- AC operating voltage (Vrms) from 50V to 680V
- DC operating voltage (Vdc) from 65V to 820V
- Broad range of current and energy handling capability
- For RMS voltages ≤40V see ZV leaded series
- 5 model sizes available from 5mm to 20mm
- UL, CAC, CEDD approved
- +85°C continuous operating temperature

| General Technical Data | | |
|---|-----------------|--------------------------------|
| Climatic Category | 40 / 85 / 56 | In accordance with IEC 60068-1 |
| Operating Temperature | -40°C to +85°C | In accordance with CECC 42 000 |
| Storage Temperature Range | -40°C to +125°C | |
| Threshold Voltage Temperature Coefficient | ≤0.05% / °C | |
| Isolation Voltage Capability | > 2.5kV | In accordance with CECC 42 000 |
| Response Time | < 25 ns | |
| Insulation Resistance | > 1 Gohm | In accordance with CECC 42 000 |

| Standard Packaging Options / Quantities | | | | | | | | | | | |
|---|----------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
| Series | Voltage Range (Vrms) | 5mm | | 7mm | | 10mm | | 14mm | | 20mm | |
| | | Reel | Bulk | Reel | Bulk | Reel | Bulk | Reel | Bulk | Reel | Bulk |
| CV | 11 - 17 | 1,800 | 1,500 | 1,500 | 1,500 | 1,300 | 600 | N/A | N/A | N/A | N/A |
| | 20 - 75 | 1,500 | 1,500 | 1,500 | 1,500 | 1,300 | 600 | 700 | 500 | 600 | 300 |
| | 95 | 1,500 | 1,500 | 1,500 | 1,000 | 1,300 | 600 | 600 | 500 | 600 | 300 |
| | 115 - 130 | 1,300 | 1,500 | 1,300 | 1,000 | 1,000 | 500 | 600 | 500 | 500 | 300 |
| | 140 - 150 | 1,200 | 1,500 | 1,200 | 1,000 | 1,000 | 500 | 600 | 500 | 500 | 300 |
| | 175 | 1,200 | 1,500 | 1,200 | 1,000 | 1,000 | 500 | 500 | 500 | 500 | 300 |
| | 230 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 500 | 500 | 300 | 400 | 300 |
| | 250 - 275 | 1,000 | 1,000 | 1,000 | 1,000 | 800 | 500 | 400 | 300 | 400 | 300 |
| | 300 | N/A | N/A | N/A | 1,000 | 800 | 500 | 400 | 300 | 400 | 200 |
| | 320 | N/A | N/A | N/A | N/A | 800 | 500 | 400 | 300 | 300 | 200 |
| | 385 | N/A | N/A | N/A | N/A | 700 | 400 | 400 | 300 | 300 | 200 |
| | 420 | N/A | N/A | N/A | N/A | 700 | 400 | 300 | 300 | 300 | 200 |
| 460 - 550 | N/A | N/A | N/A | N/A | 600 | 400 | 300 | 300 | 300 | 200 | |

How to Order

| SEI Type | | Lead Style | | Vrms | Tolerance | Disc Diameter | Packaging | | |
|-------------|--|-------------------|--------------------|------------|-------------|------------------|------------------|-------------|--------------------|
| CV | | 1 | | 140 | K | 14 | B | | |
| Type | Description | Lead Style | Description | | Code | Tolerance | Size (mm) | Code | Description |
| CV | Low and Medium Voltage Leaded Varistor | 1 | Straight | | K | 10% | 5 | B | Bulk |
| | | 5 | Kinked | | S | Special | 7 | R | Tape and Reel |
| | | | | | | | 10 | A | Ammo |
| | | | | | | | 14 | | |
| | | | | | | | 20 | | |



Device Ratings and Dimensions

| Part Number | V _{RMS} (volts) | V _{DC} (volts) | V _N (volts) | V _C (volts) | I _C (amps) | W _{MAX} (joules) | P _{MAX} (watts) | I _P (amps) | C _{TYP} (pF) | D _{MAX} (mm) | t _{MAX} (mm) | R (mm) | d (mm) | h _{MAX} (mm) |
|-------------|-----------------------------|----------------------------|---------------------------|---------------------------|--------------------------|------------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------|-----------|--------------------------|
| CV 50 K 05 | 50 | 65 | 82 | 135 | 5 | 2.7 | 0.10 | 400 | 350 | 7 | 3.5 | 5 | 0.6 | 9.5 |
| CV 60 K 05 | 60 | 85 | 100 | 165 | 5 | 3.0 | 0.10 | 400 | 300 | 7 | 3.5 | 5 | 0.6 | 9.5 |
| CV 75 K 05 | 75 | 100 | 120 | 200 | 5 | 4.0 | 0.10 | 400 | 250 | 7 | 3.6 | 5 | 0.6 | 9.5 |
| CV 95 K 05 | 95 | 125 | 150 | 250 | 5 | 6.0 | 0.10 | 400 | 200 | 7 | 3.8 | 5 | 0.6 | 9.5 |
| CV 115 K 05 | 115 | 150 | 180 | 300 | 5 | 6.0 | 0.10 | 400 | 180 | 7 | 4.0 | 5 | 0.6 | 9.5 |
| CV 130 K 05 | 130 | 170 | 205 | 340 | 5 | 7.0 | 0.10 | 400 | 160 | 7 | 4.0 | 5 | 0.6 | 9.5 |
| CV 140 K 05 | 140 | 180 | 220 | 360 | 5 | 7.0 | 0.10 | 400 | 150 | 7 | 4.1 | 5 | 0.6 | 9.5 |
| CV 150 K 05 | 150 | 200 | 240 | 395 | 5 | 9.0 | 0.10 | 400 | 140 | 7 | 4.3 | 5 | 0.6 | 9.5 |
| CV 175 K 05 | 175 | 225 | 270 | 455 | 5 | 9.5 | 0.10 | 400 | 120 | 7 | 4.8 | 5 | 0.6 | 9.5 |
| CV 230 K 05 | 230 | 300 | 360 | 595 | 5 | 13.0 | 0.10 | 400 | 95 | 7 | 4.8 | 5 | 0.6 | 9.5 |
| CV 250 K 05 | 250 | 320 | 390 | 650 | 5 | 14.0 | 0.10 | 400 | 80 | 7 | 5.0 | 5 | 0.6 | 9.5 |
| CV 275 K 05 | 275 | 350 | 430 | 710 | 5 | 16.0 | 0.10 | 400 | 75 | 7 | 5.6 | 5 | 0.6 | 9.5 |
| CV 50 K 07 | 50 | 65 | 82 | 135 | 10 | 6.8 | 0.25 | 1,200 | 820 | 9 | 3.5 | 5 | 0.6 | 11.5 |
| CV 60 K 07 | 60 | 85 | 100 | 165 | 10 | 7.0 | 0.25 | 1,200 | 680 | 9 | 3.5 | 5 | 0.6 | 11.5 |
| CV 75 K 07 | 75 | 100 | 120 | 200 | 10 | 9.0 | 0.25 | 1,200 | 550 | 9 | 3.6 | 5 | 0.6 | 11.5 |
| CV 95 K 07 | 95 | 125 | 150 | 250 | 10 | 11.0 | 0.25 | 1,200 | 440 | 9 | 3.8 | 5 | 0.6 | 11.5 |
| CV 115 K 07 | 115 | 150 | 180 | 300 | 10 | 13.0 | 0.25 | 1,200 | 360 | 9 | 4.0 | 5 | 0.6 | 11.5 |
| CV 130 K 07 | 130 | 170 | 205 | 340 | 10 | 15.0 | 0.25 | 1,200 | 320 | 9 | 4.0 | 5 | 0.6 | 11.5 |
| CV 140 K 07 | 140 | 180 | 220 | 360 | 10 | 18.0 | 0.25 | 1,200 | 300 | 9 | 4.1 | 5 | 0.6 | 11.5 |
| CV 150 K 07 | 150 | 200 | 240 | 395 | 10 | 18.0 | 0.25 | 1,200 | 280 | 9 | 4.3 | 5 | 0.6 | 11.5 |
| CV 175 K 07 | 175 | 225 | 270 | 455 | 10 | 21.0 | 0.25 | 1,200 | 250 | 9 | 4.8 | 5 | 0.6 | 11.5 |
| CV 230 K 07 | 230 | 300 | 360 | 595 | 10 | 28.0 | 0.25 | 1,200 | 190 | 9 | 4.8 | 5 | 0.6 | 11.5 |
| CV 250 K 07 | 250 | 320 | 390 | 650 | 10 | 30.0 | 0.25 | 1,200 | 180 | 9 | 5.0 | 5 | 0.6 | 11.5 |
| CV 275 K 07 | 275 | 350 | 430 | 710 | 10 | 35.0 | 0.25 | 1,200 | 160 | 9 | 5.6 | 5 | 0.6 | 11.5 |
| CV 300 K 07 | 300 | 385 | 470 | 775 | 10 | 37.0 | 0.25 | 1,200 | 150 | 9 | 5.8 | 5 | 0.6 | 11.5 |

| Device Ratings and Dimensions | | | | | | | | | | | | | | |
|-------------------------------|-----------------------------|----------------------------|---------------------------|---------------------------|--------------------------|------------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------|-----------|--------------------------|
| Part Number | V _{RMS} (volts) | V _{DC} (volts) | V _N (volts) | V _C (volts) | I _C (amps) | W _{MAX} (joules) | P _{MAX} (watts) | I _P (amps) | C _{TYP} (pF) | D _{MAX} (mm) | t _{MAX} (mm) | R (mm) | d (mm) | h _{MAX} (mm) |
| CV 50 K 10 | 50 | 65 | 82 | 135 | 25 | 17 | 0.4 | 2,500 | 1,400 | 12.5 | 4.1 | 7.5 | 0.8 | 15 |
| CV 60 K 10 | 60 | 85 | 100 | 165 | 25 | 16 | 0.4 | 2,500 | 1,200 | 12.5 | 4.1 | 7.5 | 0.8 | 15 |
| CV 75 K 10 | 75 | 100 | 120 | 200 | 25 | 21 | 0.4 | 2,500 | 950 | 12.5 | 4.2 | 7.5 | 0.8 | 15 |
| CV 95 K 10 | 95 | 125 | 150 | 250 | 25 | 25 | 0.4 | 2,500 | 750 | 12.5 | 4.3 | 7.5 | 0.8 | 15 |
| CV 115 K 10 | 115 | 150 | 180 | 300 | 25 | 30 | 0.4 | 2,500 | 650 | 12.5 | 4.3 | 7.5 | 0.8 | 15 |
| CV 130 K 10 | 130 | 170 | 205 | 340 | 25 | 34 | 0.4 | 2,500 | 580 | 12.5 | 4.5 | 7.5 | 0.8 | 15 |
| CV 140 K 10 | 140 | 180 | 220 | 360 | 25 | 37 | 0.4 | 2,500 | 540 | 12.5 | 4.6 | 7.5 | 0.8 | 15 |
| CV 150 K 10 | 150 | 200 | 240 | 395 | 25 | 41 | 0.4 | 2,500 | 510 | 12.5 | 4.6 | 7.5 | 0.8 | 15 |
| CV 175 K 10 | 175 | 225 | 270 | 455 | 25 | 46 | 0.4 | 2,500 | 440 | 12.5 | 4.9 | 7.5 | 0.8 | 15 |
| CV 230 K 10 | 230 | 300 | 360 | 595 | 25 | 62 | 0.4 | 2,500 | 350 | 12.5 | 5.4 | 7.5 | 0.8 | 15 |
| CV 250 K 10 | 250 | 320 | 390 | 650 | 25 | 68 | 0.4 | 2,500 | 320 | 12.5 | 5.6 | 7.5 | 0.8 | 15 |
| CV 275 K 10 | 275 | 350 | 430 | 710 | 25 | 78 | 0.4 | 2,500 | 300 | 12.5 | 6.0 | 7.5 | 0.8 | 15 |
| CV 300 K 10 | 300 | 385 | 470 | 775 | 25 | 82 | 0.4 | 2,500 | 280 | 12.5 | 6.1 | 7.5 | 0.8 | 15 |
| CV 320 K 10 | 320 | 420 | 510 | 840 | 25 | 91 | 0.4 | 2,500 | 260 | 12.5 | 6.8 | 7.5 | 0.8 | 15 |
| CV 385 K 10 | 385 | 505 | 620 | 1,025 | 25 | 93 | 0.4 | 2,500 | 230 | 12.5 | 7.4 | 7.5 | 0.8 | 16 |
| CV 420 K 10 | 420 | 560 | 680 | 1,120 | 25 | 97 | 0.4 | 2,500 | 210 | 12.5 | 7.3 | 7.5 | 0.8 | 16 |
| CV 460 K 10 | 460 | 615 | 750 | 1,240 | 25 | 106 | 0.4 | 2,500 | 200 | 12.5 | 7.8 | 7.5 | 0.8 | 16 |
| CV 510 K 10 | 510 | 670 | 820 | 1,355 | 25 | 115 | 0.4 | 2,500 | 180 | 12.5 | 8.2 | 7.5 | 0.8 | 16 |
| CV 550 K 10 | 550 | 745 | 910 | 1,500 | 25 | 134 | 0.4 | 2,500 | 170 | 12.5 | 8.8 | 7.5 | 0.8 | 16 |
| CV 575 K 10 | 575 | 750 | 950 | 1,570 | 25 | 136 | 0.4 | 2,500 | 165 | 12.5 | 8.9 | 7.5 | 0.8 | 16 |
| CV 625 K 10 | 625 | 825 | 1,000 | 1,650 | 25 | 140 | 0.4 | 2,500 | 160 | 12.5 | 9.1 | 7.5 | 0.8 | 16 |
| CV 680 K 10 | 680 | 895 | 1,100 | 1,815 | 25 | 155 | 0.4 | 2,500 | 150 | 12.5 | 9.7 | 7.5 | 0.8 | 16 |
| CV 50 K 14 | 50 | 65 | 82 | 135 | 50 | 35 | 0.6 | 4,500 | 2,600 | 16.5 | 4.1 | 7.5 | 0.8 | 20 |
| CV 60 K 14 | 60 | 85 | 100 | 165 | 50 | 34 | 0.6 | 4,500 | 2,200 | 16.5 | 4.2 | 7.5 | 0.8 | 20 |
| CV 75 K 14 | 75 | 100 | 120 | 200 | 50 | 41 | 0.6 | 4,500 | 1,800 | 16.5 | 4.2 | 7.5 | 0.8 | 20 |
| CV 95 K 14 | 95 | 125 | 150 | 250 | 50 | 52 | 0.6 | 4,500 | 1,400 | 16.5 | 4.3 | 7.5 | 0.8 | 20 |
| CV 115 K 14 | 115 | 150 | 180 | 300 | 50 | 62 | 0.6 | 4,500 | 1,200 | 16.5 | 4.4 | 7.5 | 0.8 | 20 |
| CV 130 K 14 | 130 | 170 | 205 | 340 | 50 | 68 | 0.6 | 4,500 | 1,050 | 16.5 | 4.6 | 7.5 | 0.8 | 20 |
| CV 140 K 14 | 140 | 180 | 220 | 360 | 50 | 75 | 0.6 | 4,500 | 980 | 16.5 | 4.7 | 7.5 | 0.8 | 20 |
| CV 150 K 14 | 150 | 200 | 240 | 395 | 50 | 81 | 0.6 | 4,500 | 900 | 16.5 | 4.8 | 7.5 | 0.8 | 20 |
| CV 175 K 14 | 175 | 225 | 270 | 455 | 50 | 95 | 0.6 | 4,500 | 800 | 16.5 | 4.9 | 7.5 | 0.8 | 20 |
| CV 230 K 14 | 230 | 300 | 360 | 595 | 50 | 126 | 0.6 | 4,500 | 620 | 16.5 | 5.5 | 7.5 | 0.8 | 20 |
| CV 250 K 14 | 250 | 320 | 390 | 650 | 50 | 135 | 0.6 | 4,500 | 580 | 16.5 | 5.7 | 7.5 | 0.8 | 20 |
| CV 275 K 14 | 275 | 350 | 430 | 710 | 50 | 150 | 0.6 | 4,500 | 530 | 16.5 | 6.0 | 7.5 | 0.8 | 20 |
| CV 300 K 14 | 300 | 385 | 470 | 775 | 50 | 169 | 0.6 | 4,500 | 490 | 16.5 | 6.1 | 7.5 | 0.8 | 20 |
| CV 320 K 14 | 320 | 420 | 510 | 840 | 50 | 184 | 0.6 | 4,500 | 460 | 16.5 | 6.8 | 7.5 | 0.8 | 20 |
| CV 385 K 14 | 385 | 505 | 620 | 1,025 | 50 | 193 | 0.6 | 4,500 | 390 | 16.5 | 7.4 | 7.5 | 0.8 | 20 |
| CV 420 K 14 | 420 | 560 | 680 | 1,120 | 50 | 202 | 0.6 | 4,500 | 370 | 16.5 | 7.4 | 7.5 | 0.8 | 20 |
| CV 460 K 14 | 460 | 615 | 750 | 1,240 | 50 | 220 | 0.6 | 4,500 | 340 | 16.5 | 7.8 | 7.5 | 0.8 | 20 |
| CV 510 K 14 | 510 | 670 | 820 | 1,355 | 50 | 227 | 0.6 | 4,500 | 310 | 16.5 | 8.2 | 7.5 | 0.8 | 20 |
| CV 550 K 14 | 550 | 745 | 910 | 1,500 | 50 | 364 | 0.6 | 4,500 | 290 | 16.5 | 8.8 | 7.5 | 0.8 | 20 |
| CV 575 K 14 | 575 | 750 | 950 | 1,570 | 50 | 270 | 0.6 | 4,500 | 280 | 16.5 | 8.9 | 7.5 | 0.8 | 20 |
| CV 625 K 14 | 625 | 825 | 1,000 | 1,650 | 50 | 280 | 0.6 | 4,500 | 270 | 16.5 | 9.2 | 7.5 | 0.8 | 20 |
| CV 680 K 14 | 680 | 895 | 1,100 | 1,815 | 50 | 310 | 0.6 | 4,500 | 250 | 16.5 | 9.8 | 7.5 | 0.8 | 20 |

| Device Ratings and Dimensions | | | | | | | | | | | | | | |
|-------------------------------|-----------------------------|----------------------------|---------------------------|---------------------------|--------------------------|------------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------|-----------|--------------------------|
| Part Number | V _{RMS} (volts) | V _{DC} (volts) | V _N (volts) | V _C (volts) | I _C (amps) | W _{MAX} (joules) | P _{MAX} (watts) | I _P (amps) | C _{TYP} (pF) | D _{MAX} (mm) | t _{MAX} (mm) | R (mm) | d (mm) | h _{MAX} (mm) |
| CV 50 K 20 | 50 | 65 | 82 | 135 | 100 | 75 | 1 | 6,500 | 5,000 | 22.5 | 4.5 | 10 | 1 | 26 |
| CV 60 K 20 | 60 | 85 | 100 | 165 | 100 | 71 | 1 | 6,500 | 4,100 | 22.5 | 4.6 | 10 | 1 | 26 |
| CV 75 K 20 | 75 | 100 | 120 | 200 | 100 | 81 | 1 | 6,500 | 3,300 | 22.5 | 4.6 | 10 | 1 | 26 |
| CV 95 K 20 | 95 | 125 | 150 | 250 | 100 | 106 | 1 | 6,500 | 2,600 | 22.5 | 4.6 | 10 | 1 | 26 |
| CV 115 K 20 | 115 | 150 | 180 | 300 | 100 | 118 | 1 | 6,500 | 2,100 | 22.5 | 4.8 | 10 | 1 | 26 |
| CV 130 K 20 | 130 | 170 | 205 | 340 | 100 | 142 | 1 | 6,500 | 1,900 | 22.5 | 5.0 | 10 | 1 | 26 |
| CV 140 K 20 | 140 | 180 | 220 | 360 | 100 | 157 | 1 | 6,500 | 1,800 | 22.5 | 5.1 | 10 | 1 | 26 |
| CV 150 K 20 | 150 | 200 | 240 | 395 | 100 | 170 | 1 | 6,500 | 1,600 | 22.5 | 5.2 | 10 | 1 | 26 |
| CV 175 K 20 | 175 | 225 | 270 | 455 | 100 | 193 | 1 | 6,500 | 1,400 | 22.5 | 5.3 | 10 | 1 | 26 |
| CV 230 K 20 | 230 | 300 | 360 | 595 | 100 | 258 | 1 | 6,500 | 1,100 | 22.5 | 5.9 | 10 | 1 | 26 |
| CV 250 K 20 | 250 | 320 | 390 | 650 | 100 | 276 | 1 | 6,500 | 1,000 | 22.5 | 6.1 | 10 | 1 | 26 |
| CV 275 K 20 | 275 | 350 | 430 | 710 | 100 | 304 | 1 | 6,500 | 900 | 22.5 | 6.3 | 10 | 1 | 26 |
| CV 300 K 20 | 300 | 385 | 470 | 775 | 100 | 350 | 1 | 6,500 | 850 | 22.5 | 6.6 | 10 | 1 | 26 |
| CV 320 K 20 | 320 | 420 | 510 | 840 | 100 | 388 | 1 | 6,500 | 800 | 22.5 | 6.8 | 10 | 1 | 27 |
| CV 385 K 20 | 385 | 505 | 620 | 1,025 | 100 | 396 | 1 | 6,500 | 650 | 22.5 | 7.5 | 10 | 1 | 27 |
| CV 420 K 20 | 420 | 560 | 680 | 1,120 | 100 | 418 | 1 | 6,500 | 620 | 22.5 | 7.8 | 10 | 1 | 27 |
| CV 460 K 20 | 460 | 615 | 750 | 1,240 | 100 | 460 | 1 | 6,500 | 560 | 22.5 | 8.2 | 10 | 1 | 27 |
| CV 510 K 20 | 510 | 670 | 820 | 1,355 | 100 | 478 | 1 | 6,500 | 510 | 22.5 | 8.7 | 10 | 1 | 27 |
| CV 550 K 20 | 550 | 745 | 910 | 1,500 | 100 | 515 | 1 | 6,500 | 480 | 22.5 | 9.2 | 10 | 1 | 27 |
| CV 575 K 20 | 575 | 750 | 950 | 1,570 | 100 | 525 | 1 | 6,500 | 460 | 22.5 | 9.4 | 10 | 1 | 27 |
| CV 625 K 20 | 625 | 825 | 1,000 | 1,650 | 100 | 565 | 1 | 6,500 | 420 | 22.5 | 9.7 | 10 | 1 | 27 |
| CV 680 K 20 | 680 | 895 | 1,100 | 1,815 | 100 | 620 | 1 | 6,500 | 390 | 22.5 | 10.2 | 10 | 1 | 27 |