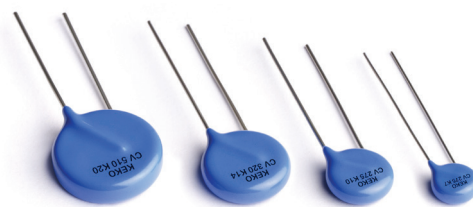


MEDIUM VOLTAGE DISC VARISTORS - CV SERIES


Description

The CV series of transient surge suppressors are disc shaped varistors that can be operated continuously in low and medium voltage circuits of electronic systems 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: 5mm, 7mm, 10 mm, 14 mm and 20 mm and feature a wide AC operating voltage ranging from 50 V to 680 V.



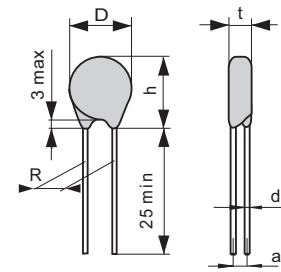
Features

- Operating voltage range V_{rms} 50 V to 680 V; higher voltages available upon request.
- Operating voltage range V_{dc} 65 V to 895 V.
- 5 model sizes available5 mm, 7 mm, 10 mm, 14 mm, 20 mm.
- Broad current handling capability I_{max} 400 to 6500 A (8/20 μ s).
- Broad energy absorption capability W_{max}2,7 to 620 J (10/1000 μ s).
- +85 °C continuous operating temperature.
- Available in tape and reel for automatic pick and place.
-  UL 1449 & CSA C22.2 File E163318, Across-The-Line Components Section 1. UL 1449, 3rd edition & CSA C22.2. File E326499 Section 5.
- VDE Reg. Nr. 10144-CECC 42200 and IEC 61051, Approval No. 010144
- Lead free components.
- For RMS voltages below 50V see ZV Leaded series.

Absolute Maximum Ratings

| Continuous: | Units | Value |
|--|------------|--------------|
| Steady State Applied Voltage: | | |
| DC Voltage Range (V_{dc}) | V | 65 to 895 |
| AC Voltage Range (V_{rms}) | V | 50 to 680 |
| Transient: | | |
| Peak Single Pulse Surge Current, 8/20 μ s Waveform (I_{max}) | A | 400 to 6500 |
| Single Pulse Surge Energy, 10/1000 μ s Waveform (W_{max}) | J | 2,7 to 620 |
| Operating Ambient Temperature | °C | -40 to +85 |
| Storage Temperature | °C | -40 to +125 |
| Threshold Voltage Temperature Coefficient | %/°C | < + 0,05 |
| Insulation Resistance | G Ω | > 1 |
| Isolation Voltage Capability | kV | > 2,5 |
| Response Time | ns | < 25 |
| Climatic Category | | 40 / 85 / 56 |

Device Ratings and Characteristics

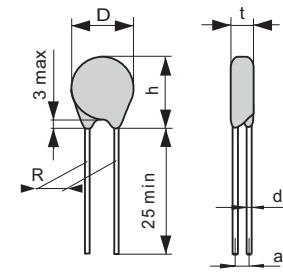


CV 50 K 5.....CV 175 K 20

| Type | V_{rms} V | V_{dc} V | V_n @ 1 mA V | V_c V | I_c A | W_{max} 10/1000 μs J | P max W | I_{max} 8/20 μs A | C typ. @ 1 kHz pF | D max mm | t max mm | R mm | d mm | h max mm |
|-------------|----------------|---------------|----------------------|------------|------------|-----------------------------------|---------------|--------------------------------|-------------------------|----------------|----------------|---------|---------|----------------|
| CV 50 K 5 | 50 | 65 | 82 | 135 | 5 | 2,7 | 0,1 | 400 | 350 | 7 | 3,5 | 5 | 0,6 | 9,5 |
| CV 50 K 7 | 50 | 65 | 82 | 135 | 10 | 6,8 | 0,25 | 1200 | 820 | 9 | 3,5 | 5 | 0,6 | 11,5 |
| CV 50 K 10 | 50 | 65 | 82 | 135 | 25 | 17 | 0,4 | 2500 | 1400 | 12,5 | 4,1 | 7,5 | 0,8 | 15 |
| CV 50 K 14 | 50 | 65 | 82 | 135 | 50 | 35 | 0,6 | 4500 | 2600 | 16,5 | 4,1 | 7,5 | 0,8 | 20 |
| CV 50 K 20 | 50 | 65 | 82 | 135 | 100 | 75 | 1 | 6500 | 5000 | 22,5 | 4,5 | 10 | 1 | 26 |
| CV 60 K 5 | 60 | 85 | 100 | 165 | 5 | 3 | 0,1 | 400 | 300 | 7 | 3,5 | 5 | 0,6 | 9,5 |
| CV 60 K 7 | 60 | 85 | 100 | 165 | 10 | 7 | 0,25 | 1200 | 680 | 9 | 3,5 | 5 | 0,6 | 11,5 |
| CV 60 K 10 | 60 | 85 | 100 | 165 | 25 | 16 | 0,4 | 2500 | 1200 | 12,5 | 4,1 | 7,5 | 0,8 | 15 |
| CV 60 K 14 | 60 | 85 | 100 | 165 | 50 | 34 | 0,6 | 4500 | 2200 | 16,5 | 4,2 | 7,5 | 0,8 | 20 |
| CV 60 K 20 | 60 | 85 | 100 | 165 | 100 | 71 | 1 | 6500 | 4100 | 22,5 | 4,6 | 10 | 1 | 26 |
| CV 75 K 5 | 75 | 100 | 120 | 200 | 5 | 4 | 0,1 | 400 | 250 | 7 | 3,6 | 5 | 0,6 | 9,5 |
| CV 75 K 7 | 75 | 100 | 120 | 200 | 10 | 9 | 0,25 | 1200 | 550 | 9 | 3,6 | 5 | 0,6 | 11,5 |
| CV 75 K 10 | 75 | 100 | 120 | 200 | 25 | 21 | 0,4 | 2500 | 950 | 12,5 | 4,2 | 7,5 | 0,8 | 15 |
| CV 75 K 14 | 75 | 100 | 120 | 200 | 50 | 41 | 0,6 | 4500 | 1800 | 16,5 | 4,2 | 7,5 | 0,8 | 20 |
| CV 75 K 20 | 75 | 100 | 120 | 200 | 100 | 81 | 1 | 6500 | 3300 | 22,5 | 4,6 | 10 | 1 | 26 |
| CV 95 K 5 | 95 | 125 | 150 | 250 | 5 | 6 | 0,1 | 400 | 200 | 7 | 3,8 | 5 | 0,6 | 9,5 |
| CV 95 K 7 | 95 | 125 | 150 | 250 | 10 | 11 | 0,25 | 1200 | 440 | 9 | 3,8 | 5 | 0,6 | 11,5 |
| CV 95 K 10 | 95 | 125 | 150 | 250 | 25 | 25 | 0,4 | 2500 | 750 | 12,5 | 4,3 | 7,5 | 0,8 | 15 |
| CV 95 K 14 | 95 | 125 | 150 | 250 | 50 | 51 | 0,6 | 4500 | 1400 | 16,5 | 4,3 | 7,5 | 0,8 | 20 |
| CV 95 K 20 | 95 | 125 | 150 | 250 | 100 | 106 | 1 | 6500 | 2600 | 22,5 | 4,6 | 10 | 1 | 26 |
| CV 115 K 5 | 115 | 150 | 180 | 300 | 5 | 6 | 0,1 | 400 | 170 | 7 | 4,0 | 5 | 0,6 | 9,5 |
| CV 115 K 7 | 115 | 150 | 180 | 300 | 10 | 13 | 0,25 | 1200 | 360 | 9 | 4,0 | 5 | 0,6 | 11,5 |
| CV 115 K 10 | 115 | 150 | 180 | 300 | 25 | 30 | 0,4 | 2500 | 650 | 12,5 | 4,3 | 7,5 | 0,8 | 15 |
| CV 115 K 14 | 115 | 150 | 180 | 300 | 50 | 62 | 0,6 | 4500 | 1200 | 16,5 | 4,4 | 7,5 | 0,8 | 20 |
| CV 115 K 20 | 115 | 150 | 180 | 300 | 100 | 118 | 1 | 6500 | 2100 | 22,5 | 4,8 | 10 | 1 | 26 |
| CV 130 K 5 | 130 | 170 | 205 | 340 | 5 | 7 | 0,1 | 400 | 150 | 7 | 4,0 | 5 | 0,6 | 9,5 |
| CV 130 K 7 | 130 | 170 | 205 | 340 | 10 | 15 | 0,25 | 1200 | 320 | 9 | 4,0 | 5 | 0,6 | 11,5 |
| CV 130 K 10 | 130 | 170 | 205 | 340 | 25 | 34 | 0,4 | 2500 | 580 | 12,5 | 4,5 | 7,5 | 0,8 | 15 |
| CV 130 K 14 | 130 | 170 | 205 | 340 | 50 | 68 | 0,6 | 4500 | 1050 | 16,5 | 4,6 | 7,5 | 0,8 | 20 |
| CV 130 K 20 | 130 | 170 | 205 | 340 | 100 | 142 | 1 | 6500 | 1900 | 22,5 | 5,0 | 10 | 1 | 26 |
| CV 140 K 5 | 140 | 180 | 220 | 360 | 5 | 7 | 0,1 | 400 | 140 | 7 | 4,1 | 5 | 0,6 | 9,5 |
| CV 140 K 7 | 140 | 180 | 220 | 360 | 10 | 18 | 0,25 | 1200 | 1200 | 9 | 4,1 | 5 | 0,6 | 11,5 |
| CV 140 K 10 | 140 | 180 | 220 | 360 | 25 | 37 | 0,4 | 2500 | 2500 | 12,5 | 4,6 | 7,5 | 0,8 | 15 |
| CV 140 K 14 | 140 | 180 | 220 | 360 | 50 | 75 | 0,6 | 4500 | 4500 | 16,5 | 4,7 | 7,5 | 0,8 | 20 |
| CV 140 K 20 | 140 | 180 | 220 | 360 | 100 | 157 | 1 | 6500 | 6500 | 22,5 | 5,1 | 10 | 1 | 26 |
| CV 150 K 5 | 150 | 200 | 240 | 395 | 5 | 9 | 0,1 | 400 | 130 | 7 | 4,3 | 5 | 0,6 | 9,5 |
| CV 150 K 7 | 150 | 200 | 240 | 395 | 10 | 18 | 0,25 | 1200 | 280 | 9 | 4,3 | 5 | 0,6 | 11,5 |
| CV 150 K 10 | 150 | 200 | 240 | 395 | 25 | 41 | 0,4 | 2500 | 510 | 12,5 | 4,6 | 7,5 | 0,8 | 15 |
| CV 150 K 14 | 150 | 200 | 240 | 395 | 50 | 81 | 0,6 | 4500 | 900 | 16,5 | 4,8 | 7,5 | 0,8 | 20 |
| CV 150 K 20 | 150 | 200 | 240 | 395 | 100 | 170 | 1 | 6500 | 1550 | 22,5 | 5,2 | 10 | 1 | 26 |
| CV 175 K 5 | 175 | 225 | 270 | 455 | 5 | 9,5 | 0,1 | 400 | 120 | 7 | 4,8 | 5 | 0,6 | 9,5 |
| CV 175 K 7 | 175 | 225 | 270 | 455 | 10 | 21 | 0,25 | 1200 | 250 | 9 | 4,8 | 5 | 0,6 | 11,5 |
| CV 175 K 10 | 175 | 225 | 270 | 455 | 25 | 46 | 0,4 | 2500 | 440 | 12,5 | 4,9 | 7,5 | 0,8 | 15 |
| CV 175 K 14 | 175 | 225 | 270 | 455 | 50 | 95 | 0,6 | 4500 | 800 | 16,5 | 4,9 | 7,5 | 0,8 | 20 |
| CV 175 K 20 | 175 | 225 | 270 | 455 | 100 | 193 | 1 | 6500 | 1400 | 22,5 | 5,3 | 10 | 1 | 26 |

KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Device Ratings and Characteristics



CV 230 K 5 CV 680 K 20

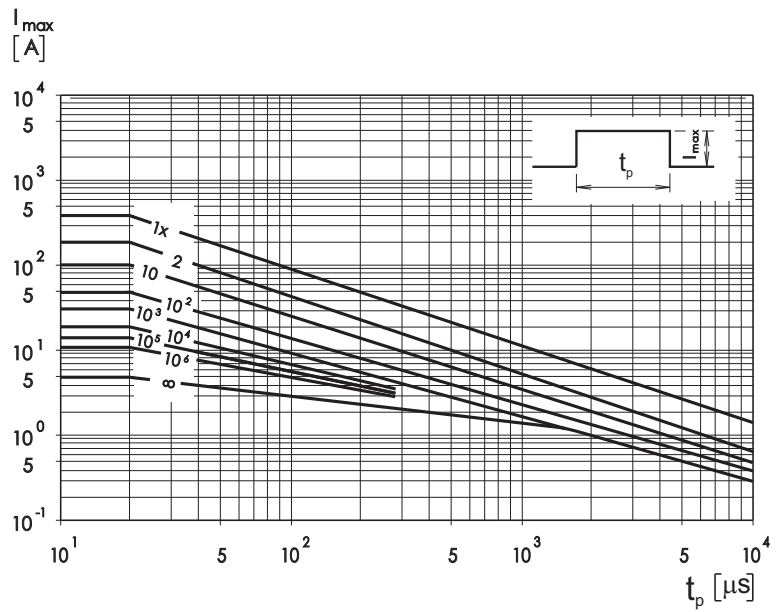
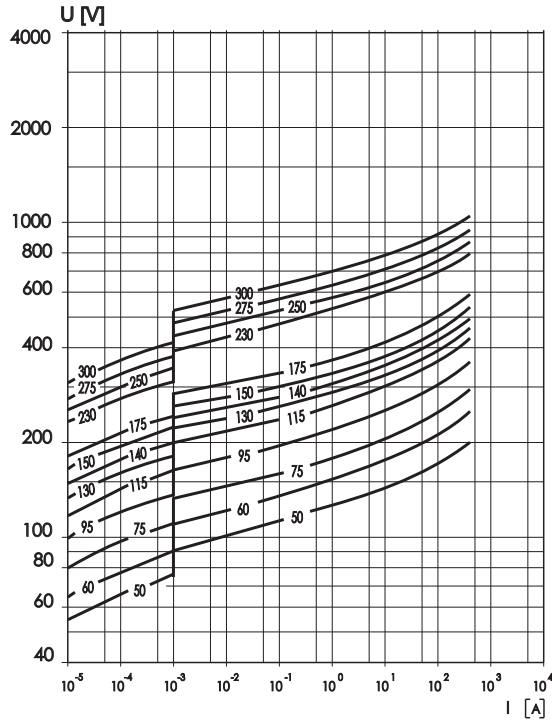
| Type | V_{rms} V | V_{dc} V | V_n @ 1 mA V | V_c V | I_c A | W_{max} 10/1000 μs J | P max W | I_{max} 8/20 μs A | C typ. @ 1 kHz pF | D max mm | t max mm | R mm | d mm | h max mm |
|-------------|----------------|---------------|----------------------|------------|------------|-----------------------------------|---------------|--------------------------------|-------------------------|----------------|----------------|---------|---------|----------------|
| CV 230 K 5 | 230 | 300 | 360 | 595 | 5 | 13 | 0,1 | 400 | 90 | 7 | 4,8 | 5 | 0,6 | 9,5 |
| CV 230 K 7 | 230 | 300 | 360 | 595 | 10 | 28 | 0,25 | 1200 | 190 | 9 | 4,8 | 5 | 0,6 | 11,5 |
| CV 230 K 10 | 230 | 300 | 360 | 595 | 25 | 62 | 0,4 | 2500 | 350 | 12,5 | 5,4 | 7,5 | 0,8 | 15 |
| CV 230 K 14 | 230 | 300 | 360 | 595 | 50 | 126 | 0,6 | 4500 | 650 | 16,5 | 5,5 | 7,5 | 0,8 | 20 |
| CV 230 K 20 | 230 | 300 | 360 | 595 | 100 | 258 | 1 | 6500 | 1200 | 22,5 | 5,9 | 10 | 1 | 26 |
| CV 250 K 5 | 250 | 320 | 390 | 650 | 5 | 14 | 0,1 | 400 | 80 | 7 | 5,0 | 5 | 0,6 | 9,5 |
| CV 250 K 7 | 250 | 320 | 390 | 650 | 10 | 30 | 0,25 | 1200 | 180 | 9 | 5,0 | 5 | 0,6 | 11,5 |
| CV 250 K 10 | 250 | 320 | 390 | 650 | 25 | 68 | 0,4 | 2500 | 320 | 12,5 | 5,6 | 7,5 | 0,8 | 15 |
| CV 250 K 14 | 250 | 320 | 390 | 650 | 50 | 135 | 0,6 | 4500 | 580 | 16,5 | 5,7 | 7,5 | 0,8 | 20 |
| CV 250 K 20 | 250 | 320 | 390 | 650 | 100 | 276 | 1 | 6500 | 1000 | 22,5 | 6,1 | 10 | 1 | 26 |
| CV 275 K 5 | 275 | 350 | 430 | 710 | 5 | 16 | 0,1 | 400 | 70 | 7 | 5,6 | 5 | 0,6 | 9,5 |
| CV 275 K 7 | 275 | 350 | 430 | 710 | 10 | 35 | 0,25 | 1200 | 160 | 9 | 5,6 | 5 | 0,6 | 11,5 |
| CV 275 K 10 | 275 | 350 | 430 | 710 | 25 | 78 | 0,4 | 2500 | 300 | 12,5 | 6,0 | 7,5 | 0,8 | 15 |
| CV 275 K 14 | 275 | 350 | 430 | 710 | 50 | 150 | 0,6 | 4500 | 530 | 16,5 | 6,0 | 7,5 | 0,8 | 20 |
| CV 275 K 20 | 275 | 350 | 430 | 710 | 100 | 304 | 1 | 6500 | 900 | 22,5 | 6,3 | 10 | 1 | 26 |
| CV 300 K 5 | 300 | 385 | 470 | 775 | 5 | 21 | 0,1 | 400 | 65 | 7 | 5,8 | 5 | 0,6 | 9,5 |
| CV 300 K 7 | 300 | 385 | 470 | 775 | 10 | 37 | 0,25 | 1200 | 150 | 9 | 5,8 | 5 | 0,6 | 11,5 |
| CV 300 K 10 | 300 | 385 | 470 | 775 | 25 | 82 | 0,4 | 2500 | 280 | 12,5 | 6,1 | 7,5 | 0,8 | 15 |
| CV 300 K 14 | 300 | 385 | 470 | 775 | 50 | 169 | 0,6 | 4500 | 490 | 16,5 | 6,1 | 7,5 | 0,8 | 20 |
| CV 300 K 20 | 300 | 385 | 470 | 775 | 100 | 350 | 1 | 6500 | 850 | 22,5 | 6,6 | 10 | 1 | 26 |
| CV 320 K 10 | 320 | 420 | 510 | 840 | 25 | 91 | 0,4 | 2500 | 260 | 12,5 | 6,8 | 7,5 | 0,8 | 16 |
| CV 320 K 14 | 320 | 420 | 510 | 840 | 50 | 184 | 0,6 | 4500 | 460 | 16,5 | 6,8 | 7,5 | 0,8 | 21 |
| CV 320 K 20 | 320 | 420 | 510 | 840 | 100 | 388 | 1 | 6500 | 800 | 22,5 | 6,8 | 10 | 1 | 27 |
| CV 385 K 10 | 385 | 505 | 620 | 1025 | 25 | 93 | 0,4 | 2500 | 240 | 12,5 | 7,4 | 7,5 | 0,8 | 16 |
| CV 385 K 14 | 385 | 505 | 620 | 1025 | 50 | 193 | 0,6 | 4500 | 400 | 16,5 | 7,4 | 7,5 | 0,8 | 21 |
| CV 385 K 20 | 385 | 505 | 620 | 1025 | 100 | 396 | 1 | 6500 | 700 | 22,5 | 7,5 | 10 | 1 | 27 |
| CV 420 K 10 | 420 | 560 | 680 | 1120 | 25 | 97 | 0,4 | 2500 | 220 | 12,5 | 7,3 | 7,5 | 0,8 | 16 |
| CV 420 K 14 | 420 | 560 | 680 | 1120 | 50 | 202 | 0,6 | 4500 | 350 | 16,5 | 7,4 | 7,5 | 0,8 | 21 |
| CV 420 K 20 | 420 | 560 | 680 | 1120 | 100 | 418 | 1 | 6500 | 650 | 22,5 | 7,8 | 10 | 1 | 27 |
| CV 460 K 10 | 460 | 615 | 750 | 1240 | 25 | 106 | 0,4 | 2500 | 200 | 12,5 | 7,8 | 7,5 | 0,8 | 16 |
| CV 460 K 14 | 460 | 615 | 750 | 1240 | 50 | 220 | 0,6 | 4500 | 330 | 16,5 | 7,8 | 7,5 | 0,8 | 21 |
| CV 460 K 20 | 460 | 615 | 750 | 1240 | 100 | 460 | 1 | 6500 | 550 | 22,5 | 8,2 | 10 | 1 | 27 |
| CV 510 K 10 | 510 | 670 | 820 | 1355 | 25 | 115 | 0,4 | 2500 | 180 | 12,5 | 8,2 | 7,5 | 0,8 | 16 |
| CV 510 K 14 | 510 | 670 | 820 | 1355 | 50 | 227 | 0,6 | 4500 | 310 | 16,5 | 8,2 | 7,5 | 0,8 | 21 |
| CV 510 K 20 | 510 | 670 | 820 | 1355 | 100 | 478 | 1 | 6500 | 500 | 22,5 | 8,7 | 10 | 1 | 27 |
| CV 550 K 10 | 550 | 745 | 910 | 1500 | 25 | 134 | 0,4 | 2500 | 170 | 12,5 | 8,8 | 7,5 | 0,8 | 16 |
| CV 550 K 14 | 550 | 745 | 910 | 1500 | 50 | 264 | 0,6 | 4500 | 290 | 16,5 | 8,8 | 7,5 | 0,8 | 21 |
| CV 550 K 20 | 550 | 745 | 910 | 1500 | 100 | 515 | 1 | 6500 | 450 | 22,5 | 9,2 | 10 | 1 | 27 |
| CV 625 K 10 | 625 | 825 | 1000 | 1650 | 25 | 140 | 0,4 | 2500 | 160 | 12,5 | 9,1 | 7,5 | 0,8 | 16 |
| CV 625 K 14 | 625 | 825 | 1000 | 1650 | 50 | 280 | 0,6 | 4500 | 270 | 16,5 | 9,2 | 7,5 | 0,8 | 21 |
| CV 625 K 20 | 625 | 825 | 1000 | 1650 | 100 | 565 | 1 | 6500 | 400 | 22,5 | 9,7 | 10 | 1 | 27 |
| CV 680 K 10 | 680 | 895 | 1100 | 1815 | 25 | 155 | 0,4 | 2500 | 150 | 12,5 | 9,7 | 7,5 | 0,8 | 16 |
| CV 680 K 14 | 680 | 895 | 1100 | 1815 | 50 | 310 | 0,6 | 4500 | 250 | 16,5 | 9,8 | 7,5 | 0,8 | 21 |
| CV 680 K 20 | 680 | 895 | 1100 | 1815 | 100 | 620 | 1 | 6500 | 350 | 22,5 | 10,2 | 10 | 1 | 27 |

Protection Level

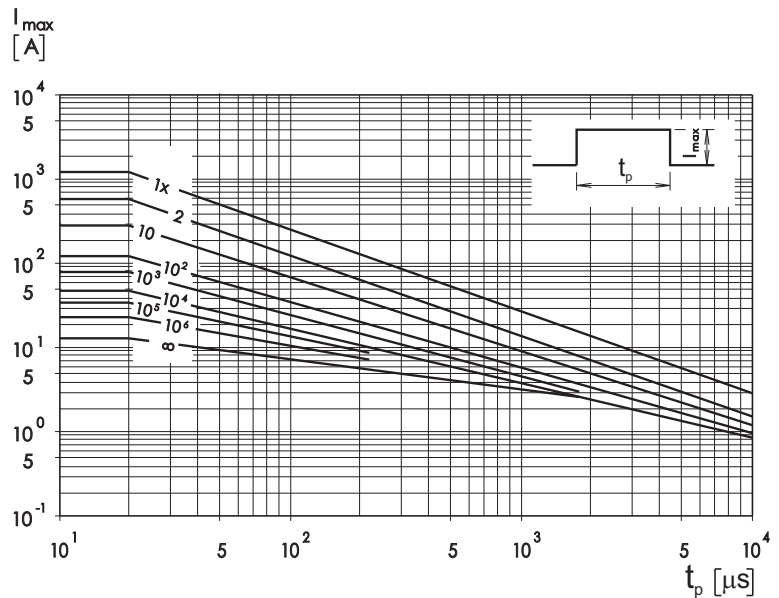
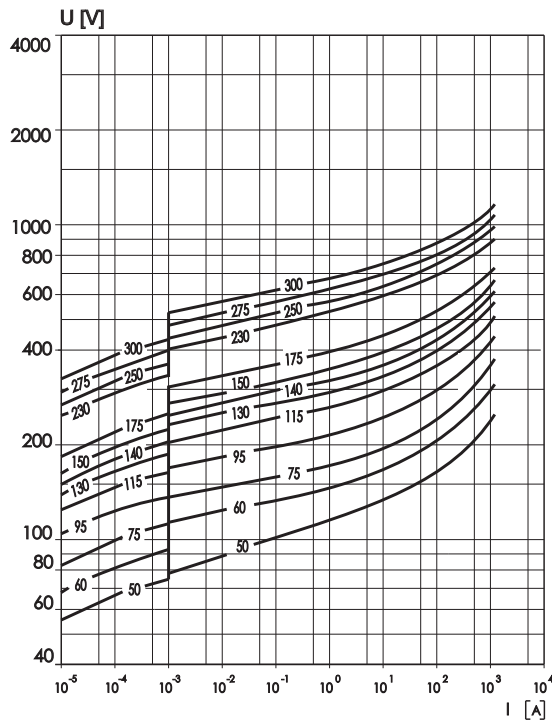
Pulse Rating Curves

* With the worst-case condition in the tolerance region

Model Size 5
CV 50...275



Model Size 7
CV 50...300



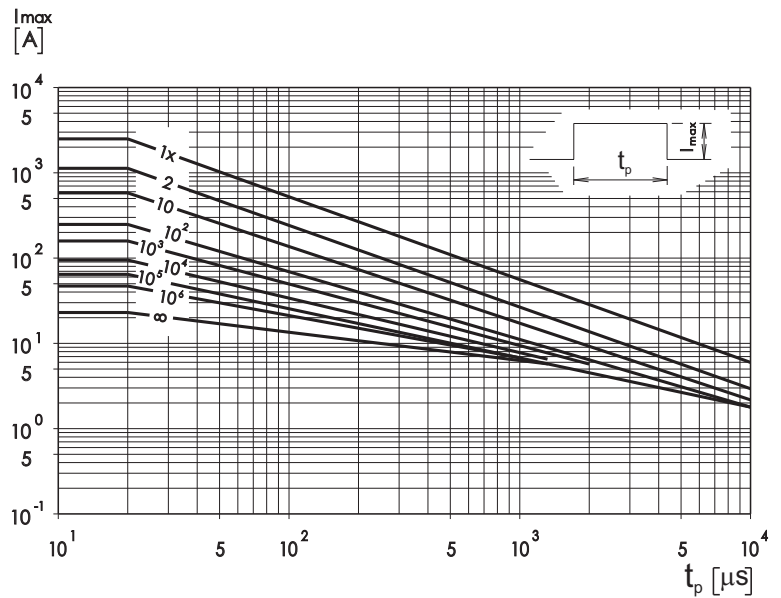
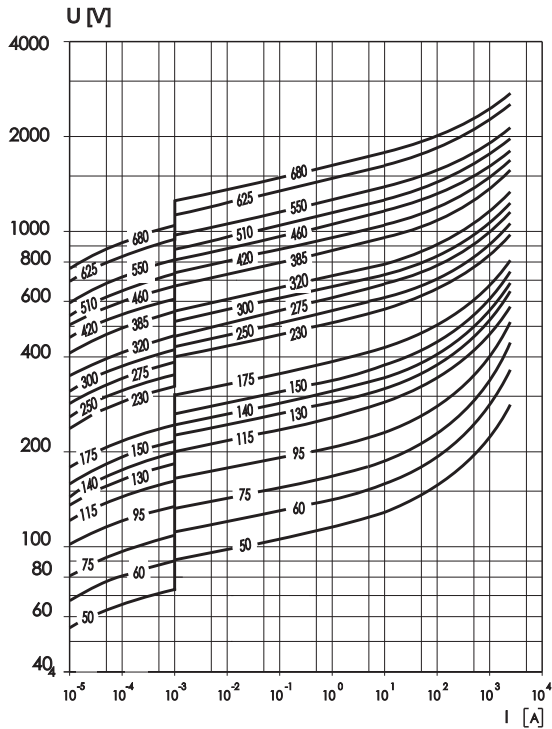
KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Protection Level

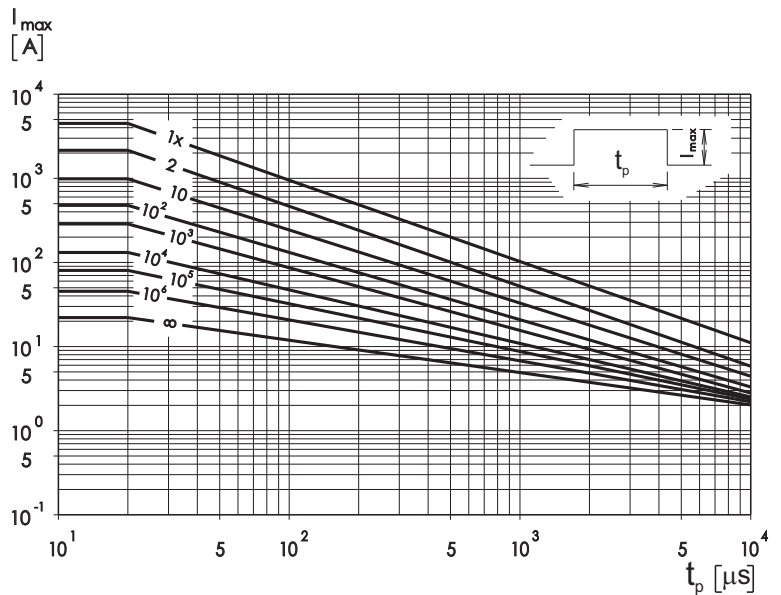
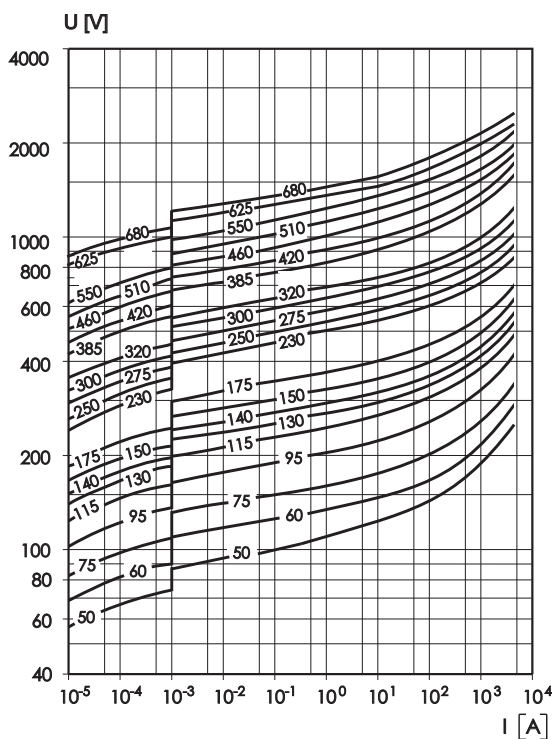
Pulse Rating Curves

* With the worst-case condition in the tolerance region

Model Size 10
CV 50...680



Model Size 14
CV 50...680



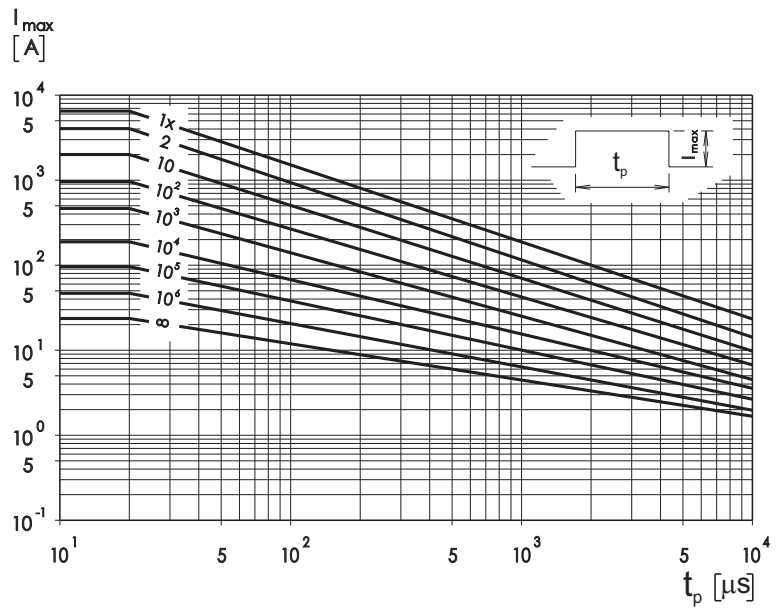
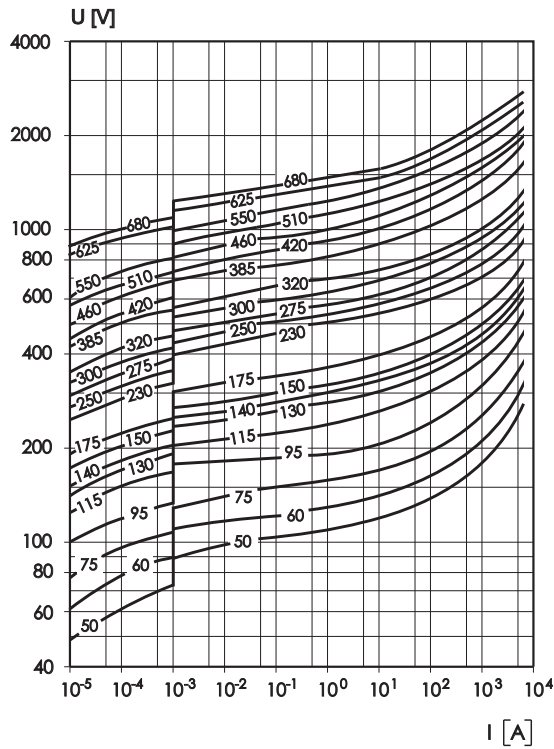
KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Protection Level

Pulse Rating Curves

* With the worst-case condition in the tolerance region

Model Size 20
CV 50...680



Lead Styles

| Type | R (mm) | h_{max} (mm) | A_{max} (mm) | Version 1 | Version 5 |
|---|--|--|----------------------|-----------|-----------|
| ZV 2...40 K 5 ZV 2...40 K 7 ZV 2...40 K 10 AV 14...40 K 602 003 | 5 5 5 5 | | 7 8 9 7 | | |
| ZV 4...40 K14 AV 14...40 K 802 006 | 5 5 | 9 9 | 12 9 | | |
| ZV 4...40 K 20 AV 14...40 K 902 012...025 AV 14...20 K 1103 050 | 5 5 7,5 | | 12 12 12 | | |
| CV 50...300 K 5 CV 50...300 K 7 CV+ 60...275 K 7 | 5 5 5 | 9,5 11,5 11,5 | 12,5 14,5 14,5 | | |
| CV 50...680 K 10 CV 50...680 K 14 CV 50...680 K 20 CV+ 60...550 K 10 CV+ 60...550 K 14 CV+ 60...550 K 20 CV+ 130...550 K 23 | 7,5 7,5 10 7,5 7,5 10 10 | 15 20 26 15 20 26 27 | | | |
| SV 60...300 K 5 SV 60...300 K 7 | 5 5 | 9,5 11,5 | 12,5 14,5 | | |
| SV 60...550 K 10 SV 60...550 K 14 SV 60...550 K 20 SV 130...550 K 23 | 7,5 7,5 10 10 | 15 19 26 27 | | | |

KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Ordering Information

ZV Series

ZV 40 K 20 R L1 YY

- ZV** - Series Name
- 40** - Maximum Continuous Working Voltage - V_{rms}
- K** V_n Tolerance: K = $\pm 10\%$, L = $\pm 15\%$, M = $\pm 20\%$
- 20** - Size: 5, 7, 10, 14, 20
- R** - Packaging: R = Reel, A = Ammo Pack, B = Bulk
- L1** - Lead Style; 1 = straight, 5 = crimped
- YY** - Special requirements

AV Series

AV 20 K 802 006 R L1 YY

- AV** - Series Name
- 20** - Maximum Continuous Working Voltage - V_{rms}
- K** - V_n Tolerance: K = $\pm 10\%$, S = special
- 80** - Size: 60, 80, 90, 110; 80 = 8 mm
- 2** - Leas spacing Code: 2 = 5 mm, 3 = 7,5 mm
- 006** - WLD - Load Dump Energy Code: 006 = 6 J
- R** - Packaging: R = Reel, A = Ammo Pack, B = Bulk
- L1** - Lead Style; 1 = straight, 5 = crimped
- YY** - Special requirements

CV / CV+ / SV Series

CV 130 K 14 R L1 YY

- CV** - Series Name
- 130** - Maximum Continuous Working Voltage - V_{rms}
- K** - V_n Tolerance: K = $\pm 10\%$, J = $\pm 5\%$, S = special
- 14** - Size: 5, 7, 10, 14, 20, 23
- R** - Packaging: R = Reel, A = Ammo Pack, B = Bulk
- L1** - Lead Style; 1 = straight, 5 = crimped
- YY** - Speciaa requirements

Varistor Marking for ZV / AV / CV / CV+ / SV Series

For Model Size 5, 7

14Z5

- 14** - V_{rms}
- Z** - the first letter of Series Name ZV
- 5** - Model Size: 5, 7

For Model Size 602

20A003

- 20** - V_{rms}
- A** - the first letter of Series Name AV
- 003** - WLD Code: 003

For Model Size 5

CV130K5

- 130** - V_{rms}
- CV** - Series Name
- K** - V_n Tolerance
- 5** - Model Size: 5

For Model Size 10, 14

ZV 40 K10

- 40** - V_{rms}
- K** - V_n Tolerance
- 10** - Model Size: 10, 14

For Model Size 802

AV 17 K 006

- AV** - Series Name
- 17** - V_{rms}
- K** - V_n Tolerance
- 006** - WLD Code: 006

For Model Size 7, 10, 14, 20, 23

KEKO CV 300 K 20

- XX**
- KEKO** - Tradename
- CV** - Series Name: Cv, Cv+, SV
- 300** - V_{rms}
- K** - V_n Tolerance
- 20** - Model Size: 7, 10, 14, 20, 23
- xx** - Approvals

For Model Size 20

KEKO ZV 11 K20

- KEKO** - Tradename
- ZV** - Series Name
- 11** - V_{rms}
- K** - V_n Tolerance
- 20** - Model Size: 20

For Model Size 902,1103

KEKO AV 30 K 100

- KEKO** - Tradename
- AV** - Series Name
- 30** - V_{rms}
- K** - V_n Tolerance
- 100** - WLD Code: 012, 025, 050, 100

Packaging

Reel

| V | 5 | | | | 7 | | | | 10 | | | | 14 | | | | 20 | | | | 23 | | | |
|------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|---------|-----|--------|------|-------|-------|-----|--------|-----|--------|--|
| | ZV | AV/602 | SV | CV/CV+ | ZV | AV/802 | SV | CV/CV+ | ZV | AV/902 | SV | CV/CV+ | ZV | AV/1103 | SV | CV/CV+ | ZV | AV 20 | AV 40 | SV | CV/CV+ | SV | CV/CV+ | |
| 2 | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | | | | |
| 4 | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | | | | |
| 6 | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | | | | |
| 8 | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | 1500 | | | | | | | |
| 11 | 1500 | | | 1800 | 1500 | | | 1500 | 1500 | | | | 1500 | | | | 1500 | | | | | | | |
| 14 | 1500 | 1500 | | 1800 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1300 | 1500 | 1300 | | | 1500 | | | | | | | |
| 17 | 1500 | 1500 | | 1800 | 1500 | 1500 | | 1500 | 1500 | 1300 | | 1300 | 1500 | 1300 | | | 1500 | | | | | | | |
| 20 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1300 | | 1300 | 1500 | 1300 | | | 1500 | | | | | | | |
| 25 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1300 | 1500 | | | | 1500 | 500 | 400 | | | | | |
| 30 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1300 | 1500 | | | | 1500 | 500 | 400 | | | | | |
| 35 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1300 | 1500 | | | | 1500 | 500 | 400 | | | | | |
| 40 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1500 | 1500 | 1300 | | 1300 | 1500 | | | | 1500 | 500 | 400 | | | | | |
| 50 | | | | 1500 | | | | 1500 | | | | 1300 | | | | 700 | | | | | | | 600 | |
| 60 | | | 1500 | 1500 | | | 1500 | 1500 | | 1300 | 1300 | | | 600 | 700 | | | | | 600 | 600 | | | |
| 75 | | | 1300 | 1500 | | | 1300 | 1500 | | 1300 | 1300 | | | 600 | 700 | | | | | 600 | 600 | | | |
| 95 | | | 1300 | 1500 | | | 1300 | 1000 | | 1200 | 1300 | | | 600 | 600 | | | | | 500 | 600 | | | |
| 115 | | | 1300 | 1300 | | | 1300 | 1000 | | 1200 | 1000 | | | 500 | 600 | | | | | 500 | 500 | | | |
| 130 | | | 1300 | 1300 | | | 1300 | 1000 | | 1200 | 1000 | | | 500 | 600 | | | | | 500 | 500 | 150 | 250 | |
| 140 | | | 1300 | 1200 | | | 1300 | 1000 | | 1200 | 1000 | | | 500 | 600 | | | | | 500 | 500 | 150 | 250 | |
| 150 | | | 1200 | 1200 | | | 1200 | 1000 | | 1000 | 1000 | | | 500 | 600 | | | | | 500 | 500 | 150 | 250 | |
| 175 | | | 1200 | 1200 | | | 1200 | 1000 | | 1000 | 1000 | | | 500 | 500 | | | | | 500 | 500 | 150 | 250 | |
| 230 | | | 1000 | 1000 | | | 1000 | 1000 | | 1000 | 1000 | | | 500 | 500 | | | | | 500 | 400 | 150 | 150 | |
| 250 | | | 1000 | 1000 | | | 1000 | 1000 | | 900 | 800 | | | 400 | 400 | | | | | 400 | 400 | 150 | 150 | |
| 275 | | | 1000 | 1000 | | | 1000 | 1000 | | 900 | 800 | | | 400 | 400 | | | | | 400 | 400 | 150 | 150 | |
| 300 | | | | 900 | | | 900 | 1000 | | | 800 | 800 | | | 400 | 400 | | | | 400 | 400 | 100 | 150 | |
| 320 | | | | | | | | | | 800 | 800 | | | 400 | 400 | | | | | 300 | 400 | 100 | 150 | |
| 385 | | | | | | | | | | 700 | 700 | | | 300 | 400 | | | | | 300 | 300 | 100 | 150 | |
| 420 | | | | | | | | | | 700 | 700 | | | 300 | 300 | | | | | 300 | 300 | 100 | 150 | |
| 460 | | | | | | | | | | 600 | 600 | | | 300 | 300 | | | | | 300 | 300 | 100 | 150 | |
| 510 | | | | | | | | | | 600 | 600 | | | 300 | 300 | | | | | 300 | 300 | 100 | 150 | |
| 550* | | | | | | | | | | 600 | 600 | | | 300 | 300 | | | | | 300 | 300 | 100 | 150 | |

* For voltages to 680 - same as for 550.

Ammo

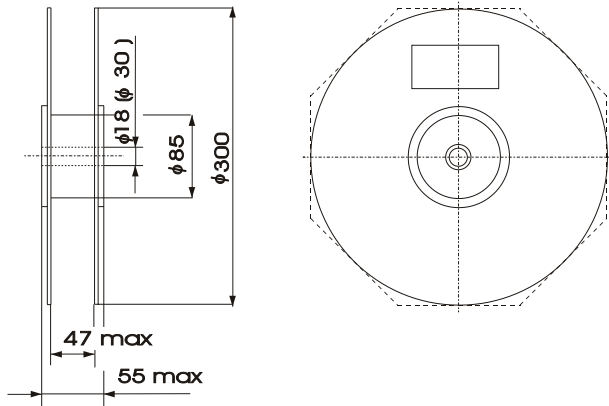
| V | 5 | | | | 7 | | | | 10 | | | | 14 | | | | 20 | | | | 23 | | | |
|------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|---------|-----|--------|------|-------|-------|----|--------|-----|--------|-----|
| | ZV | AV/602 | SV | CV/CV+ | ZV | AV/802 | SV | CV/CV+ | ZV | AV/902 | SV | CV/CV+ | ZV | AV/1103 | SV | CV/CV+ | ZV | AV 20 | AV 40 | SV | CV/CV+ | SV | CV/CV+ | |
| 2 | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | | | | |
| 4 | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | | | | |
| 6 | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | | | | |
| 8 | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | 2000 | | | | | | | |
| 11 | 2000 | | | 2000 | 2000 | | | 2000 | 2000 | | | | 2000 | | | | 2000 | | | | | | | |
| 14 | 2000 | 2000 | | 2000 | 2000 | 2000 | | 2000 | 2000 | 1800 | | 1800 | 2000 | 1500 | | | 2000 | | | | | | | |
| 17 | 2000 | 2000 | | 2000 | 2000 | 2000 | | 2000 | 2000 | 1800 | | 1800 | 2000 | 1800 | | | 2000 | | | | | | | |
| 20 | 1800 | 2000 | | 2000 | 1800 | 2000 | | 2000 | 1800 | 1800 | | 1800 | 1800 | 1800 | | | 1800 | | | | | | | |
| 25 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 1800 | 1800 | | | | 1800 | 600 | 400 | | | | | |
| 30 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 1500 | 1800 | | | | 1800 | 600 | 400 | | | | | |
| 35 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 2000 | 1800 | 1800 | | 1500 | 1800 | | | | 1800 | 600 | 400 | | | | | |
| 40 | 1800 | 1800 | | 1800 | 1800 | 1800 | | 1800 | 1800 | 1800 | | 1500 | 1800 | | | | 1800 | 600 | 400 | | | | | |
| 50 | | | | 2000 | | | | 2000 | | | | 1800 | | | | 800 | | | | | | | 700 | |
| 60 | | | 1800 | 2000 | | | 1800 | 2000 | | 1600 | 1600 | | | 800 | 800 | | | | | | 700 | 700 | | |
| 75 | | | 1800 | 2000 | | | 1800 | 2000 | | 1600 | 1600 | | | 800 | 800 | | | | | | 700 | 700 | | |
| 95 | | | 1600 | 1800 | | | 1600 | 1800 | | 1500 | 1600 | | | 700 | 700 | | | | | | 700 | 700 | | |
| 115 | | | 1600 | 1600 | | | 1600 | 1600 | | 1300 | 1500 | | | 700 | 700 | | | | | | 600 | 600 | | |
| 130 | | | 1600 | 1600 | | | 1600 | 1600 | | 1300 | 1300 | | | 700 | 700 | | | | | | 600 | 600 | 150 | 250 |
| 140 | | | 1600 | 1600 | | | 1600 | 1600 | | 1300 | 1300 | | | 700 | 700 | | | | | | 600 | 600 | 150 | 250 |
| 150 | | | 1500 | 1500 | | | 1500 | 1500 | | 1300 | 1300 | | | 700 | 700 | | | | | | 600 | 600 | 150 | 250 |
| 175 | | | 1500 | 1500 | | | 1500 | 1500 | | 1300 | 1300 | | | 600 | 600 | | | | | | 600 | 600 | 150 | 250 |
| 230 | | | 1200 | 1200 | | | 1200 | 1200 | | 1200 | 1200 | | | 600 | 600 | | | | | | 500 | 500 | 150 | 150 |
| 250 | | | 1200 | 1200 | | | 1200 | 1200 | | 1000 | 1000 | | | 500 | 500 | | | | | | 500 | 500 | 150 | 150 |
| 275 | | | 1200 | 1200 | | | 1200 | 1200 | | 1000 | 1000 | | | 500 | 500 | | | | | | 500 | 500 | 150 | 150 |
| 300 | | | | 1000 | | | 1000 | 1000 | | 1000 | 1000 | | | 500 | 500 | | | | | | 500 | 500 | 100 | 150 |
| 320 | | | | | | | | | | 1000 | 1000 | | | 500 | 500 | | | | | | 400 | 400 | 100 | 150 |
| 385 | | | | | | | | | | 900 | 900 | | | 400 | 400 | | | | | | 400 | 400 | 100 | 150 |
| 420 | | | | | | | | | | 900 | 800 | | | 400 | 400 | | | | | | 400 | 400 | 100 | 150 |
| 460 | | | | | | | | | | 800 | 800 | | | 400 | 400 | | | | | | 400 | 400 | 100 | 150 |
| 510 | | | | | | | | | | 800 | 800 | | | 400 | 400 | | | | | | 300 | 400 | 100 | 150 |
| 550* | | | | | | | | | | 700 | 700 | | | 300 | 400 | | | | | | 300 | 400 | 100 | 150 |

* For voltages to 680 - same as for 550.

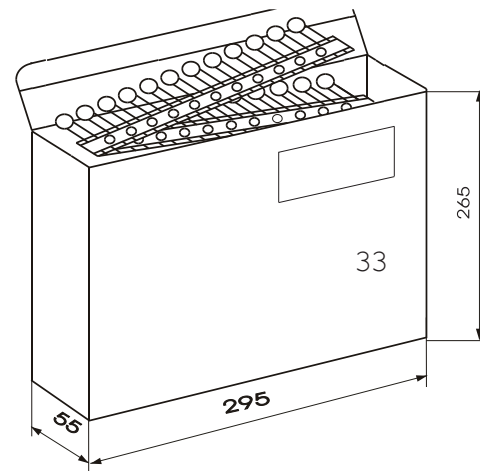
KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Packaging

Reel



Ammo pack



Package units

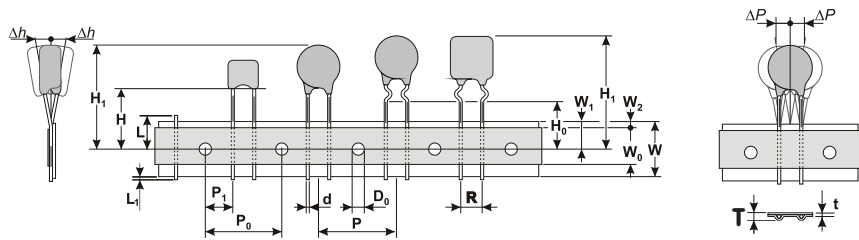
Bulk

| V | 5 | | | | 7 | | | | 10 | | | | 14 | | | | 20 | | | | 23 | | | |
|------|------|--------|------|--------|------|--------|------|--------|------|--------|-----|--------|------|---------|-----|--------|------|-------|-------|----|--------|-----|--------|-----|
| | ZV | AV/602 | SV | CV/CV+ | ZV | AV/802 | SV | CV/CV+ | ZV | AV/902 | SV | CV/CV+ | ZV | AV/1103 | SV | CV/CV+ | ZV | AV 20 | AV 40 | SV | CV/CV+ | SV | CV/CV+ | |
| 2 | 1500 | | | | 1500 | | | | 1500 | | | | 1000 | | | | 1000 | | | | | | | |
| 4 | 1500 | | | | 1500 | | | | 1500 | | | | 1000 | | | | 1000 | | | | | | | |
| 6 | 1500 | | | | 1500 | | | | 1500 | | | | 1000 | | | | 1000 | | | | | | | |
| 8 | 1500 | | | | 1500 | | | | 1500 | | | | 1000 | | | | 1000 | | | | | | | |
| 11 | 1500 | | | 1500 | 1500 | | | 1500 | 1500 | | | | 1000 | | | | 1000 | | | | | | | |
| 14 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | 800 | | | 1000 | | | | | | | |
| 17 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | 800 | | | 1000 | | | | | | | |
| 20 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | 800 | | | 1000 | | | | | | | |
| 25 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | | | | 1000 | 300 | 300 | | | | | |
| 30 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | | | | 1000 | 300 | 300 | | | | | |
| 35 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | | | | 1000 | 300 | 300 | | | | | |
| 40 | 1500 | 1500 | | 1500 | 1500 | 1500 | | 1500 | 1500 | 1000 | | 600 | 1000 | | | | 1000 | 300 | 300 | | | | | |
| 50 | | | | 1500 | | | | 1500 | | | | 600 | | | | 400 | | | | | | 300 | | |
| 60 | | | 1300 | 1500 | | | 1000 | 1500 | | | 500 | 600 | | | 400 | 400 | | | | | 250 | 300 | | |
| 75 | | | 1300 | 1500 | | | 1000 | 1500 | | | 500 | 600 | | | 400 | 400 | | | | | 250 | 300 | | |
| 95 | | | 1300 | 1500 | | | 900 | 1000 | | | 500 | 600 | | | 400 | 400 | | | | | 250 | 300 | | |
| 115 | | | 1300 | 1500 | | | 900 | 1000 | | | 400 | 500 | | | 400 | 400 | | | | | 250 | 300 | | |
| 130 | | | 1300 | 1500 | | | 900 | 1000 | | | 400 | 500 | | | 400 | 400 | | | | | 250 | 300 | 150 | 250 |
| 140 | | | 1300 | 1500 | | | 900 | 1000 | | | 400 | 500 | | | 400 | 400 | | | | | 250 | 300 | 150 | 250 |
| 150 | | | 1300 | 1500 | | | 900 | 1000 | | | 400 | 500 | | | 400 | 400 | | | | | 250 | 300 | 150 | 250 |
| 175 | | | 1300 | 1500 | | | 900 | 1000 | | | 400 | 500 | | | 400 | 400 | | | | | 250 | 300 | 150 | 250 |
| 230 | | | 900 | 1000 | | | 900 | 1000 | | | 400 | 500 | | | 250 | 300 | | | | | 250 | 200 | 150 | 150 |
| 250 | | | 900 | 1000 | | | 900 | 1000 | | | 400 | 500 | | | 250 | 300 | | | | | 250 | 200 | 150 | 150 |
| 275 | | | 900 | 1000 | | | 900 | 1000 | | | 400 | 500 | | | 250 | 300 | | | | | 250 | 200 | 150 | 150 |
| 300 | | | | 1000 | | | 900 | 1000 | | | 400 | 500 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 320 | | | | | | | | | | | 400 | 500 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 385 | | | | | | | | | | | 300 | 400 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 420 | | | | | | | | | | | 300 | 400 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 460 | | | | | | | | | | | 300 | 400 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 510 | | | | | | | | | | | 300 | 400 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |
| 550* | | | | | | | | | | | 300 | 400 | | | 250 | 300 | | | | | 150 | 200 | 100 | 150 |

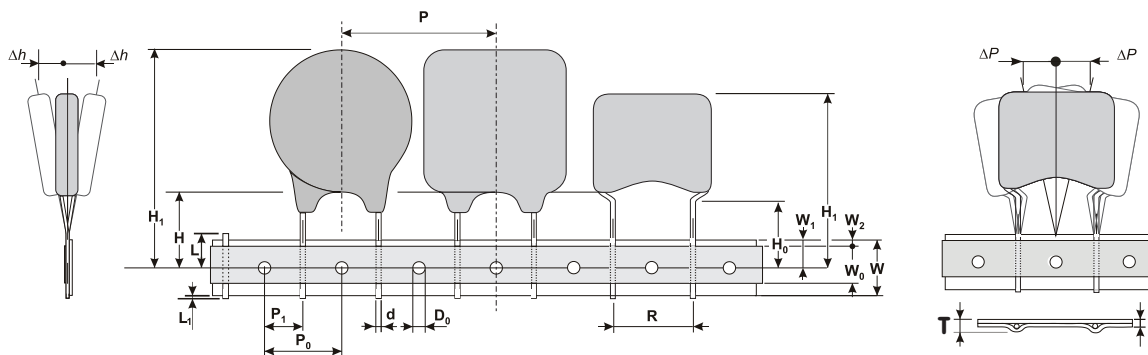
KEKO VARICON products are sold by description only - product technical specification. KEKO VARICON reserves the right to make changes in circuit design and/or specifications at any time without notice. Accordingly the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by KEKO VARICON is believed to be accurate and reliable. However, no responsibility is assumed by KEKO VARICON for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

Protection Level

Customs to IES Publication 286-2 Ed.3: 2008-03



R = 5 mm



R = 7,5 mm, 10 mm

| Symbol | Parameter | Model Size | | | | |
|----------------|---|-----------------|--------------|---------------|---------------|--------------|
| | | Φ 5 | Φ 7 | Φ 10 | Φ 14 | Φ 20 |
| | | 602 / 802 / 902 | | 1103 | | |
| Dimension (mm) | | | | | | |
| W | Carrier tape with | 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 |
| W0 | Hold down tape width | 5 min | 5 min | 5 min | 5 min | 5 min |
| W1 | Sprocket hole position | 9 +0,75/-0,5 | 9 +0,75/-0,5 | 9 +0,75/-0,5 | 9 +0,75/-0,5 | 9 +0,75/-0,5 |
| W2 | Distance between the upper edges of the carrier tape and hold-down tape | 3 max | 3 max | 3 max | 3 max | 3 max |
| T | Total tape thickness | 1,5 max | 1,5 max | 1,7 max | 1,7 max | 1,9 max |
| t | Tape thickness | 0,9 max | 0,9 max | 0,9 max | 0,9 max | 0,9 max |
| P | Pitch of component | 12,7 ± 1,0 | 12,7 ± 1,0 | 12,7 ± 1,0 | 25,4 ± 1,0 | 25,4 ± 1,0 |
| P0 | Feed hole pitch | 12,7 ± 0,3 | 12,7 ± 0,3 | 12,7 ± 0,3 | 12,7 ± 0,3 | 12,7 ± 0,3 |
| P1 | Feed hole center to pitch | 3,85 ± 0,7 | 3,85 ± 0,7 | 8,95 ± 0,7 | 8,95 ± 0,7 | 7,7 ± 0,7 |
| R | Lead Spacing | 5 +0,5/-0,2 | 5 +0,5/-0,2 | 7,5 +0,5/-0,2 | 7,5 +0,5/-0,2 | 10 +0,5/-0,2 |
| ΔP | Component alignment | ± 1,3 max | ± 1,3 max | ± 1,3 max | ± 1,3 max | ± 1,3 max |
| Δh | Component alignment | ± 2 max | ± 2 max | ± 2 max | ± 2 max | ± 2 max |
| d | Wire diameter | 0,6 max | 0,6 max | 0,8 max | 0,8 max | 1 max |
| Do | Feed hole diameter | 4 ± 0,2 | 4 ± 0,2 | 4 ± 0,2 | 4 ± 0,2 | 4 ± 0,2 |
| H | Height from tape center to comp. base | 18 +2,0/-0,0 | 18 +2,0/-0,0 | 18 +2,0/-0,0 | 18 +2,0/-0,0 | 18 +2,0/-0,0 |
| Ho | Seating plane height | 16 ± 0,5 | 16 ± 0,5 | 16 ± 0,5 | 16 ± 0,5 | 16 ± 0,5 |
| H1 | Component height | 32,2 max | 32,2 max | 46,5 max | 46,5 max | 46,5 max |
| L | Protrusion - cut out | 11 max | 11 max | 11 max | 11 max | 11 max |
| L1 | Protrusion - cut off | 0,5 max | 0,5 max | 0,5 max | 0,5 max | 0,5 max |

KEKOVARICON

Grajski trg 15, SI-8360 Zuzemberk, SLOVENIA

Phone: + 386 7 3885 178

Fax: + 386 7 3885 166

E-mail: info@keko-varicon.si

All rights reserved/Copyright © 2015 KEKO VARICON d.o.o.

www.keko-varicon.si