



Micro Commercial Components

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182KD10JX*
thru
180LD10JX*

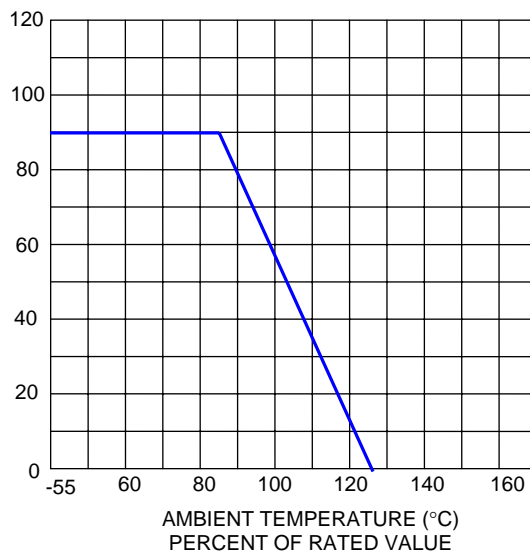
Features

- High Surge, High Energy
- Designed to be Operated Continuously Across AC Power Lines
- No Derating Up to 85°C Ambient
- Available in Tape and Reel or Bulk Pack
- UL Recognized File # E306895(UL1449) and E306942(UL1414)

Maximum Ratings

- Operating Ambient Temperature Range: -55°C to +85°C
- Storage Temperature Range: -55°C to +125°C
- Temperature Coefficient (αV) of Clamping Voltage (V_C) at Specified Test Current: <0.05%/°C
- Varistor voltage temperature coefficient:

$$\frac{V_b \text{ at } 25^\circ\text{C} - V_b \text{ at } 85^\circ\text{C}}{V_b \text{ at } 25^\circ\text{C}} \times \frac{1}{60} \times (100/^\circ\text{C})$$



CURRENT, ENERGY AND POWER DERATING
CURVE

Note : * 'X' can be S, C, I or Y .

'S' denotes straight lead

'C' denotes out crimped lead

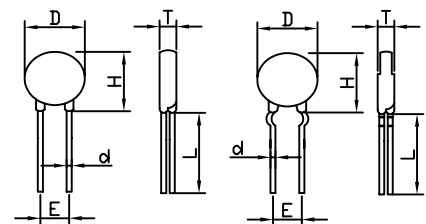
'I' denotes inner crimped lead

'Y' denotes kink lead

11 to 1000 Volts
Varistor
2.6 to 247Joule

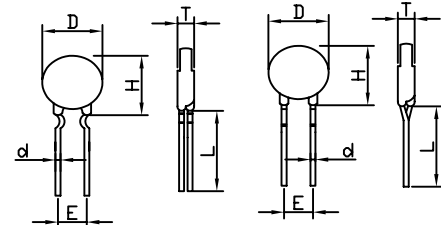
S: Straight lead

C: Out Crimped Lead



I: Inner Crimped Lead

Y: Y Kink Lead



L: 20mm Min.

| DIMENSIONS | | | | Unit: mm | |
|------------|-------|-------|-------|----------|--------|
| Size | D max | H max | | D± 0.05 | E± 1.0 |
| Lead | All | S | C/I/Y | All | All |
| 05D | 7.5 | 11 | 13 | 0.6 | 5 |
| 07D | 9 | 13 | 15 | 0.6 | 5 |
| 10D | 12.5 | 18 | 19.5 | 0.6 | 5 |
| | | | | 0.8 | 7.5 |
| 14D | 16.5 | 22 | 23 | 0.8 | 7.5 |
| | | | | 1 | 10 |
| 20D | 23 | 28 | 30 | 0.8 | 7.5 |
| | | | | 1 | 10 |

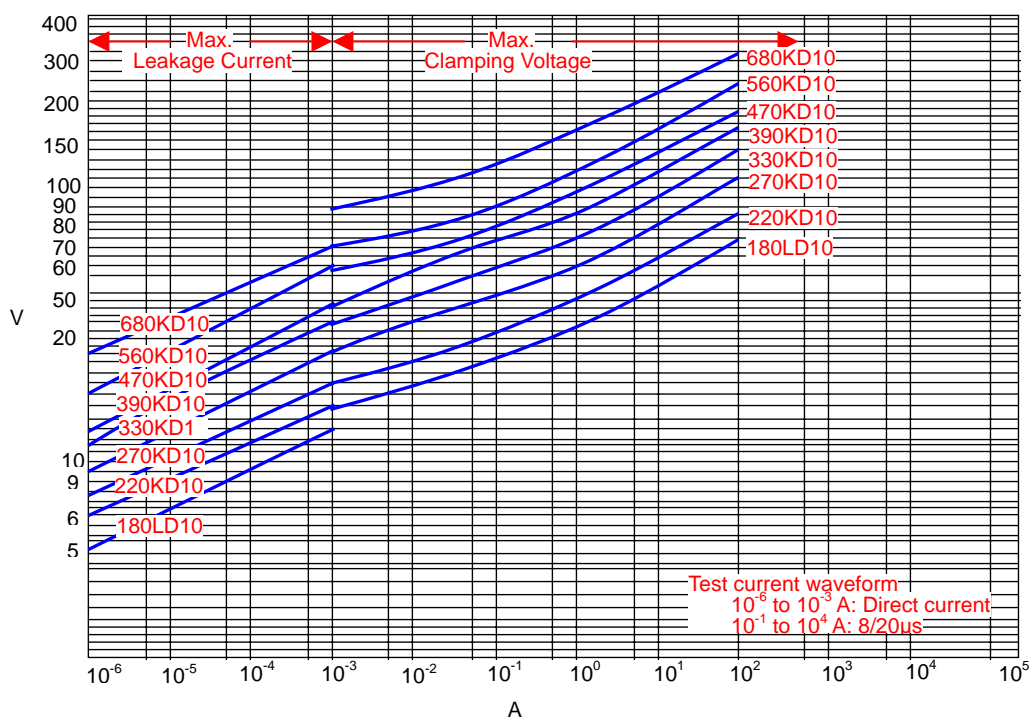
182KD10JX thru 180LD10JX

Electrical Characteristics @ 25°C Unless Otherwise Noted

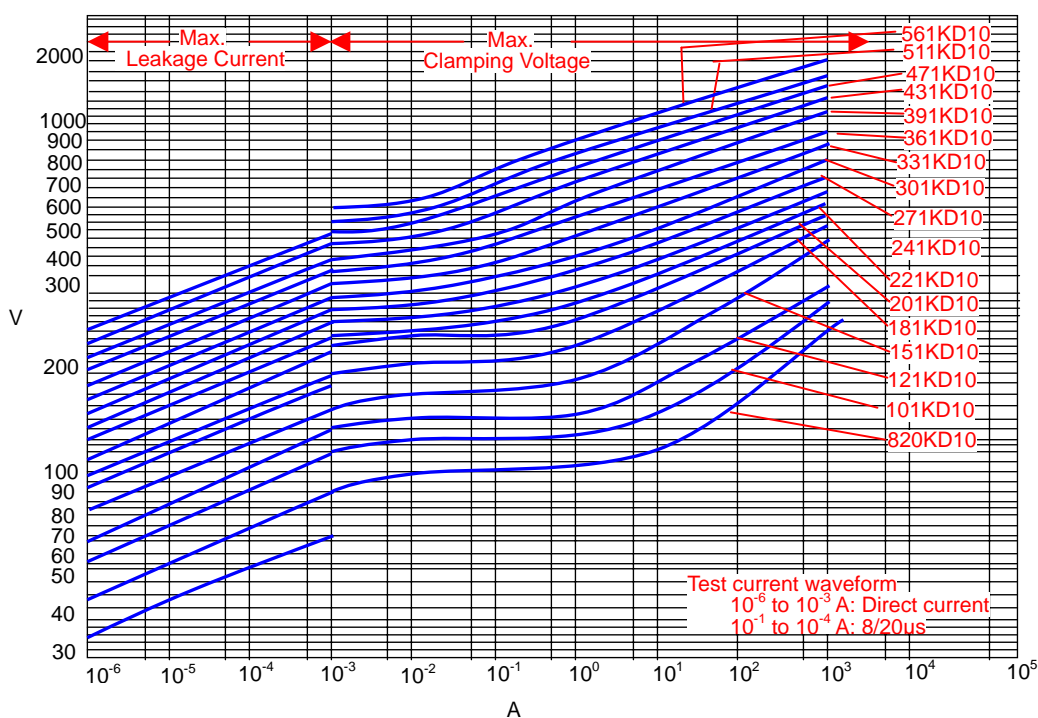
| Part Number | Maximum Allowable Voltage | | Maximum Energy | Withstanding Surge Current 8/20us | | Rated Wattage | Varistor Voltage | Maximum Clamping Voltage |
|-------------|---------------------------|------|----------------|-----------------------------------|---------|---------------|------------------|--------------------------|
| | ACrms | DC | 10/1000us | 1 time | 2 times | (W) | V1mA | V25A |
| | (V) | (V) | (J) | (A) | | | (V) | (V) |
| 182KD10JX | 1000 | 1465 | 247.0 | 3500 | 2500 | 0.4 | 1800(1620-1980) | 2970 |
| 112KD10JX | 680 | 895 | 155.0 | | | | 1100(990-1210) | 1815 |
| 102KD10JX | 625 | 825 | 140.0 | | | | 1000(900-1100) | 1650 |
| 911KD10JX | 550 | 745 | 127.0 | | | | 910(819-1001) | 1500 |
| 821KD10JX | 510 | 670 | 118.0 | | | | 820(738-902) | 1355 |
| 781KD10JX | 485 | 640 | 116.0 | | | | 780(702-858) | 1290 |
| 751KD10JX | 460 | 615 | 115.0 | | | | 750(675-825) | 1240 |
| 681KD10JX | 420 | 560 | 112.0 | | | | 680(612-748) | 1120 |
| 621KD10JX | 385 | 505 | 107.0 | | | | 620(558-682) | 1025 |
| 561KD10JX | 350 | 460 | 102.0 | | | | 560(504-616) | 920 |
| 511KD10JX | 320 | 418 | 92.0 | | | | 510(459-561) | 845 |
| 471KD10JX | 300 | 385 | 85.0 | | | | 470(423-517) | 775 |
| 431KD10JX | 275 | 350 | 80.0 | | | | 430(387-473) | 710 |
| 391KD10JX | 250 | 320 | 70.0 | | | | 390(351-429) | 650 |
| 361KD10JX | 230 | 300 | 65.0 | | | | 360(324-396) | 595 |
| 331KD10JX | 210 | 275 | 58.0 | | | | 330(297-363) | 550 |
| 301KD10JX | 195 | 250 | 52.0 | | | | 300(270-330) | 505 |
| 271KD10JX | 175 | 225 | 49.0 | | | | 270(243-297) | 455 |
| 241KD10JX | 150 | 200 | 42.0 | | | | 240(216-264) | 395 |
| 221KD10JX | 140 | 180 | 39.0 | | | | 220(198-242) | 360 |
| 201KD10JX | 130 | 170 | 35.0 | | | | 200(180-220) | 330 |
| 181KD10JX | 115 | 150 | 32.0 | | | | 180(162-198) | 300 |
| 151KD10JX | 95 | 125 | 25.0 | | | | 150(135-165) | 250 |
| 121KD10JX | 75 | 100 | 22.0 | | | | 120(108-132) | 200 |
| 101KD10JX | 60 | 85 | 18.0 | | | | 100(90-110) | 165 |
| 820KD10JX | 50 | 65 | 14.0 | | | | 82(74-90) | 135 |
| 680KD10JX | 40 | 56 | 9.8 | 1000 | 500 | 0.05 | 68(61-75) | *135 |
| 560KD10JX | 35 | 45 | 8.1 | | | | 56(50-62) | *110 |
| 470KD10JX | 30 | 38 | 6.8 | | | | 47(42-52) | *93 |
| 390KD10JX | 25 | 31 | 5.6 | | | | 39(35-43) | *77 |
| 330KD10JX | 20 | 26 | 4.8 | | | | 33(30-36) | *65 |
| 270KD10JX | 17 | 22 | 3.9 | | | | 27(24-30) | *53 |
| 220KD10JX | 14 | 18 | 3.2 | | | | 22(20-24) | *43 |
| 180LD10J X | 11 | 14 | 2.6 | | | | 18(15-21) | *36 |

*680K-180L Max. Clamping Voltage testing current 5A.

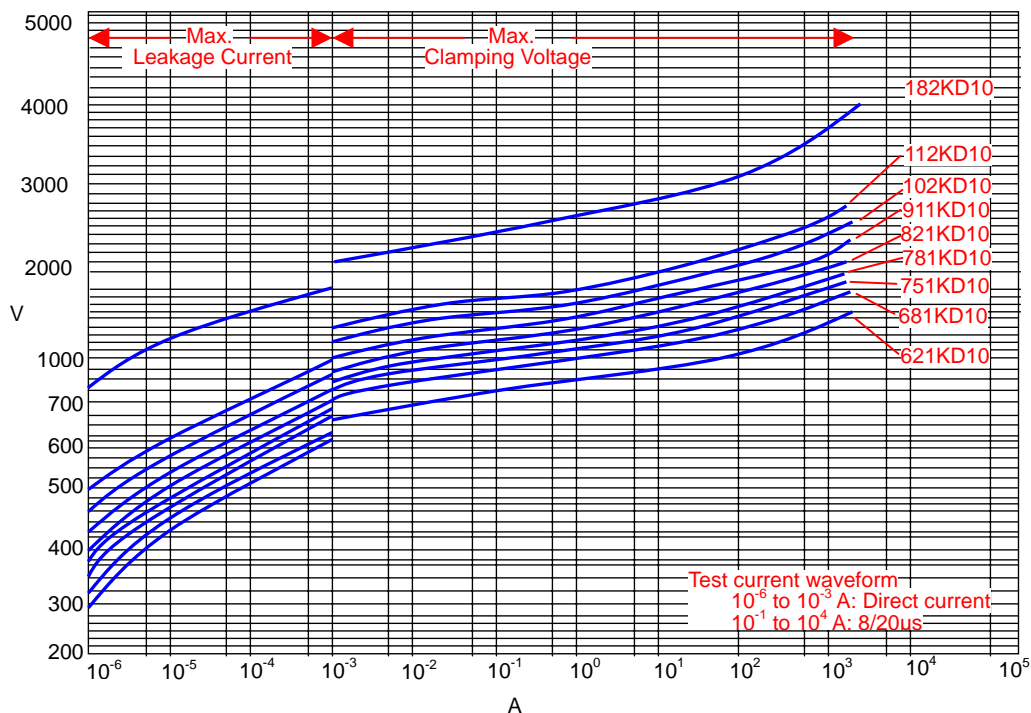
V-I Curve (180L to 680K)



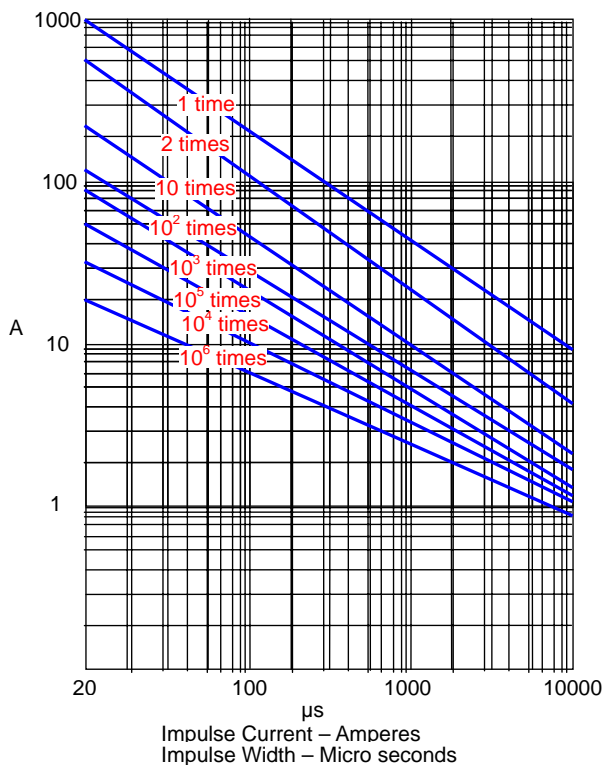
V-I Curve (820K to 561K)



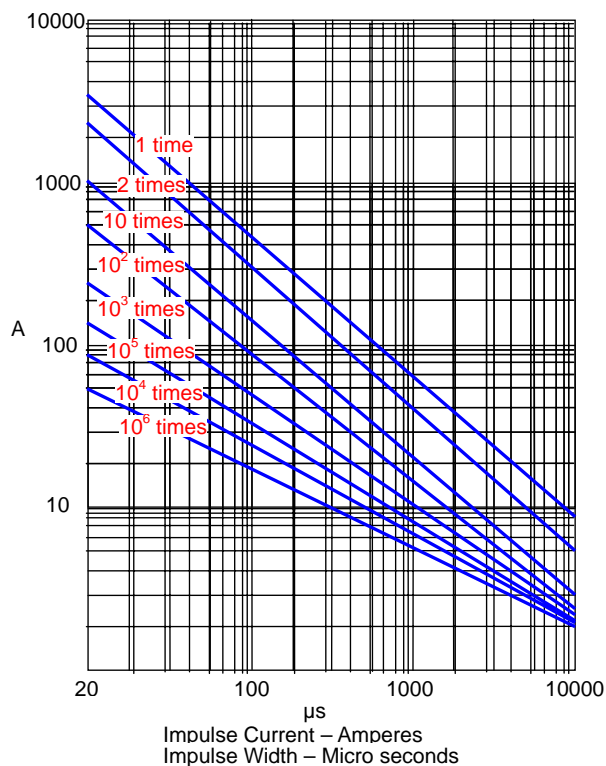
V-I Curve (621K to 182K)



V-I Surge Life Time Ratings
(180L to 680K)



V-I Surge Life Time Ratings
(820K to 182K)



Note 2.

T Thickness (max.)

Unit:mm

| Part Code | D05 | D07 | D10 | D14 | D20 |
|-----------|-----|-----|------|------|------|
| 182K | | | 12.6 | 12.8 | 13.5 |
| 112K | | | 10.5 | 10.7 | 11.2 |
| 102K | | | 9.9 | 10.1 | 10.7 |
| 911K | | | 9.4 | 9.6 | 10.1 |
| 821K | | 8.3 | 8.8 | 9.0 | 9.5 |
| 781K | | 8.1 | 8.6 | 8.8 | 9.3 |
| 751K | 7.9 | 7.9 | 8.4 | 8.6 | 9.1 |
| 681K | 7.5 | 7.5 | 8.0 | 8.2 | 8.7 |
| 621K | 7.2 | 7.2 | 7.6 | 7.8 | 8.3 |
| 561K | 6.9 | 6.9 | 7.3 | 7.5 | 8.0 |
| 511K | 6.6 | 6.6 | 7.0 | 7.2 | 7.7 |
| 471K | 6.4 | 6.4 | 6.8 | 7.0 | 7.5 |
| 431K | 6.1 | 6.1 | 6.5 | 6.7 | 7.2 |
| 391K | 5.3 | 5.3 | 5.7 | 5.9 | 6.4 |
| 361K | 5.1 | 5.1 | 5.5 | 5.7 | 6.2 |
| 331K | 4.9 | 4.9 | 5.3 | 5.5 | 6.0 |
| 301K | 4.8 | 4.8 | 5.2 | 5.4 | 5.9 |
| 271K | 4.6 | 4.6 | 5.0 | 5.2 | 5.7 |
| 241K | 4.4 | 4.4 | 4.8 | 5.0 | 5.5 |
| 221K | 4.3 | 4.3 | 4.7 | 4.9 | 5.4 |
| 201K | 4.2 | 4.2 | 4.6 | 4.8 | 5.3 |
| 181K | 4.1 | 4.1 | 4.5 | 4.7 | 5.2 |
| 151K | 4.5 | 4.5 | 4.9 | 5.1 | 5.6 |
| 121K | 4.1 | 4.1 | 4.5 | 4.6 | 5.3 |
| 101K | 3.9 | 3.9 | 4.4 | 4.5 | 5.1 |
| 820K | 3.8 | 3.8 | 4.3 | 4.4 | 4.9 |
| 680K | 5.5 | 5.5 | 6.0 | 6.1 | 6.1 |
| 560K | 5.0 | 5.0 | 5.5 | 5.6 | 5.6 |
| 470K | 5.0 | 5.0 | 5.5 | 5.6 | 5.6 |
| 390K | 4.7 | 4.7 | 5.1 | 5.2 | 5.4 |
| 330K | 4.7 | 4.7 | 5.1 | 5.2 | 5.4 |
| 270K | 4.7 | 4.7 | 5.1 | 5.2 | 5.4 |
| 220K | 4.5 | 4.5 | 4.9 | 5.0 | 5.3 |
| 180L | 4.5 | 4.5 | 4.9 | 5.0 | 5.2 |

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