

Reverse Stand-Off Voltage :
58 to 430 V

Lightning Surge Protection Axial Lead Transient Voltage Suppressors

Features

- High current transient suppressors.
- Excellent Clamping Capability.
- Glass Passivated chip
- Bi-directional.
- Low Slope Resistance.
- Hazardous Substances Free.
- RoHS Compliant.
- High Temperature soldering: 260°C/10 seconds at terminals
- Epoxy Encapsulated.
- UL certified

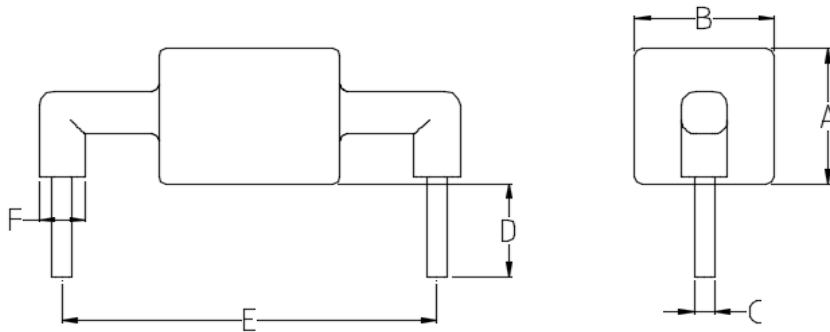


Maximum Ratings And Thermal Characteristics

| Parameter | Symbol | Value | | UNIT |
|--|-----------------------------------|-------------|----|-------|
| Current Rating, Rated IPP measured with 8/20us pulse | I _{pp} | K1 | 1 | Kamps |
| | | KA | 3 | |
| | | KB | 6 | |
| | | KC | 10 | |
| | | KD | 15 | |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | | °C |



Dimensions



| K1 Series | | |
|------------|---------------|-------------|
| Dimensions | Inches | Millimeters |
| A | max 0.571 | max 14.5 |
| B | max 0.500 | max 12.7 |
| C | 0.051 ± 0.004 | 1.30 ± 0.10 |
| D | 0.276 ± 0.019 | 7.00 ± 0.50 |
| E | 0.95 ± 0.028 | 24.15 ± 0.7 |
| F | max 0.158 | max 4 |

| KA Series | | |
|------------|---------------|-------------|
| Dimensions | Inches | Millimeters |
| A | max 0.571 | max 14.5 |
| B | max 0.500 | max 12.7 |
| C | 0.051 ± 0.004 | 1.30 ± 0.10 |
| D | 0.276 ± 0.019 | 7.00 ± 0.50 |
| E | 0.95 ± 0.028 | 24.15 ± 0.7 |
| F | max 0.158 | max 4 |

| KB Series | | |
|------------|---------------|-------------|
| Dimensions | Inches | Millimeters |
| A | max 0.571 | max 14.5 |
| B | max 0.500 | max 12.7 |
| C | 0.051 ± 0.004 | 1.30 ± 0.10 |
| D | 0.276 ± 0.019 | 7.00 ± 0.50 |
| E | 0.95 ± 0.028 | 24.15 ± 0.7 |
| F | max 0.158 | max 4 |

| KC Series | | |
|------------|---------------|-------------|
| Dimensions | Inches | Millimeters |
| A | max 0.630 | max 16 |
| B | max 0.571 | max 14.5 |
| C | 0.051 ± 0.004 | 1.30 ± 0.10 |
| D | 0.276 ± 0.019 | 7.00 ± 0.50 |
| E | 0.95 ± 0.028 | 24.15 ± 0.7 |
| F | max 0.158 | max 4 |

| KD Series | | |
|------------|---------------|-------------|
| Dimensions | Inches | Millimeters |
| A | max 0.685 | max 17.40 |
| B | max 0.626 | max 15.90 |
| C | 0.051 ± 0.004 | 1.30 ± 0.10 |
| D | 0.276 ± 0.019 | 7.00 ± 0.50 |
| E | 0.95 ± 0.028 | 24.15 ± 0.7 |
| F | max 0.158 | max 4 |

Ratings and Characteristics Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

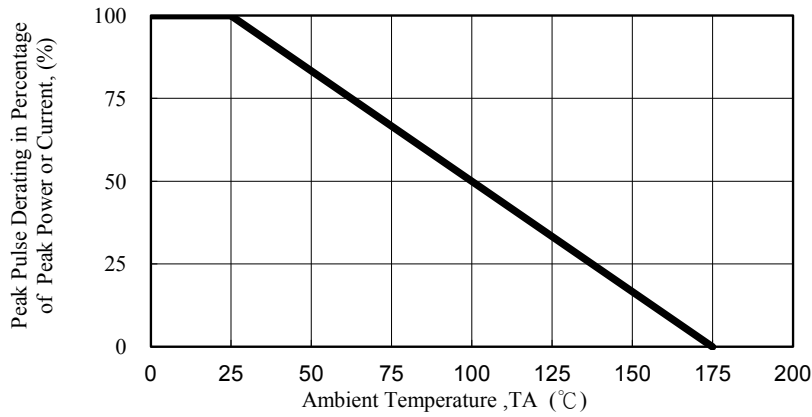


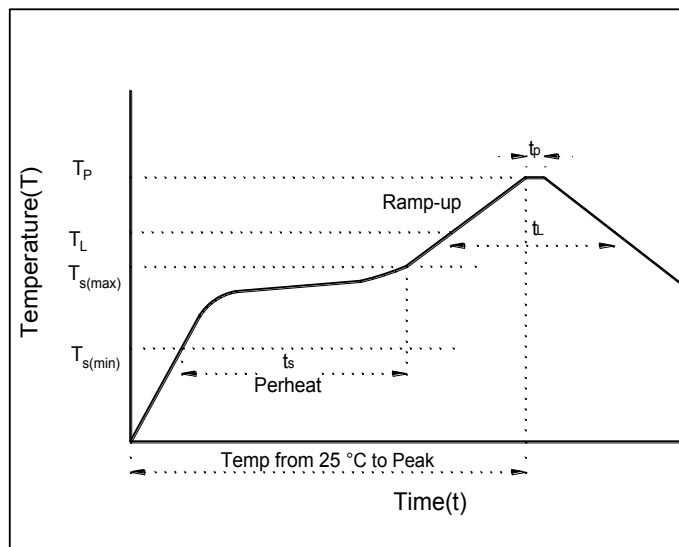
Fig. 1 - Pulse Derating Curve

Soldering Parameters

| IR-Reflow Condition | | | |
|--|------------------|-------------------------------|--------------------|
| Pre Heat | Temp. min | 150 | $^{\circ}\text{C}$ |
| | Temp. max | 200 | $^{\circ}\text{C}$ |
| | Time(min to max) | 60-180 | sec |
| Ramp up rate (150-200 $^{\circ}\text{C}$) | <3 | $^{\circ}\text{C}/\text{sec}$ | |

| | | | |
|--|--------------------|-------------------------------|--------------------|
| Reflow | Liquidus Temp. | >220 | $^{\circ}\text{C}$ |
| | Peak Temp. | 255-260 | $^{\circ}\text{C}$ |
| | Time(Liq. to Peak) | 60-150 | sec |
| Ramp up rate (220-200 $^{\circ}\text{C}$) | <3 | $^{\circ}\text{C}/\text{sec}$ | |
| Time within actual peak temp. | 10-30 | sec | |

| | | |
|---|-----|-------------------------------|
| Ramp down Rate | <5 | $^{\circ}\text{C}/\text{sec}$ |
| Time(25 $^{\circ}\text{C}$ to Peak temp.) | <6 | min |
| Do not exceed | 280 | $^{\circ}\text{C}$ |





Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Part Number | Reverse Stand-Off Voltage | | Breakdown Voltage | Test Current | Current Rating | Maximum Clamping Voltage | Reverse Leakage |
|-------------|---------------------------|--------|-------------------|--------------|----------------------------|--------------------------|-----------------------------|
| | VAC(V) | VDC(V) | VBR(V) MIN.@IT | IT(mA) | 8/20 μs (KA) | VC(V) @IPP | IR(μA) @VDC |
| K1076 | 54 | 76 | 83 | 10 | 1 | 135 | 20 |
| KA012 | 8.5 | 12.8 | 14 | 10 | 3 | 28 | 20 |
| KA015 | 11 | 15 | 17 | 10 | 3 | 30 | 20 |
| KA020 | 14 | 20 | 22 | 10 | 3 | 40 | 20 |
| KA025 | 17 | 25 | 28 | 10 | 3 | 50 | 20 |
| KA030 | 21 | 30 | 33 | 10 | 3 | 90 | 20 |
| KA042 | 30 | 42 | 47 | 10 | 3 | 77 | 20 |
| KA058 | 40 | 58 | 64 | 10 | 3 | 110 | 20 |
| KA066 | 45 | 66 | 70 | 10 | 3 | 125 | 20 |
| KA076 | 54 | 76 | 85 | 10 | 3 | 140 | 20 |
| KA170 | 130 | 170 | 180 | 10 | 3 | 260 | 20 |
| KA380 | 275 | 380 | 401 | 10 | 3 | 520 | 20 |
| KA430 | 310 | 430 | 440 | 10 | 3 | 625 | 20 |
| KB030 | 21 | 30 | 33 | 10 | 6 | 90 | 20 |
| KB058 | 40 | 58 | 64 | 10 | 6 | 110 | 20 |
| KB066 | 45 | 66 | 70 | 10 | 6 | 125 | 20 |
| KB076 | 54 | 76 | 83 | 10 | 6 | 140 | 20 |
| KB170 | 130 | 170 | 180 | 10 | 6 | 260 | 20 |
| KB190 | 145 | 190 | 200 | 10 | 6 | 290 | 20 |
| KB240 | 180 | 240 | 250 | 10 | 6 | 340 | 20 |
| KB380 | 275 | 380 | 401 | 10 | 6 | 520 | 20 |
| KB430 | 310 | 430 | 440 | 10 | 6 | 625 | 20 |
| KC030 | 21 | 30 | 33 | 10 | 10 | 90 | 20 |
| KC058 | 40 | 58 | 64 | 10 | 10 | 110 | 20 |
| KC066 | 45 | 66 | 70 | 10 | 10 | 125 | 20 |
| KC076 | 54 | 76 | 83 | 10 | 10 | 135 | 20 |
| KC170 | 130 | 170 | 180 | 10 | 10 | 260 | 20 |
| KC190 | 145 | 190 | 200 | 10 | 10 | 290 | 20 |
| KC240 | 180 | 240 | 250 | 10 | 10 | 340 | 20 |
| KC380 | 275 | 380 | 401 | 10 | 10 | 520 | 20 |
| KC430 | 310 | 430 | 440 | 10 | 10 | 625 | 20 |
| KD012 | 8.5 | 12.8 | 14 | 10 | 15 | 50 | 20 |
| KD042 | 30 | 42 | 47 | 10 | 15 | 100 | 20 |
| KD058 | 40 | 58 | 64 | 10 | 15 | 110 | 20 |
| KD076 | 54 | 76 | 85 | 10 | 6 | 150 | 20 |

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