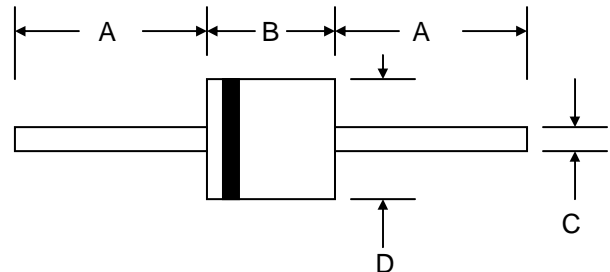


Features

- Glass Passivated Die Construction
- 5000W Peak Pulse Power Dissipation
- 120V – 200V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



Mechanical Data

- Case: P-600, Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band Except Bi-Directional
- Marking: Type Number
- Weight: 2.10 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 5**

| P-600 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 25.4 | — |
| B | 8.60 | 9.10 |
| C | 1.20 | 1.30 |
| D | 8.60 | 9.10 |
| All Dimensions in mm | | |

“C” Suffix Designates Bi-directional Devices
 “A” Suffix Designates 5% Tolerance Devices
 No Suffix Designates 10% Tolerance Devices

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|-----------------|--------------|--------------------|
| Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ (Note 1, 2, 5) Figure 3 | PPPM | 5000 Minimum | W |
| Peak Forward Surge Current (Note 3) | IFSM | 600 | A |
| Peak Pulse Current on 10/1000 μs Waveform (Note 1) Figure 1 | IPPM | See Table 1 | A |
| Steady State Power Dissipation (Note 2, 4) | PM(AV) | 8.0 | W |
| Typical Thermal Resistance, Junction to Lead (Note 6) | $R_{\theta JL}$ | 15 | $^\circ\text{C/W}$ |
| Typical Thermal Resistance, Junction to Ambient (Note 6) | $R_{\theta JA}$ | 65 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -55 to +175 | $^\circ\text{C}$ |

- Note: 1. Non-repetitive current pulse per Figure 1 and derated above $T_A = 25^\circ\text{C}$ per Figure 4.
 2. Mounted on 20mm² copper pad.
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.
 4. Lead temperature at 75°C.
 5. Peak pulse power waveform is 10/1000 μs .
 6. Measured at lead length 3/8" (9.5mm) from body.

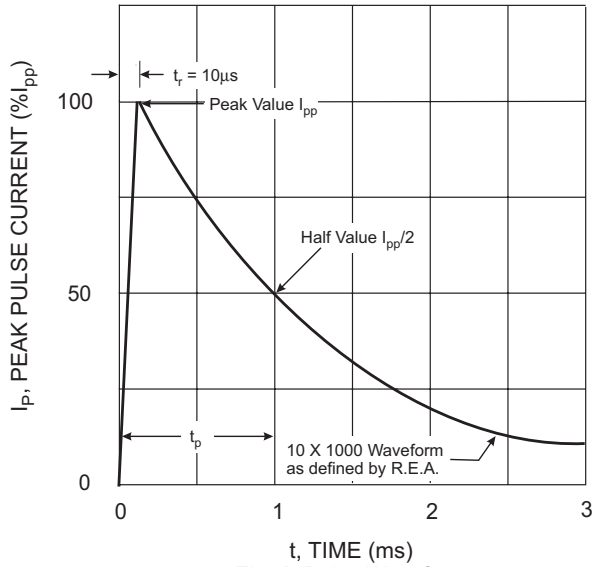


Fig. 1 Pulse Waveform

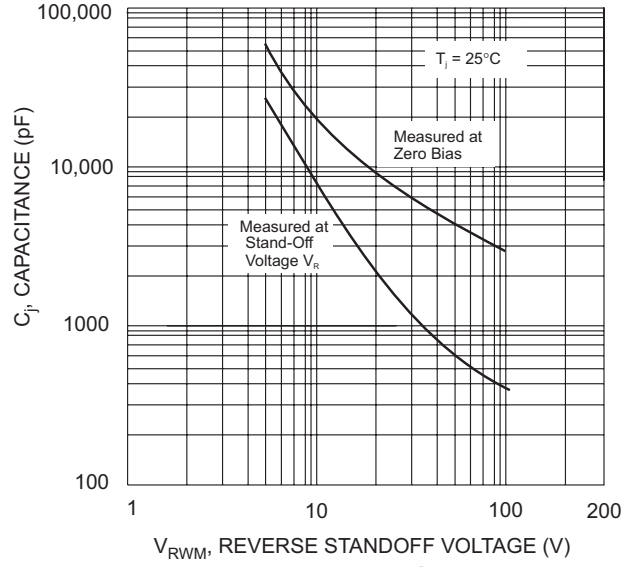


Fig. 2 Typical Junction Capacitance

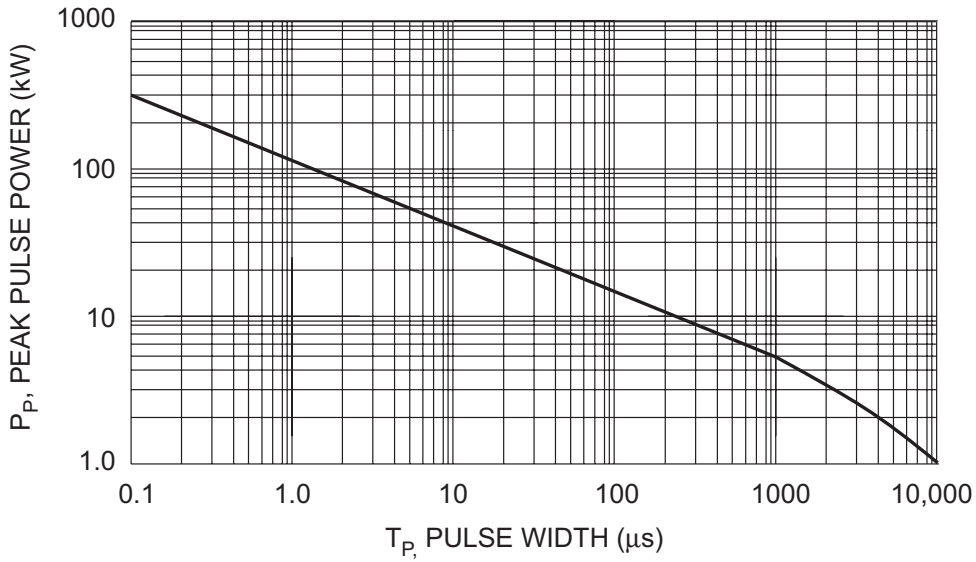


Fig. 3 Pulse Derating Curve

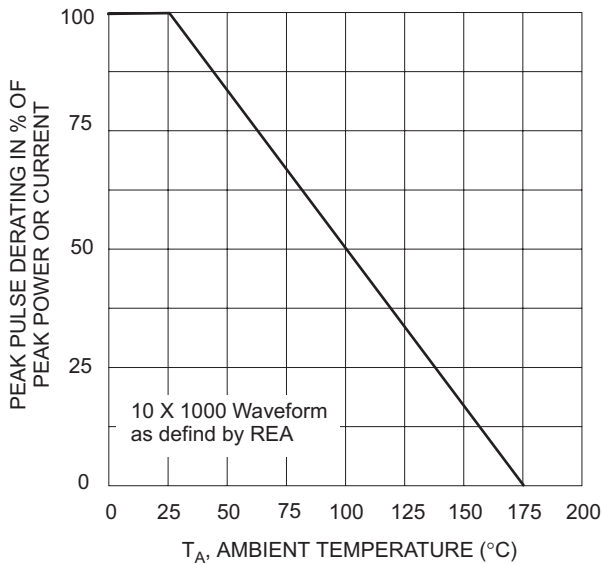


Fig. 4 Pulse Derating Curve

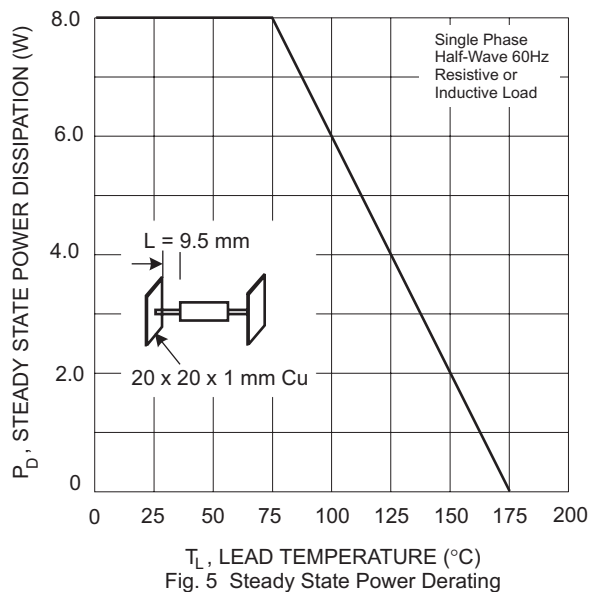


Fig. 5 Steady State Power Derating

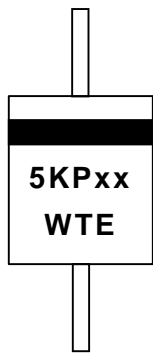
UNI-DIRECTIONAL 5000 WATT AXIAL LEAD TVS

| UNI-DIRECTIONAL PART NUMBER | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V) | PEAK PULSE CURRENT Ipp (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|-----------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--------------------------------------|----------------------------|-------------------------------|
| 5KP120 | 120.00 | 133.00 | 169.00 | 5 | 214.0 | 23 | 10 |
| 5KP120A | 120.00 | 133.00 | 153.00 | 5 | 193.0 | 20 | 10 |
| 5KP130 | 130.00 | 144.00 | 182.50 | 5 | 231.0 | 22 | 10 |
| 5KP130A | 130.00 | 144.00 | 165.50 | 5 | 209.0 | 24 | 10 |
| 5KP150 | 150.00 | 167.00 | 211.50 | 5 | 268.0 | 19 | 10 |
| 5KP150A | 150.00 | 167.00 | 192.50 | 5 | 243.0 | 21 | 10 |
| 5KP160 | 160.00 | 178.00 | 226.00 | 5 | 287.0 | 17 | 10 |
| 5KP160A | 160.00 | 178.00 | 205.00 | 5 | 259.0 | 19 | 10 |
| 5KP170 | 170.00 | 189.00 | 239.50 | 5 | 304.0 | 16 | 10 |
| 5KP170A | 170.00 | 189.00 | 217.50 | 5 | 275.0 | 18 | 10 |
| 5KP180 | 180.00 | 198.00 | 253.80 | 1 | 322.0 | 16 | 5 |
| 5KP180A | 180.00 | 198.00 | 230.40 | 1 | 292.0 | 17 | 5 |
| 5KP190 | 190.00 | 209.00 | 267.90 | 1 | 340.0 | 15 | 5 |
| 5KP190A | 190.00 | 209.00 | 243.20 | 1 | 308.0 | 16 | 5 |
| 5KP200 | 200.00 | 220.00 | 282.00 | 1 | 358.0 | 14 | 5 |
| 5KP200A | 200.00 | 220.00 | 256.00 | 1 | 324.0 | 15 | 5 |

BI-DIRECTIONAL 5000 WATT AXIAL LEAD TVS

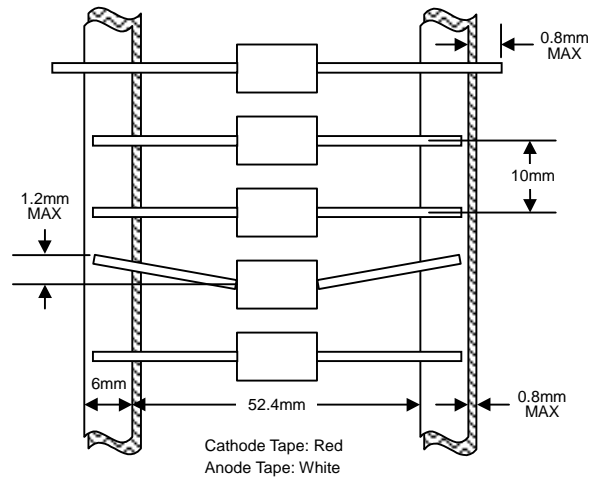
| BI-DIRECTIONAL PART NUMBER | REVERSE STAND-OFF VOLTAGE VRWM (V) | BREAKDOWN VOLTAGE VBR (V) MIN. @IT | BREAKDOWN VOLTAGE VBR (V) MAX. @IT | TEST CURRENT IT (mA) | MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V) | PEAK PULSE CURRENT Ipp (A) | REVERSE LEAKAGE @VRWM IR (uA) |
|----------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------|--------------------------------------|----------------------------|-------------------------------|
| 5KP120C | 120.00 | 133.00 | 169.00 | 5 | 214.0 | 23 | 10 |
| 5KP120CA | 120.00 | 133.00 | 153.00 | 5 | 193.0 | 20 | 10 |
| 5KP130C | 130.00 | 144.00 | 182.50 | 5 | 231.0 | 22 | 10 |
| 5KP130CA | 130.00 | 144.00 | 165.50 | 5 | 209.0 | 24 | 10 |
| 5KP150C | 150.00 | 167.00 | 211.50 | 5 | 268.0 | 19 | 10 |
| 5KP150CA | 150.00 | 167.00 | 192.50 | 5 | 243.0 | 21 | 10 |
| 5KP160C | 160.00 | 178.00 | 226.00 | 5 | 287.0 | 17 | 10 |
| 5KP160CA | 160.00 | 178.00 | 205.00 | 5 | 259.0 | 19 | 10 |
| 5KP170C | 170.00 | 189.00 | 239.50 | 5 | 304.0 | 16 | 10 |
| 5KP170CA | 170.00 | 189.00 | 217.50 | 5 | 275.0 | 18 | 10 |
| 5KP180C | 180.00 | 198.00 | 253.80 | 1 | 322.0 | 16 | 5 |
| 5KP180CA | 180.00 | 198.00 | 230.40 | 1 | 292.0 | 17 | 5 |
| 5KP190C | 190.00 | 209.00 | 267.90 | 1 | 340.0 | 15 | 5 |
| 5KP190CA | 190.00 | 209.00 | 243.20 | 1 | 308.0 | 16 | 5 |
| 5KP200C | 200.00 | 220.00 | 282.00 | 1 | 358.0 | 14 | 5 |
| 5KP200CA | 200.00 | 220.00 | 256.00 | 1 | 324.0 | 15 | 5 |

MARKING INFORMATION



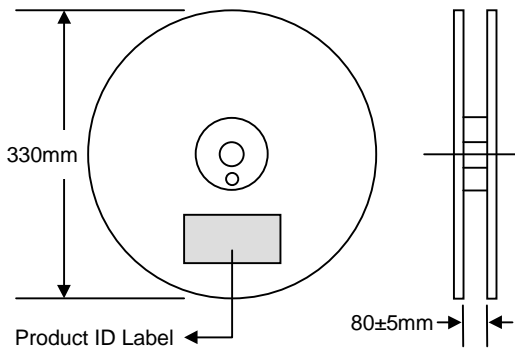
Cathode = Polarity Band Except Bi-Directional Types
 5KPxx = Device Number
 WTE = Manufacturer's Logo

TAPING SPECIFICATIONS

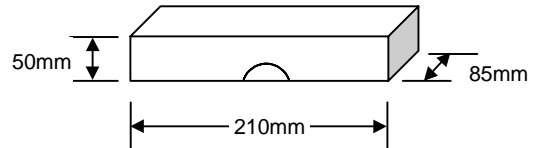


PACKAGING INFORMATION

TAPE & REEL



BULK



| Packaging | Reel Diameter / Box Size (mm) | Quantity (PCS) | Carton Size (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|------------------------|-------------------------------|----------------|------------------|----------------|---------------------------|
| TAPE & REEL | 330 | 800 | 370 x 370 x 420 | 4,000 | 12.0 |
| BULK | 210 x 85 x 50 | 250 | 500 x 255 x 275 | 7,000 | 17.0 |

Note: 1. Paper reel, white or gray color. Core material: plastic or metal.
 2. Components are packed in accordance with EIA standard RS-296-E.

ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-----------------|--------------|-------------------|
| 5KPxx-T3 | P-600 | 800/Tape & Reel |
| 5KPxx | P-600 | 250 Units/Box |

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version, add "-LF" suffix to part number above. For example, 5KP120-T3-LF.**

Won-Top Electronics Co., Ltd (WTE) has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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