

VOLTAGE RANGE: 6.8 - 440V

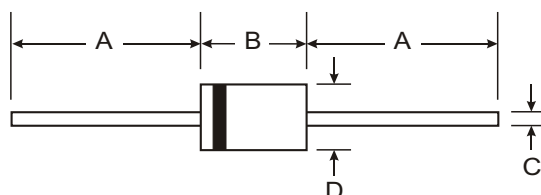
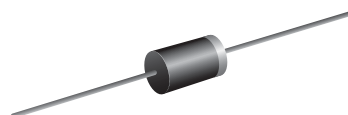
POWER: 400Watts

Features

- 400W Peak Pulse Power Dissipation
- Voltage Range 6.8V - 400V
- Constructed with Glass Passivated Die
- Uni and Bidirectional Versions Available
- Excellent Clamping Capability
- Fast Response Time

Mechanical Data

- Case: DO-41
- Leads: Plated Leads, Solderable per MIL-STD-202, Method 208
- Marking: Unidirectional - Type Number and Cathode Band
- Marking: Bidirectional - Type Number Only
- Mounting Position: Any
- Weight : 0.339 gram



| DO-41 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 25.40 | — |
| B | 4.06 | 5.21 |
| C | 0.71 | 0.864 |
| D | 2.00 | 2.72 |
| All Dimensions in mm | | |

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

| Characteristic | Symbol | Value | Unit |
|--|----------------|---|------------------|
| Peak Power Dissipation, $T_p = 1.0$ ms (Non repetitive current pulse, per Figure 1 and derated above $T_A = 25^\circ\text{C}$ per Figure 4) | P_{pk} | 400 | W |
| Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 9.5 mm per Figure 5 (Mounted on Copper Land Area of 40mm^2) | P_d | 1.0 | W |
| Peak Forward Surge Current, 8.3 ms Single Half Sine Wave, Superimposed on Rated Load (JEDEC Method) Duty Cycle = 4 pulses per minute maximum) | I_{FSM} | 40 | A |
| Forward Voltage @ $I_F = 20\text{A}$ 300 μs Square Wave Pulse, Unidirectional Only | V_F | $V_{BR} \leq 200\text{V}$ 3.5 $V_{BR} > 200\text{V}$ 6.5 | V |
| Operating and Storage Temperature Range | T_j, T_{STG} | -55 to +175 | $^\circ\text{C}$ |

| TYPE | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current | Reverse Leakage @V _{RWM} |
|----------|-----------|---------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (UNI) | (BI) | V _{RWM} (V) | V _{BR} MIN(V) | V _{BR} MAX(V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (uA) |
| P4KE6.8A | P4KE6.8CA | 5.80 | 6.45 | 7.14 | 10.0 | 10.5 | 40.0 | 1000.0 |
| P4KE7.5A | P4KE7.5CA | 6.40 | 7.13 | 7.88 | 10.0 | 11.3 | 37.0 | 500.0 |
| P4KE8.2A | P4KE8.2CA | 7.02 | 7.79 | 8.61 | 10.0 | 12.1 | 35.0 | 200.0 |
| P4KE9.1A | P4KE9.1CA | 7.78 | 8.65 | 9.55 | 1.0 | 13.4 | 31.0 | 50.0 |
| P4KE10A | P4KE10CA | 8.55 | 9.50 | 10.5 | 1.0 | 14.5 | 29.0 | 10.0 |
| P4KE11A | P4KE11CA | 9.40 | 10.5 | 11.6 | 1.0 | 15.6 | 27.0 | 5.0 |
| P4KE12A | P4KE12CA | 10.2 | 11.4 | 12.6 | 1.0 | 16.7 | 25.0 | 5.0 |
| P4KE13A | P4KE13CA | 11.1 | 12.4 | 13.7 | 1.0 | 18.2 | 23.0 | 5.0 |
| P4KE15A | P4KE15CA | 12.8 | 14.3 | 15.8 | 1.0 | 21.2 | 20.0 | 5.0 |
| P4KE16A | P4KE16CA | 13.6 | 15.2 | 16.8 | 1.0 | 22.5 | 19.0 | 5.0 |
| P4KE18A | P4KE18CA | 15.3 | 17.1 | 18.9 | 1.0 | 25.2 | 17.0 | 5.0 |
| P4KE20A | P4KE20CA | 17.1 | 19.0 | 21.0 | 1.0 | 27.7 | 15.0 | 5.0 |
| P4KE22A | P4KE22CA | 18.8 | 20.9 | 23.1 | 1.0 | 30.6 | 14.0 | 5.0 |
| P4KE24A | P4KE24CA | 20.5 | 22.8 | 25.2 | 1.0 | 33.2 | 13.0 | 5.0 |
| P4KE27A | P4KE27CA | 23.1 | 25.7 | 28.4 | 1.0 | 37.5 | 11.2 | 5.0 |
| P4KE30A | P4KE30CA | 25.6 | 28.5 | 31.5 | 1.0 | 41.4 | 10.0 | 5.0 |
| P4KE33A | P4KE33CA | 28.2 | 31.4 | 34.7 | 1.0 | 45.7 | 9.0 | 5.0 |
| P4KE36A | P4KE36CA | 30.8 | 34.2 | 37.8 | 1.0 | 49.9 | 8.4 | 5.0 |
| P4KE39A | P4KE39CA | 33.3 | 37.1 | 41.0 | 1.0 | 53.9 | 7.8 | 5.0 |
| P4KE43A | P4KE43CA | 36.8 | 40.9 | 45.2 | 1.0 | 59.3 | 7.1 | 5.0 |
| P4KE47A | P4KE47CA | 40.2 | 44.7 | 49.4 | 1.0 | 64.8 | 5.0 | 5.0 |
| P4KE51A | P4KE51CA | 43.6 | 48.5 | 53.6 | 1.0 | 70.1 | 6.0 | 5.0 |
| P4KE56A | P4KE56CA | 47.8 | 53.2 | 58.8 | 1.0 | 77.0 | 5.5 | 5.0 |
| P4KE62A | P4KE62CA | 53.0 | 58.9 | 65.1 | 1.0 | 85.0 | 5.0 | 5.0 |
| P4KE68A | P4KE68CA | 58.1 | 64.6 | 71.4 | 1.0 | 92.0 | 4.6 | 5.0 |
| P4KE75A | P4KE75CA | 64.1 | 71.3 | 78.8 | 1.0 | 103 | 4.1 | 5.0 |
| P4KE82A | P4KE82CA | 70.1 | 77.9 | 86.1 | 1.0 | 113 | 3.7 | 5.0 |
| P4KE91A | P4KE91CA | 77.8 | 86.5 | 95.5 | 1.0 | 125 | 3.4 | 5.0 |
| P4KE100A | P4KE100CA | 85.5 | 95.0 | 105 | 1.0 | 137 | 3.1 | 5.0 |
| P4KE110A | P4KE110CA | 94.0 | 105 | 116 | 1.0 | 152 | 2.8 | 5.0 |
| P4KE120A | P4KE120CA | 102 | 114 | 126 | 1.0 | 165 | 2.5 | 5.0 |

| TYPE | | Reverse Stand- Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current | Reverse Leakage @V _{RWM} |
|----------|-----------|----------------------------|--|---|---------------------|---|---------------------|-----------------------------------|
| (UNI) | (BI) | V _{RWM} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | V _C (V) | I _{PP} (A) | I _R (uA) |
| P4KE130A | P4KE130CA | 111 | 124 | 137 | 1.0 | 179 | 2.3 | 5.0 |
| P4KE150A | P4KE150CA | 128 | 143 | 158 | 1.0 | 207 | 2.0 | 5.0 |
| P4KE160A | P4KE160CA | 136 | 152 | 168 | 1.0 | 219 | 1.9 | 5.0 |
| P4KE170A | P4KE170CA | 145 | 162 | 179 | 1.0 | 234 | 1.8 | 5.0 |
| P4KE180A | P4KE180CA | 154 | 171 | 189 | 1.0 | 246 | 1.7 | 5.0 |
| P4KE200A | P4KE200CA | 171 | 190 | 210 | 1.0 | 274 | 1.53 | 5.0 |
| P4KE220A | P4KE220CA | 185 | 209 | 231 | 1.0 | 328 | 1.22 | 5.0 |
| P4KE250A | P4KE250CA | 214 | 237 | 263 | 1.0 | 344 | 1.16 | 5.0 |
| P4KE300A | P4KE300CA | 256 | 285 | 315 | 1.0 | 414 | 0.97 | 5.0 |
| P4KE350A | P4KE350CA | 300 | 333 | 368 | 1.0 | 482 | 0.83 | 5.0 |
| P4KE400A | P4KE400CA | 342 | 380 | 420 | 1.0 | 548 | 0.73 | 5.0 |
| P4KE440A | P4KE440CA | 376 | 418 | 462 | 1.0 | 602 | 0.65 | 5.0 |

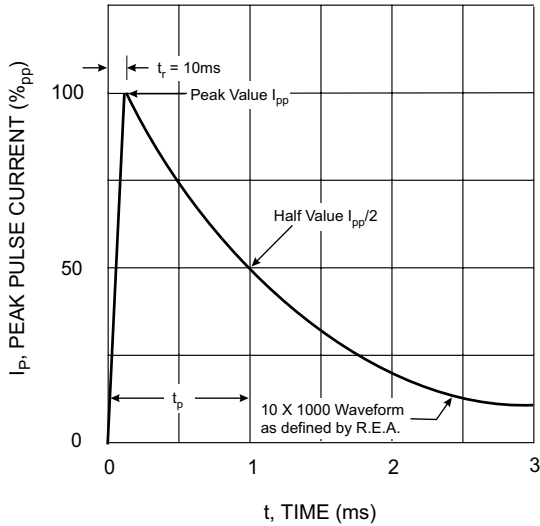


Fig. 1 Pulse Waveform

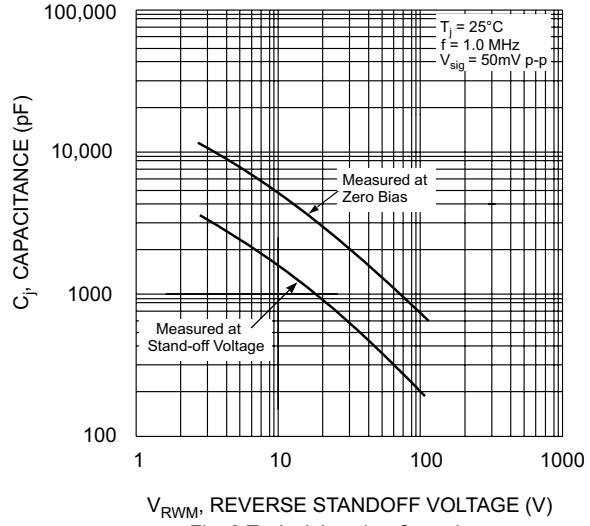


Fig. 2 Typical Junction Capacitance

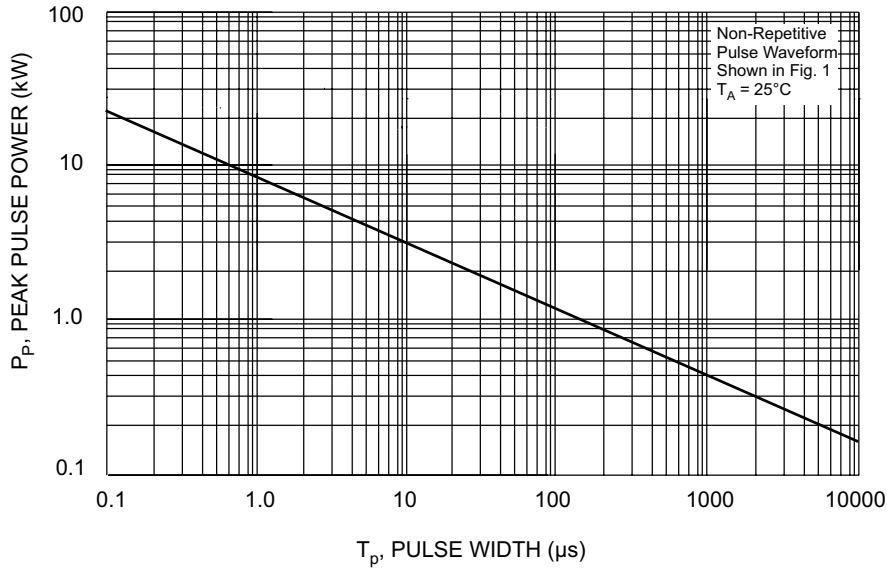


Fig. 3 Pulse Rating Curve

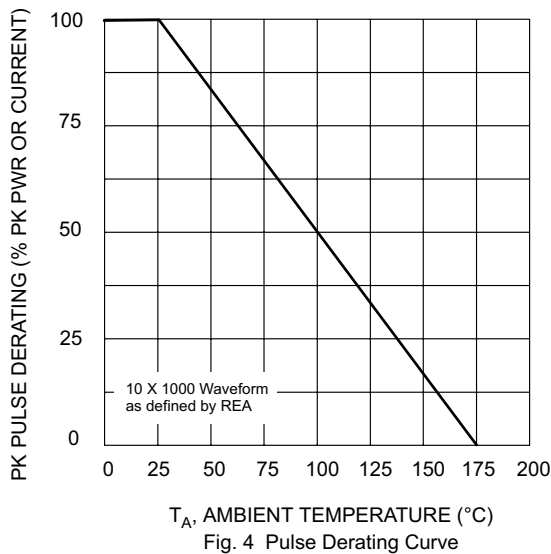


Fig. 4 Pulse Derating Curve

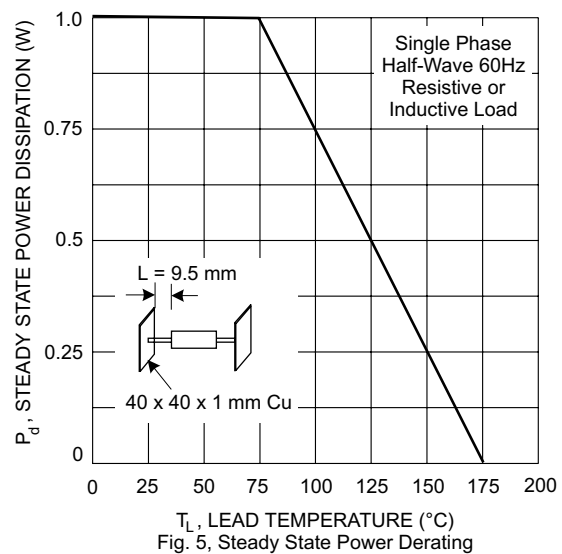


Fig. 5, Steady State Power Derating

- Notes:
1. Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device, no suffix denotes 10% tolerance device.
 2. For bidirectional devices having V_R of 10 volts and under, the I_R limit is doubled.
 3. Type Number marking may contain a "V" or dash in place of decimal point.