

50KP SERIES

V_{WM} : 36 - 400 Volts

P_{PK} : 50,000 Watts

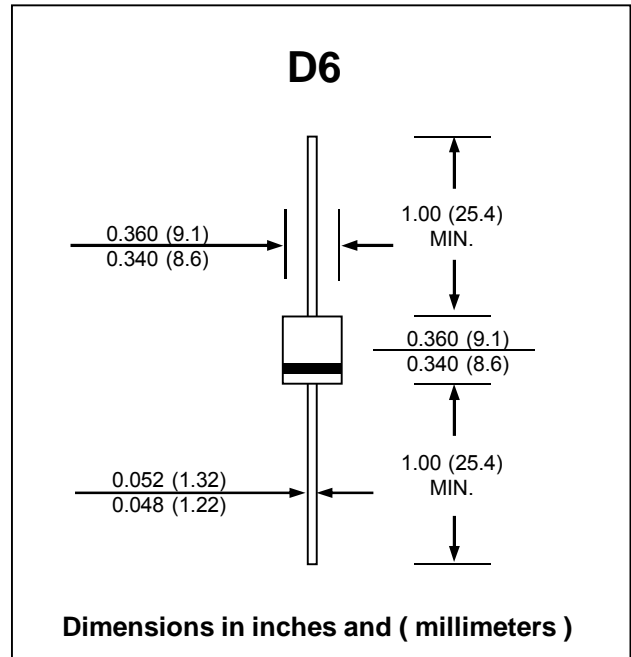
FEATURES :

- * Glass passivated junction chip
- * Excellent Clamping Capability
- * Fast Response Time
- * Low Leakage Current
- * **Pb / RoHS Free**

MECHANICAL DATA

- * Case : Void-free molded plastic body
- * Epoxy : UL94V-0 rate flame retardant
- * Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- * Polarity : Color band denotes cathode end except Bipolar.
- * Mounting position : Any
- * Weight : 2.1 grams

TRANSIENT VOLTAGE SUPPRESSORS



MAXIMUM RATINGS (T_a = 25 °C)

| Rating | Symbol | Value | Unit |
|---|-----------------------------------|---------------|------|
| Peak Pulse Power Dissipation (10 x 1000μs, see Fig.2) | P _{PK} | 50,000 | W |
| Steady State Power Dissipation | P _D | 8 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Uni-directional devices only) | I _{FSM} | 300 | A |
| Operating and Storage Temperature Range | T _J , T _{STG} | - 55 to + 175 | °C |

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| Part Number <small>(Uni-directional)</small> | Part Number <small>(Bi-directional)</small> | Reverse Stand Off Voltage | Breakdown Voltage @ I_{BR} | | | Maximum Reverse Leakage @ V_{WM} | Maximum Clamping Voltage @ I_{PP} | Maximum Peak Pulse Current |
|---|--|---------------------------|------------------------------|------|----------|------------------------------------|-------------------------------------|----------------------------|
| | | V_{WM} | V_{BR} (V) | | I_{BR} | I_D | V_C | I_{PP} |
| | | (V) | Min. | Max. | (mA) | (μ A) | (V) | (A) |
| 50KP36 | 50KP36C | 36 | 40.0 | 48.9 | 50 | 10000 | 68.2 | 733 |
| 50KP36A | 50KP36CA | 36 | 40.0 | 44.2 | 50 | 10000 | 61.8 | 809 |
| 50KP40 | 50KP40C | 40 | 44.4 | 54.3 | 20 | 10000 | 75.8 | 659 |
| 50KP40A | 50KP40CA | 40 | 44.4 | 49.1 | 20 | 10000 | 68.6 | 728 |
| 50KP43 | 50KP43C | 43 | 47.8 | 58.4 | 10 | 10000 | 79.0 | 632 |
| 50KP43A | 50KP43CA | 43 | 47.8 | 52.8 | 10 | 10000 | 71.0 | 704 |
| 50KP45 | 50KP45C | 45 | 50.0 | 61.1 | 5 | 8000 | 80.7 | 619 |
| 50KP45A | 50KP45CA | 45 | 50.0 | 55.3 | 5 | 8000 | 73.0 | 684 |
| 50KP48 | 50KP48C | 48 | 53.3 | 65.1 | 5 | 8000 | 85.9 | 582 |
| 50KP48A | 50KP48CA | 48 | 53.3 | 58.9 | 5 | 8000 | 77.7 | 643 |
| 50KP51 | 50KP51C | 51 | 56.7 | 69.3 | 5 | 5000 | 91.5 | 546 |
| 50KP51A | 50KP51CA | 51 | 56.7 | 62.7 | 5 | 5000 | 82.8 | 603 |
| 50KP54 | 50KP54C | 54 | 60.0 | 73.3 | 5 | 5000 | 96.8 | 516 |
| 50KP54A | 50KP54CA | 54 | 60.0 | 66.3 | 5 | 5000 | 87.5 | 571 |
| 50KP58 | 50KP58C | 58 | 64.4 | 78.7 | 5 | 1500 | 104 | 480 |
| 50KP58A | 50KP58CA | 58 | 64.4 | 71.2 | 5 | 1500 | 94 | 531 |
| 50KP60 | 50KP60C | 60 | 66.7 | 81.5 | 5 | 500 | 107 | 467 |
| 50KP60A | 50KP60CA | 60 | 66.7 | 73.7 | 5 | 500 | 97.3 | 513 |
| 50KP64 | 50KP64C | 64 | 71.1 | 86.9 | 5 | 150 | 115 | 434 |
| 50KP64A | 50KP64CA | 64 | 71.1 | 78.6 | 5 | 150 | 104 | 480 |
| 50KP70 | 50KP70C | 70 | 77.8 | 95.1 | 5 | 150 | 126 | 396 |
| 50KP70A | 50KP70CA | 70 | 77.8 | 86.0 | 5 | 150 | 114 | 438 |
| 50KP75 | 50KP75C | 75 | 83.3 | 102 | 5 | 50 | 135 | 370 |
| 50KP75A | 50KP75CA | 75 | 83.3 | 92.1 | 5 | 50 | 122 | 409 |
| 50KP78 | 50KP78C | 78 | 86.7 | 106 | 5 | 25 | 140 | 357 |
| 50KP78A | 50KP78CA | 78 | 86.7 | 95.8 | 5 | 25 | 126 | 396 |
| 50KP85 | 50KP85C | 85 | 94.4 | 115 | 5 | 15 | 152 | 328 |
| 50KP85A | 50KP85CA | 85 | 94.4 | 104 | 5 | 15 | 137 | 364 |
| 50KP90 | 50KP90C | 90 | 100 | 122 | 5 | 15 | 160 | 312 |
| 50KP90A | 50KP90CA | 90 | 100 | 111 | 5 | 15 | 146 | 342 |
| 50KP100 | 50KP100C | 100 | 111 | 136 | 5 | 10 | 179 | 279 |
| 50KP100A | 50KP100CA | 100 | 111 | 123 | 5 | 10 | 162 | 308 |
| 50KP110 | 50KP110C | 110 | 122 | 149 | 5 | 10 | 196 | 255 |
| 50KP110A | 50KP110CA | 110 | 122 | 135 | 5 | 10 | 178 | 280 |
| 50KP120 | 50KP120C | 120 | 133 | 163 | 5 | 10 | 214 | 233 |
| 50KP120A | 50KP120CA | 120 | 133 | 147 | 5 | 10 | 193 | 259 |
| 50KP130 | 50KP130C | 130 | 144 | 176 | 5 | 10 | 231 | 216 |
| 50KP130A | 50KP130CA | 130 | 144 | 159 | 5 | 10 | 209 | 239 |
| 50KP150 | 50KP150C | 150 | 167 | 204 | 5 | 10 | 268 | 186 |
| 50KP150A | 50KP150CA | 150 | 167 | 185 | 5 | 10 | 243 | 205 |
| 50KP160 | 50KP160C | 160 | 178 | 218 | 5 | 10 | 287 | 174 |
| 50KP160A | 50KP160CA | 160 | 178 | 197 | 5 | 10 | 259 | 193 |
| 50KP170 | 50KP170C | 170 | 189 | 231 | 5 | 10 | 304 | 164 |
| 50KP170A | 50KP170CA | 170 | 189 | 209 | 5 | 10 | 275 | 181 |

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

| Part Number (Uni-directional) | Part Number (Bi-directional) | Reverse Stand Off Voltage | Breakdown Voltage @ $I_{(BR)}$ | | | Maximum Reverse Leakage @ V_{WM} | Maximum Clamping Voltage @ I_{PP} | Maximum Peak Pulse Current |
|----------------------------------|---------------------------------|---------------------------|--------------------------------|------|------------|------------------------------------|-------------------------------------|----------------------------|
| | | V_{WM} | V_{BR} (V) | | $I_{(BR)}$ | I_D | V_C | I_{PP} |
| | | (V) | Min. | Max. | (mA) | (μ A) | (V) | (A) |
| 50KP180 | 50KP180C | 180 | 200 | 244 | 5 | 10 | 321 | 155 |
| 50KP180A | 50KP180CA | 180 | 200 | 221 | 5 | 10 | 291 | 171 |
| 50KP200 | 50KP200C | 200 | 222 | 271 | 5 | 10 | 356 | 140 |
| 50KP200A | 50KP200CA | 200 | 222 | 245 | 5 | 10 | 322 | 155 |
| 50KP220 | 50KP220C | 220 | 245 | 299 | 5 | 10 | 393 | 127 |
| 50KP220A | 50KP220CA | 220 | 245 | 271 | 5 | 10 | 356 | 140 |
| 50KP250A | 50KP250CA | 250 | 278 | 308 | 5 | 10 | 403 | 124 |
| 50KP260A | 50KP260CA | 260 | 289 | 320 | 5 | 10 | 419 | 119 |
| 50KP280A | 50KP280CA | 280 | 311 | 345 | 5 | 10 | 451 | 110 |
| 50KP300A | 50KP300CA | 300 | 333 | 369 | 5 | 10 | 483 | 103 |
| 50KP320A | 50KP320CA | 320 | 355 | 409 | 5 | 10 | 515 | 97 |
| 50KP350A | 50KP350CA | 350 | 389 | 431 | 5 | 10 | 564 | 88 |
| 50KP400A | 50KP400CA | 400 | 444 | 492 | 5 | 10 | 644 | 77 |

Note: (1) For bidirectional type having V_{WM} of 60 volts and less, the I_D limit is double.

Fig. 1 - Pulse Derating Curve

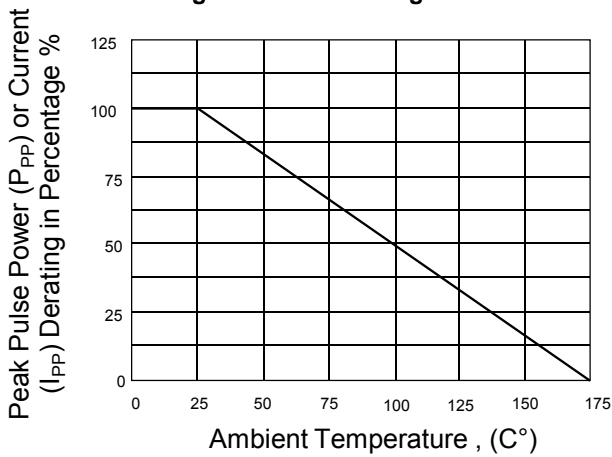


Fig. 2 - Pulse Wave Form

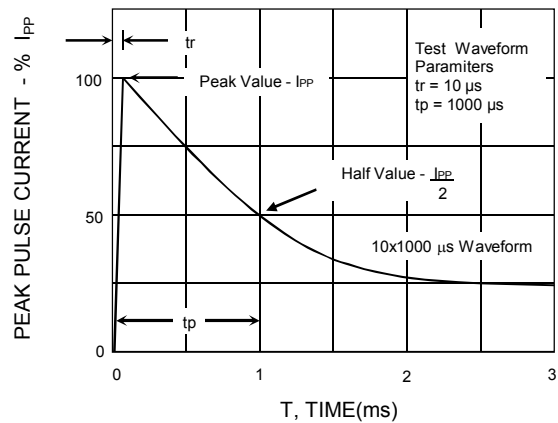


Fig. 3 - Peak Pulse Power vs. Pulse Time

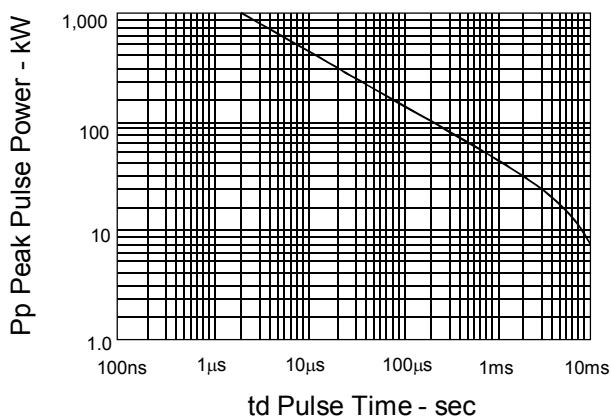


Fig. 4 - Typical Capacitance vs. Breakdown Voltage

