

30KP SERIES

V_R : 26 - 400 Volts

P_{PK} : 30,000 Watts

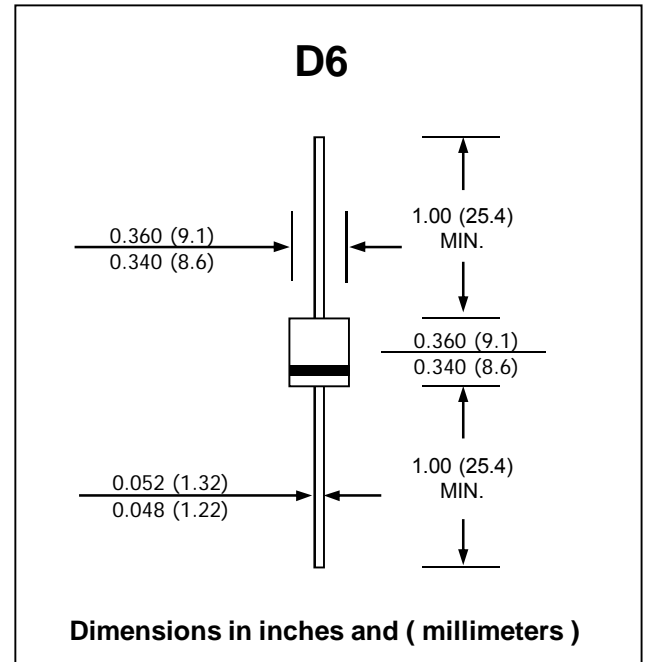
FEATURES :

- * 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 SUPPRESSOR



MAXIMUM RATINGS (T_a = 25 °C)

| Rating | Symbol | Value | Unit |
|--|-----------------------------------|---------------|------|
| Peak Pulse Power Dissipation (10 x 1000μs, see Fig.2) | P _{PK} | 30,000 | W |
| Steady State Power Dissipation | P _D | 7 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Uni-directional devices only) | I _{FSM} | 250 | A |
| Operating and Storage Temperature Range | T _J , T _{STG} | - 55 to + 175 | °C |

Fig. 1 - Pulse Derating Curve

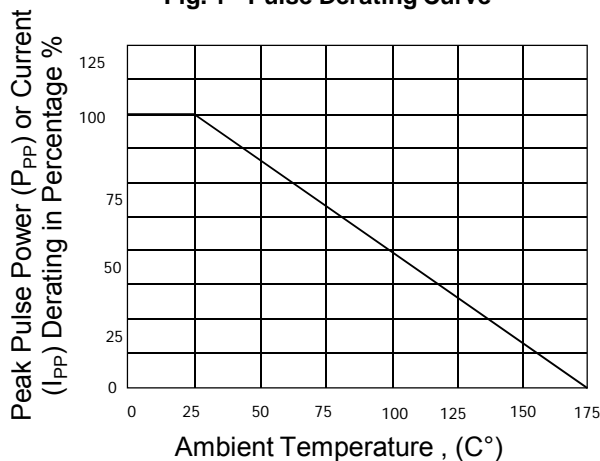
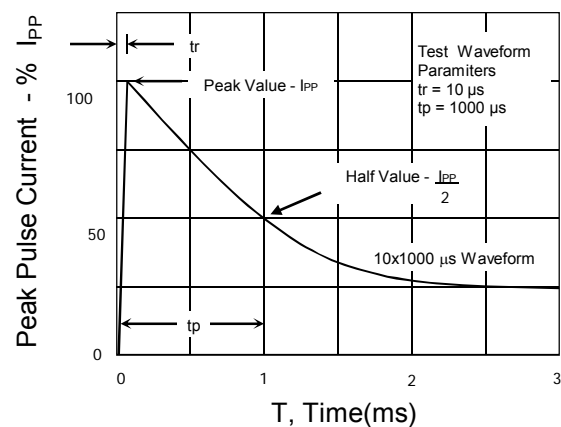


Fig. 2 - Pulse Wave Form



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 | Maximum $V_{(BR)}$ Temperature Coefficient | |
|----------------------------------|---------------------------------|---------------------------|--------------------------------|--------------|------|------------------------------------|-------------------------------------|----------------------------|--|--------------------|
| | | | V_{WM} (V) | V_{BR} (V) | | | | | | $I_{(BR)}$ (mA) |
| | | | | Min. | Max. | | | | | |
| 30KP26 | 30KP26C | 26 | 28.9 | 35.3 | 50 | 10000 | 48.7 | 616 | 32 | |
| 30KP26A | 30KP26CA | 26 | 28.9 | 31.9 | 50 | 10000 | 44.0 | 682 | 29 | |
| 30KP28 | 30KP28C | 28 | 31.1 | 38.0 | 50 | 8000 | 52.4 | 572 | 35 | |
| 30KP28A | 30KP28CA | 28 | 31.1 | 34.4 | 50 | 8000 | 47.5 | 632 | 31 | |
| 30KP30 | 30KP30C | 30 | 33.3 | 40.7 | 50 | 8000 | 56.2 | 534 | 37 | |
| 30KP30A | 30KP30CA | 30 | 33.3 | 36.9 | 50 | 8000 | 50.7 | 592 | 33 | |
| 30KP33 | 30KP33C | 33 | 36.7 | 44.9 | 50 | 5000 | 64.6 | 496 | 42 | |
| 30KP33A | 30KP33CA | 33 | 36.7 | 40.6 | 50 | 5000 | 58.6 | 548 | 38 | |
| 30KP36 | 30KP36C | 36 | 40.0 | 48.9 | 50 | 5000 | 68.2 | 454 | 46 | |
| 30KP36A | 30KP36CA | 36 | 40.0 | 44.2 | 50 | 5000 | 61.8 | 502 | 41 | |
| 30KP40 | 30KP40C | 40 | 44.4 | 54.3 | 20 | 1500 | 75.8 | 412 | 51 | |
| 30KP40A | 30KP40CA | 40 | 44.4 | 49.1 | 20 | 1500 | 68.6 | 456 | 46 | |
| 30KP43 | 30KP43C | 43 | 47.8 | 58.4 | 10 | 500 | 79.0 | 380 | 55 | |
| 30KP43A | 30KP43CA | 43 | 47.8 | 52.8 | 10 | 500 | 71.0 | 430 | 50 | |
| 30KP45 | 30KP45C | 45 | 50.0 | 61.1 | 5 | 150 | 80.7 | 372 | 57 | |
| 30KP45A | 30KP45CA | 45 | 50.0 | 55.3 | 5 | 150 | 73.0 | 410 | 52 | |
| 30KP48 | 30KP48C | 48 | 53.3 | 65.1 | 5 | 150 | 85.9 | 350 | 62 | |
| 30KP48A | 30KP48CA | 48 | 53.3 | 58.9 | 5 | 150 | 77.7 | 386 | 56 | |
| 30KP51 | 30KP51C | 51 | 56.7 | 69.3 | 5 | 50 | 91.5 | 328 | 66 | |
| 30KP51A | 30KP51CA | 51 | 56.7 | 62.7 | 5 | 50 | 82.8 | 362 | 60 | |
| 30KP54 | 30KP54C | 54 | 60.0 | 73.3 | 5 | 25 | 96.8 | 310 | 70 | |
| 30KP54A | 30KP54CA | 54 | 60.0 | 66.3 | 5 | 25 | 87.5 | 342 | 63 | |
| 30KP58 | 30KP58C | 58 | 64.4 | 78.7 | 5 | 15 | 104 | 288 | 76 | |
| 30KP58A | 30KP58CA | 58 | 64.4 | 71.2 | 5 | 15 | 94 | 320 | 68 | |
| 30KP60 | 30KP60C | 60 | 66.7 | 81.5 | 5 | 15 | 107 | 280 | 78 | |
| 30KP60A | 30KP60CA | 60 | 66.7 | 73.7 | 5 | 15 | 97.3 | 304 | 71 | |
| 30KP64 | 30KP64C | 64 | 71.1 | 86.9 | 5 | 10 | 115 | 260 | 84 | |
| 30KP64A | 30KP64CA | 64 | 71.1 | 78.6 | 5 | 10 | 104 | 288 | 76 | |
| 30KP70 | 30KP70C | 70 | 77.8 | 95.1 | 5 | 10 | 126 | 238 | 92 | |
| 30KP70A | 30KP70CA | 70 | 77.8 | 86.0 | 5 | 10 | 114 | 264 | 83 | |
| 30KP75 | 30KP75C | 75 | 83.3 | 102 | 5 | 10 | 135 | 222 | 100 | |
| 30KP75A | 30KP75CA | 75 | 83.3 | 92.1 | 5 | 10 | 122 | 246 | 89 | |
| 30KP78 | 30KP78C | 78 | 86.7 | 106 | 5 | 10 | 140 | 214 | 104 | |
| 30KP78A | 30KP78CA | 78 | 86.7 | 95.8 | 5 | 10 | 126 | 238 | 93 | |
| 30KP85 | 30KP85C | 85 | 94.4 | 115 | 5 | 10 | 152 | 198 | 113 | |
| 30KP85A | 30KP85CA | 85 | 94.4 | 104 | 5 | 10 | 137 | 218 | 102 | |
| 30KP90 | 30KP90C | 90 | 100 | 122 | 5 | 10 | 160 | 188 | 120 | |
| 30KP90A | 30KP90CA | 90 | 100 | 111 | 5 | 10 | 146 | 206 | 109 | |
| 30KP100 | 30KP100C | 100 | 111 | 136 | 5 | 10 | 179 | 168 | 134 | |
| 30KP100A | 30KP100CA | 100 | 111 | 123 | 5 | 10 | 162 | 186 | 121 | |
| 30KP110 | 30KP110C | 110 | 122 | 149 | 5 | 10 | 196 | 154 | 147 | |
| 30KP110A | 30KP110CA | 110 | 122 | 135 | 5 | 10 | 178 | 168 | 133 | |
| 30KP120 | 30KP120C | 120 | 133 | 163 | 5 | 10 | 214 | 140 | 161 | |
| 30KP120A | 30KP120CA | 120 | 133 | 147 | 5 | 10 | 193 | 156 | 145 | |

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 | Maximum $V_{(BR)}$ Temperature Coefficient | |
|----------------------------------|---------------------------------|---------------------------|--------------------------------|--------------|------|------------------------------------|-------------------------------------|----------------------------|--|--------------------|
| | | | V_{WM} (V) | V_{BR} (V) | | | | | | $I_{(BR)}$ (mA) |
| | | | | Min. | Max. | | | | | |
| 30KP130 | 30KP130C | 130 | 144 | 176 | 5 | 10 | 231 | 130 | 174 | |
| 30KP130A | 30KP130CA | 130 | 144 | 159 | 5 | 10 | 209 | 142 | 157 | |
| 30KP150 | 30KP150C | 150 | 167 | 204 | 5 | 10 | 268 | 112 | 202 | |
| 30KP150A | 30KP150CA | 150 | 167 | 185 | 5 | 10 | 243 | 124 | 183 | |
| 30KP160 | 30KP160C | 160 | 178 | 218 | 5 | 10 | 287 | 104 | 216 | |
| 30KP160A | 30KP160CA | 160 | 178 | 197 | 5 | 10 | 259 | 116 | 195 | |
| 30KP170 | 30KP170C | 170 | 189 | 231 | 5 | 10 | 304 | 98 | 229 | |
| 30KP170A | 30KP170CA | 170 | 189 | 209 | 5 | 10 | 275 | 110 | 207 | |
| 30KP180 | 30KP180C | 180 | 200 | 244 | 5 | 10 | 321 | 94 | 242 | |
| 30KP180A | 30KP180CA | 180 | 200 | 221 | 5 | 10 | 291 | 104 | 219 | |
| 30KP200 | 30KP200C | 200 | 222 | 271 | 5 | 10 | 356 | 84 | 269 | |
| 30KP200A | 30KP200CA | 200 | 222 | 245 | 5 | 10 | 322 | 94 | 243 | |
| 30KP220 | 30KP220C | 220 | 245 | 299 | 5 | 10 | 393 | 76 | 297 | |
| 30KP220A | 30KP220CA | 220 | 245 | 271 | 5 | 10 | 356 | 84 | 269 | |
| 30KP250 | 30KP250C | 250 | 278 | 339 | 5 | 10 | 441 | 68 | 334 | |
| 30KP250A | 30KP250CA | 250 | 278 | 308 | 5 | 10 | 403 | 74 | 306 | |
| 30KP260 | 30KP260C | 260 | 289 | 353 | 5 | 10 | 460 | 65 | 346 | |
| 30KP260A | 30KP260CA | 260 | 289 | 320 | 5 | 10 | 419 | 71 | 318 | |
| 30KP280 | 30KP280C | 280 | 311 | 379 | 5 | 10 | 498 | 60 | 372 | |
| 30KP280A | 30KP280CA | 280 | 311 | 345 | 5 | 10 | 451 | 66 | 344 | |
| 30KP300 | 30KP300C | 300 | 333 | 406 | 5 | 10 | 535 | 56 | 396 | |
| 30KP300A | 30KP300CA | 300 | 333 | 369 | 5 | 10 | 483 | 62 | 368 | |
| 30KP320 | 30KP320C | 320 | 356 | 434 | 5 | 10 | 588 | 51 | 398 | |
| 30KP320A | 30KP320CA | 320 | 356 | 392 | 5 | 10 | 530 | 57 | 370 | |
| 30KP350 | 30KP350C | 350 | 389 | 475 | 5 | 10 | 637 | 47 | 458 | |
| 30KP350A | 30KP350CA | 350 | 389 | 431 | 5 | 10 | 564 | 53 | 430 | |
| 30KP360 | 30KP360C | 360 | 400 | 488 | 5 | 10 | 635 | 47 | 408 | |
| 30KP360A | 30KP360CA | 360 | 400 | 436 | 5 | 10 | 567 | 53 | 380 | |
| 30KP400 | 30KP400C | 400 | 444 | 542 | 5 | 10 | 730 | 41 | 518 | |
| 30KP400A | 30KP400CA | 400 | 444 | 492 | 5 | 10 | 644 | 46 | 490 | |

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

Fig. 3 - Peak Pulse Power vs. Pulse Time

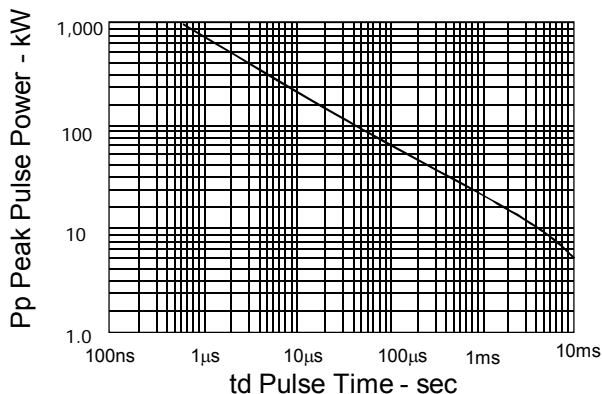


Fig. 4 - Typical Capacitance vs. Breakdown Voltage

