



Micro Commercial Components
 21201 Itasca Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

P6KE6.8 THRU P6KE440A

**600WATTS TRANSIENT
 VOLTAGE SUPPRESSOR
 6.8 TO 440 VOLTS**

Features

- Economical series
- Available in both unidirectional and bidirectional construction
- 6.8 to 440 stand-off volts available
- 600 watts peak pulse power dissipation

Mechanical Characteristics

- **CASE:** Void free transfer molded thermosetting plastic
- **FINISH:** Silver plated copper readily solderable.
- **POLARITY:** Banded denotes cathode. Bidirectional not marked.
- **WEIGHT:** 0.7 Gram(Appx.).
- **MOUNTING POSITION:** Any.

Maximum Ratings

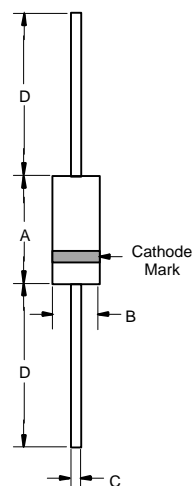
Peak Pulse Power Dissipation at 25°C: 600Watts
 Steady State Power Dissipation: 5 Watts at $T_L = +75^\circ\text{C}$
 3/8" Lead Length
 t_{clamping} (0 Volts to BV Min.):
 Unidirectional $< 1 \times 10^{-12}$ Seconds; Bidirectional $< 5 \times 10^{-9}$ Seconds
 Operating and Storage Temperature: -55°C to $+150^\circ\text{C}$

APPLICATION

This TVS is an economical, molded, commercial product voltage-sensitive components from destruction or partial degradation. The response time of their clamping action is virtually instantaneous (1×10^{-12} seconds) and they have a peak pulse power rating of 600 watts for 1 ms as depicted in Figure 1 and 2. MCC also offers various varieties of TVS to meet higher and lower power demands and special applications.

NOTES: Forward Voltage (Vf) @ 150 amps peak, 8.3 msec sine wave equal to 3.5 volts max. (For unidirectional only)
 For Bidirectional Construction, indicate a C or CA suffix after part number, i.e. P6KE440CA.
 Capacitance will be 1/2 that shown in Figure 4.

DO-15



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .230 | .300 | 5.80 | 7.60 | |
| B | .104 | .140 | 2.60 | 3.60 | |
| C | .028 | .034 | .70 | .90 | |
| D | 1.000 | --- | 25.40 | --- | |

Figure 1



Figure 2 - Pulse Waveform

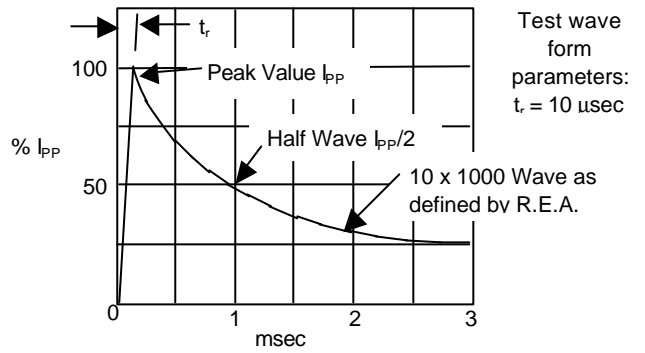


Figure 3 - Typical Capacitance

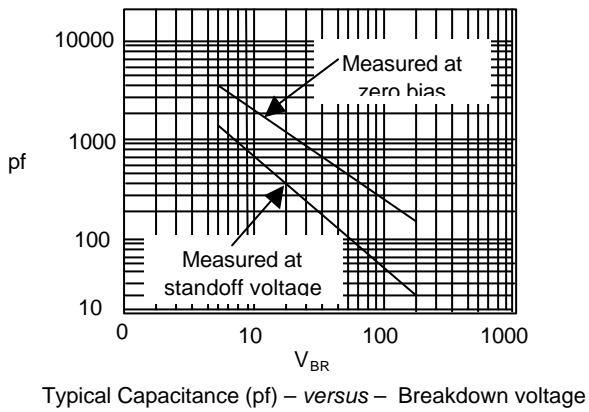
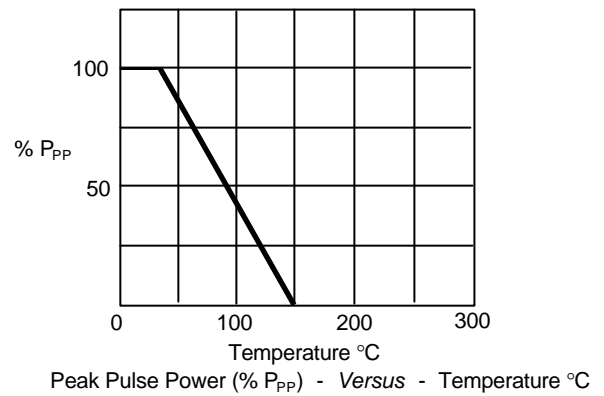


Figure 4 - Derating Curve



P6KE6.8 thru P6KE440A



| MCC PART NUMBER | BREAKDOWN VOLTAGE V_{BR} @ I_T | | | TEST CURRENT I_T | RATED STANDOFF VOLTAGE V_{WM} | MAXIMUM REVERSE LEAKAGE I_D @ V_{WM} | MAXIMUM CLAMPING VOLTAGE V_C @ I_{PP} | MAXIMUM PEAK PULSE CURRENT I_{PP} | MAX. TEMP COEFFICIENT OF V_{BR} V_{BR} (TA) -55°C TO 100°C %/°C |
|--------------------|--|-----|------|--------------------------|--|---|--|---|--|
| | (VOLTS) | | | | | | | | |
| | MIN | NOM | MAX | mADC | V | (μ A) | V | A | |
| P6KE6.8 | 6.12 | 6.8 | 7.48 | 10 | 5.5 | 1000 | 10.8 | 56 | .057 |
| P6KE6.8A | 6.45 | 6.8 | 7.14 | 10 | 5.8 | 1000 | 10.5 | 57 | .057 |
| P6KE7.5 | 6.75 | 7.5 | 8.25 | 10 | 6.05 | 500 | 11.7 | 51 | .061 |
| P6KE7.5A | 7.13 | 7.5 | 7.88 | 10 | 6.4 | 500 | 11.3 | 53 | .061 |
| P6KE8.2 | 7.38 | 8.2 | 9.02 | 10 | 6.63 | 200 | 12.5 | 48 | .065 |
| P6KE8.2A | 7.79 | 8.2 | 8.61 | 10 | 7.02 | 200 | 12.1 | 50 | .065 |
| P6KE9.1 | 8.19 | 9.1 | 10 | 1 | 7.37 | 50 | 13.8 | 44 | .068 |
| P6KE9.1A | 8.65 | 9.1 | 9.55 | 1 | 7.78 | 50 | 13.4 | 45 | .068 |
| P6KE10 | 9.0 | 10 | 11 | 1 | 8.1 | 10 | 15 | 40 | .073 |
| P6KE10A | 9.5 | 10 | 10.5 | 1 | 8.55 | 10 | 14.5 | 41 | .073 |
| P6KE11 | 9.9 | 11 | 12.1 | 1 | 8.92 | 5 | 16.2 | 37 | .075 |
| P6KE11A | 10.5 | 11 | 11.6 | 1 | 9.4 | 5 | 15.6 | 38 | .075 |
| P6KE12 | 10.8 | 12 | 13.2 | 1 | 9.72 | 5 | 17.3 | 35 | .078 |
| P6KE12A | 11.4 | 12 | 12.6 | 1 | 10.2 | 5 | 16.7 | 36 | .078 |
| P6KE13 | 11.7 | 13 | 14.3 | 1 | 10.5 | 5 | 19 | 32 | .081 |
| P6KE13A | 12.4 | 13 | 13.7 | 1 | 11.1 | 5 | 18.2 | 33 | .081 |
| P6KE15 | 13.5 | 15 | 16.5 | 1 | 12.1 | 5 | 22 | 27 | .084 |
| P6KE15A | 14.3 | 15 | 15.8 | 1 | 12.8 | 5 | 21.2 | 28 | .084 |
| P6KE16 | 14.4 | 16 | 17.6 | 1 | 12.9 | 5 | 23.5 | 26 | .086 |
| P6KE16A | 15.2 | 16 | 16.8 | 1 | 13.6 | 5 | 22.5 | 27 | .086 |
| P6KE18 | 16.2 | 18 | 19.8 | 1 | 14.5 | 5 | 26.5 | 23 | .088 |
| P6KE18A | 17.1 | 18 | 18.9 | 1 | 15.3 | 5 | 25.2 | 24 | .088 |
| P6KE20 | 18 | 20 | 22 | 1 | 16.2 | 5 | 29.1 | 21 | .090 |
| P6KE20A | 19 | 20 | 21 | 1 | 17.1 | 5 | 27.7 | 22 | .090 |
| P6KE22 | 19.8 | 22 | 24.2 | 1 | 17.8 | 5 | 31.9 | 19 | .092 |
| P6KE22A | 20.9 | 22 | 23.1 | 1 | 18.8 | 5 | 30.6 | 20 | .092 |
| P6KE24 | 21.6 | 24 | 26.4 | 1 | 19.4 | 5 | 34.7 | 17 | .094 |
| P6KE24A | 22.8 | 24 | 25.2 | 1 | 20.5 | 5 | 33.2 | 18 | .094 |
| P6KE27 | 24.3 | 27 | 29.7 | 1 | 21.8 | 5 | 39.1 | 15 | .096 |
| P6KE27A | 25.7 | 27 | 28.4 | 1 | 23.1 | 5 | 37.5 | 16 | .096 |
| P6KE30 | 27 | 30 | 33 | 1 | 24.3 | 5 | 43.5 | 14 | .097 |
| P6KE30A | 28.5 | 30 | 31.5 | 1 | 25.6 | 5 | 41.4 | 14.4 | .097 |
| P6KE33 | 29.7 | 33 | 36.3 | 1 | 26.8 | 5 | 47.7 | 12.6 | .098 |
| P6KE33A | 31.4 | 33 | 34.7 | 1 | 28.2 | 5 | 45.7 | 13.2 | .098 |
| P6KE36 | 32.4 | 36 | 39.6 | 1 | 29.1 | 5 | 52 | 11.6 | .099 |
| P6KE36A | 34.2 | 36 | 37.8 | 1 | 30.8 | 5 | 49.9 | 12 | .099 |
| P6KE39 | 35.1 | 39 | 42.9 | 1 | 31.6 | 5 | 56.4 | 10.6 | .100 |
| P6KE39A | 37.1 | 39 | 41 | 1 | 33.3 | 5 | 53.9 | 11.2 | .100 |
| P6KE43 | 38.7 | 43 | 47.3 | 1 | 34.8 | 5 | 61.9 | 9.6 | .101 |
| P6KE43A | 40.9 | 43 | 45.2 | 1 | 36.8 | 5 | 59.3 | 10.1 | .101 |
| P6KE47 | 42.3 | 47 | 51.7 | 1 | 38.1 | 5 | 67.8 | 8.9 | .101 |
| P6KE47A | 44.7 | 47 | 49.4 | 1 | 40.2 | 5 | 64.8 | 9.3 | .101 |
| P6KE51 | 45.9 | 51 | 56.1 | 1 | 41.3 | 5 | 73.5 | 8.2 | .102 |
| P6KE51A | 48.5 | 51 | 53.6 | 1 | 43.6 | 5 | 70.1 | 8.6 | .102 |
| P6KE56 | 50.4 | 56 | 61.6 | 1 | 45.4 | 5 | 80.5 | 7.4 | .103 |
| P6KE56A | 53.2 | 56 | 58.8 | 1 | 47.8 | 5 | 77 | 7.8 | .103 |
| P6KE62 | 55.8 | 62 | 68.2 | 1 | 50.2 | 5 | 89 | 6.8 | .104 |
| P6KE62A | 58.9 | 62 | 65.1 | 1 | 53 | 5 | 85 | 7.1 | .104 |
| P6KE68 | 61.2 | 68 | 74.8 | 1 | 55.1 | 5 | 98 | 6.1 | .104 |
| P6KE68A | 64.6 | 68 | 71.4 | 1 | 58.1 | 5 | 92 | 6.5 | .104 |

P6KE6.8 thru P6KE440A



| MCC PART NUMBER | BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ | | | TEST CURRENT I_T | RATED STANDOFF VOLTAGE V_{WM} | MAXIMUM REVERSE LEAKAGE $I_D @ V_{WM}$ | MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ | MAXIMUM PEAK PULSE CURRENT I_{PP} | MAX. TEMP COEFFICIENT OF V_{BR} $V_{(BR)} (TA)$ -55°C TO 100°C %/°C |
|--------------------|--|-----|------|--------------------------|--|---|--|---|--|
| | MIN | NOM | MAX | | | | | | |
| P6KE75 | 67.5 | 75 | 82.5 | 1 | 60.7 | 5 | 108 | 5.5 | .105 |
| P6KE75A | 71.3 | 75 | 78.8 | 1 | 64.1 | 5 | 103 | 5.8 | .105 |
| P6KE82 | 73.8 | 82 | 90.2 | 1 | 66.4 | 5 | 118 | 5.1 | .105 |
| P6KE82A | 77.9 | 82 | 86.1 | 1 | 70.1 | 5 | 113 | 5.3 | .105 |
| P6KE91 | 81.9 | 91 | 100 | 1 | 73.7 | 5 | 131 | 4.5 | .106 |
| P6KE91A | 86.5 | 91 | 95.5 | 1 | 77.8 | 5 | 125 | 4.8 | .106 |
| P6KE100 | 90 | 100 | 110 | 1 | 81 | 5 | 144 | 4.2 | .106 |
| P6KE100A | 95 | 100 | 105 | 1 | 85.5 | 5 | 137 | 4.4 | .106 |
| P6KE110 | 99 | 110 | 121 | 1 | 89.2 | 5 | 158 | 3.8 | .107 |
| P6KE110A | 105 | 110 | 116 | 1 | 94 | 5 | 152 | 4.0 | .107 |
| P6KE120 | 108 | 120 | 132 | 1 | 97.2 | 5 | 173 | 3.5 | .107 |
| P6KE120A | 114 | 120 | 126 | 1 | 102 | 5 | 165 | 3.6 | .107 |
| P6KE130 | 117 | 130 | 143 | 1 | 105 | 5 | 187 | 3.2 | .108 |
| P6KE130A | 124 | 130 | 137 | 1 | 111 | 5 | 179 | 3.3 | .108 |
| P6KE150 | 135 | 150 | 165 | 1 | 121 | 5 | 215 | 2.8 | .108 |
| P6KE150A | 143 | 150 | 158 | 1 | 128 | 5 | 207 | 2.9 | .108 |
| P6KE160 | 144 | 160 | 176 | 1 | 130 | 5 | 230 | 2.6 | .108 |
| P6KE160A | 152 | 160 | 168 | 1 | 136 | 5 | 219 | 2.7 | .108 |
| P6KE170 | 153 | 170 | 187 | 1 | 138 | 5 | 244 | 2.5 | .108 |
| P6KE170A | 161 | 170 | 179 | 1 | 145 | 5 | 234 | 2.6 | .108 |
| P6KE180 | 162 | 180 | 198 | 1 | 146 | 5 | 258 | 2.3 | .108 |
| P6KE180A | 171 | 180 | 189 | 1 | 154 | 5 | 246 | 2.4 | .108 |
| P6KE200 | 180 | 200 | 220 | 1 | 162 | 5 | 287 | 2.1 | .108 |
| P6KE200A | 190 | 200 | 210 | 1 | 171 | 5 | 274 | 2.2 | .108 |
| P6KE220 | 198 | 220 | 242 | 1 | 175 | 5 | 344 | 1.8 | .108 |
| P6KE220A | 209 | 220 | 231 | 1 | 185 | 5 | 328 | 1.9 | .108 |
| P6KE250 | 225 | 250 | 275 | 1 | 202 | 5 | 360 | 1.7 | .110 |
| P6KE250A | 237 | 250 | 263 | 1 | 214 | 5 | 344 | 1.8 | .110 |
| P6KE300 | 270 | 300 | 330 | 1 | 243 | 5 | 430 | 1.4 | .110 |
| P6KE300A | 285 | 300 | 315 | 1 | 256 | 5 | 414 | 1.5 | .110 |
| P6KE350 | 315 | 350 | 385 | 1 | 284 | 5 | 504 | 1.2 | .110 |
| P6KE350A | 332 | 350 | 368 | 1 | 300 | 5 | 482 | 1.3 | .110 |
| P6KE400 | 360 | 400 | 440 | 1 | 324 | 5 | 574 | 1.05 | .110 |
| P6KE400A | 380 | 400 | 420 | 1 | 342 | 5 | 548 | 1.1 | .110 |
| P6KE440 | 396 | 440 | 484 | 1 | 356 | 5 | 631 | 0.99 | .110 |
| P6KE440A | 418 | 440 | 462 | 1 | 376 | 5 | 600 | 1.04 | .110 |