

P6KE6.8 THRU P6KE540(C)A

**600WATTS TRANSIENT
VOLTAGE SUPPRESSOR
6.8 TO 540 VOLTS**

Features

- Economical series
- Available in both unidirectional and bidirectional construction and suffix "C" designates bidirectional type
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- 600 watts peak pulse power dissipation and 5.8~459V V_{WM}
- UL Recognized File # E222849

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- **POLARITY:** Banded denotes cathode. Bidirectional not marked.
- **WEIGHT:** 0.4 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.):

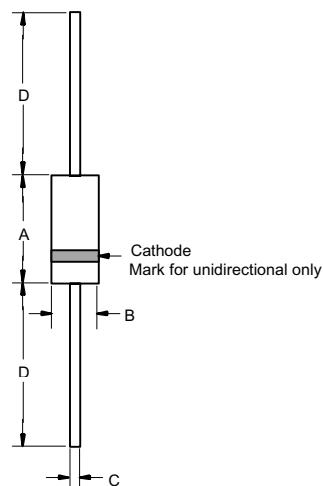
Unidirectional $<1 \times 10^{-12}$ Seconds; Bidirectional $<5 \times 10^{-9}$ Seconds.

Operating and Storage Temperature: -55°C to $+175^\circ\text{C}$

APPLICATION

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

DO-15



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|-------|------|------|
| | INCHES | | MM | | |
| | 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 | --- | |

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

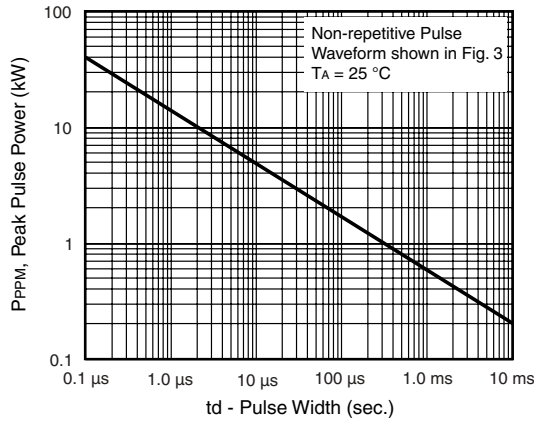


Figure 1. Peak Pulse Power Rating Curve

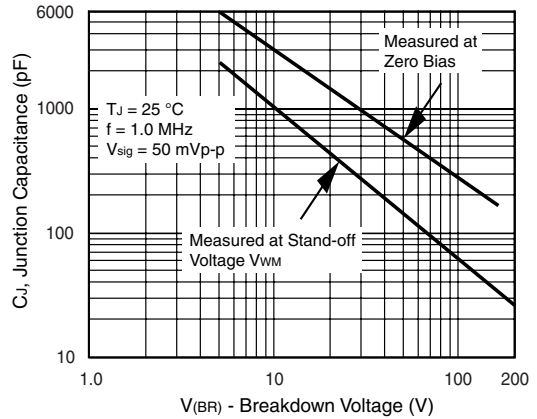


Figure 4. Typical Junction Capacitance Uni-Directional

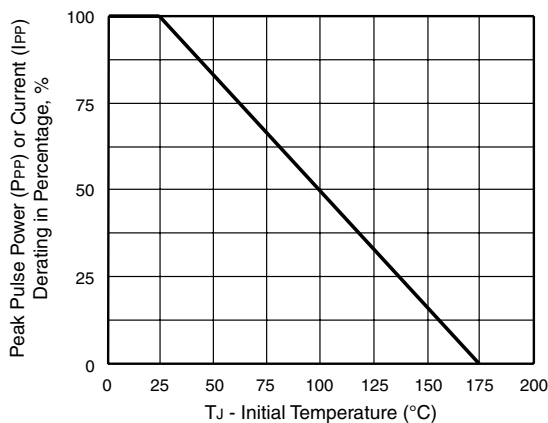


Figure 2. Pulse Power or Current versus Initial Junction Temperature

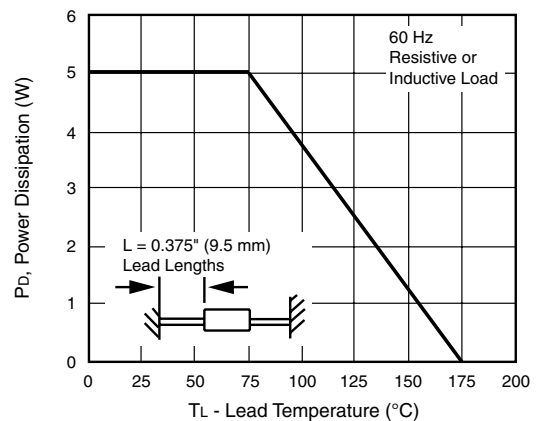


Figure 5. Power Derating Curve

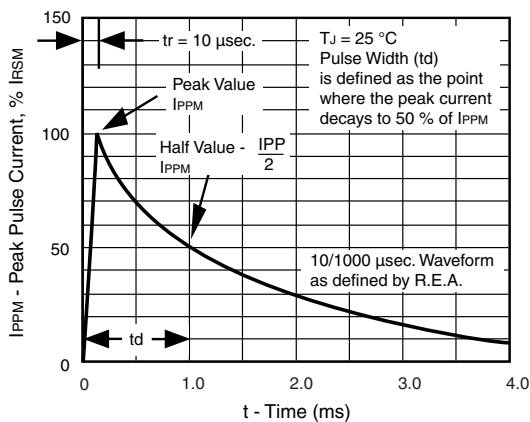


Figure 3. Pulse Waveform

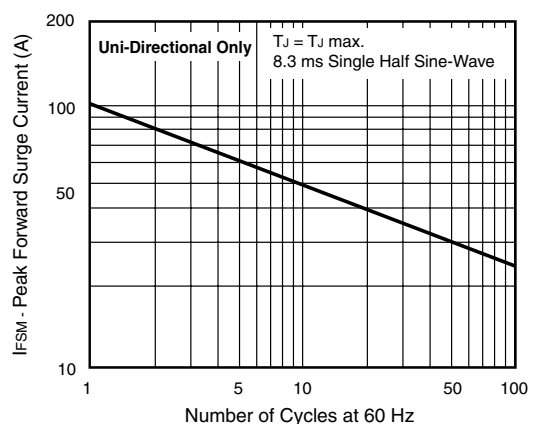


Figure 6. Maximum Non-Repetitive Forward Surge Current

P6KE6.8 thru P6KE540A



Micro Commercial Components

| 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 |
|--------------------|--|-----|------|--------------------------|--|---|--|---|--|
| | (VOLTS) | | | | | | | | |
| | MIN | NOM | MAX | mADC | V | (μA) | V | A | % / °C |
| 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 P6KE540A



Micro Commercial Components

| MCC PART NUMBER | BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS) | | | TEST CURRENT I_T mADC | RATED STANDOFF VOLTAGE V_{WM} V | MAXIMUM REVERSE LEAKAGE $I_D @ V_{WM}$ (μ A) | MAXIMUM CLAMPING VOLTAGE $V_C @ I_{PP}$ V | MAXIMUM PEAK PULSE CURRENT I_{PP} A | 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 |
| P6KE480 | 432 | 480 | 528 | 1 | 389 | 5 | 686 | 0.88 | .110 |
| P6KE480A | 456 | 480 | 504 | 1 | 408 | 5 | 658 | 0.91 | .110 |
| P6KE510 | 459 | 510 | 561 | 1 | 413 | 5 | 729 | 0.82 | .110 |
| P6KE510A | 485 | 510 | 535 | 1 | 434 | 5 | 698 | 0.86 | .110 |
| P6KE540 | 486 | 510 | 594 | 1 | 437 | 5 | 772 | 0.78 | .110 |
| P6KE540A | 513 | 510 | 567 | 1 | 459 | 5 | 740 | 0.81 | .110 |

Notes: For bidirectional types having V_{wm} of 10 Volts and less, the I_R limit is double.
For parts without A, the V_{BR} is +/- 10%.



TM

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Ordering Information :

| Device | Packing |
|----------------|------------------------------|
| Part Number-TP | Tape&Reel: 4Kpcs/Reel |
| Part Number-AP | Ammo Packing: 3Kpcs/Ammo Box |
| Part Number-BP | Bulk: 25Kpcs/Carton |

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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