



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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P6KE6.8 THRU P6KE600(C)A

600WATTS TRANSIENT VOLTAGE SUPPRESSOR 6.8 TO 600 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 5.8~512V V_{WM}
 - UL Recognized File # E331408
 - Halogen free available upon request by adding suffix "-HF"
-
- 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

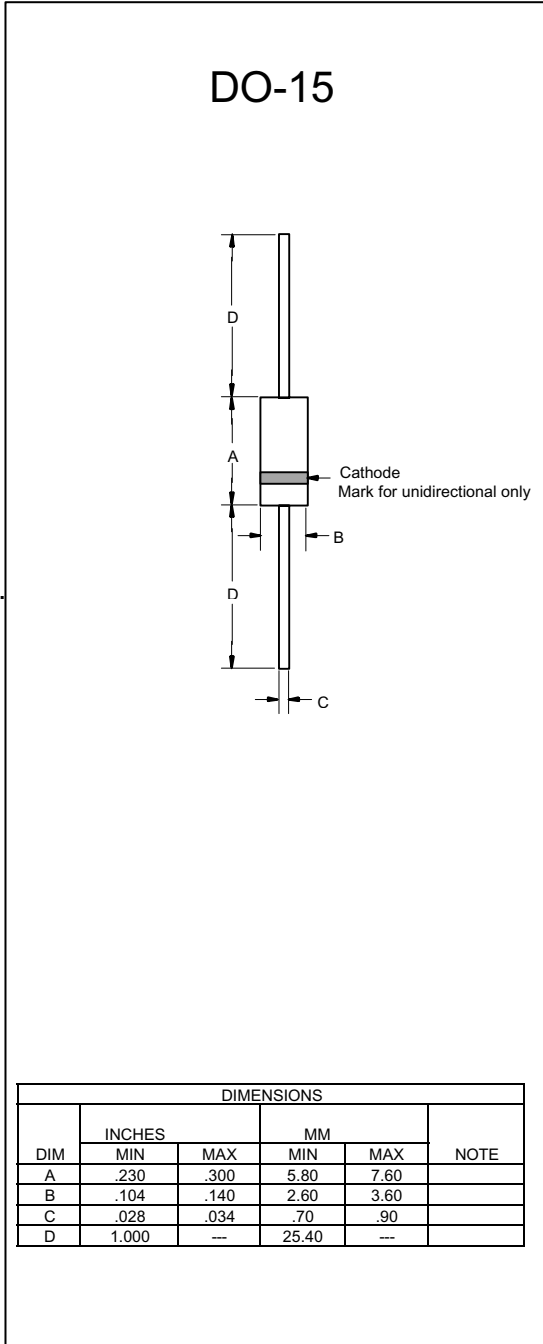
$t_{clamping}$ (0 Volts to BV Min.):

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.



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

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25 \cdot C$ unless otherwise noted)

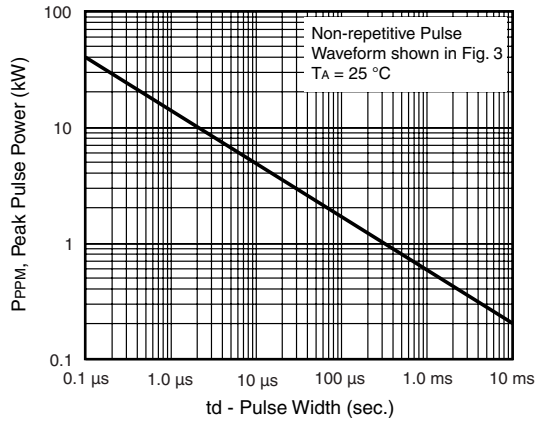


Figure 1. Peak Pulse Power Rating Curve

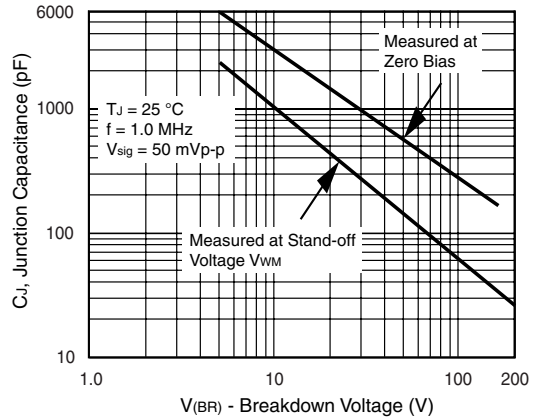


Figure 4. Typical Junction Capacitance Uni-Directional

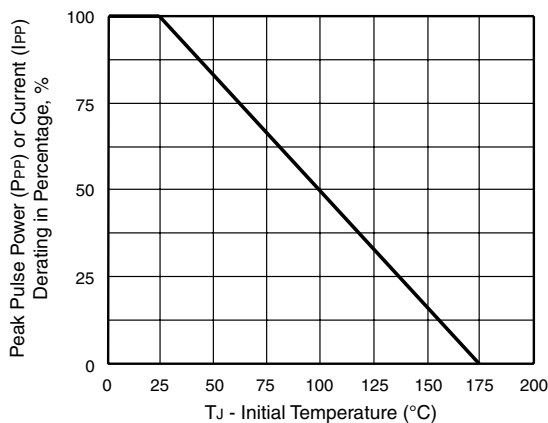


Figure 2. Pulse Power or Current versus Initial Junction Temperature

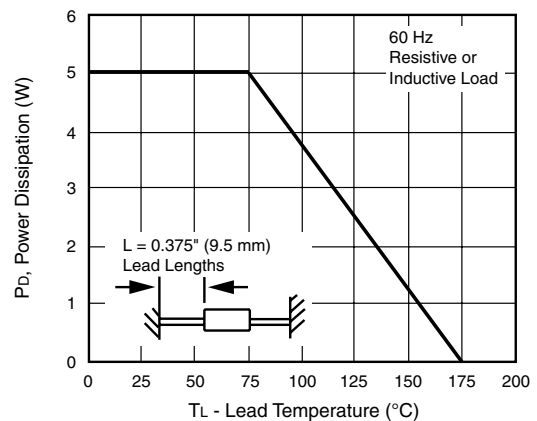


Figure 5. Power Derating Curve

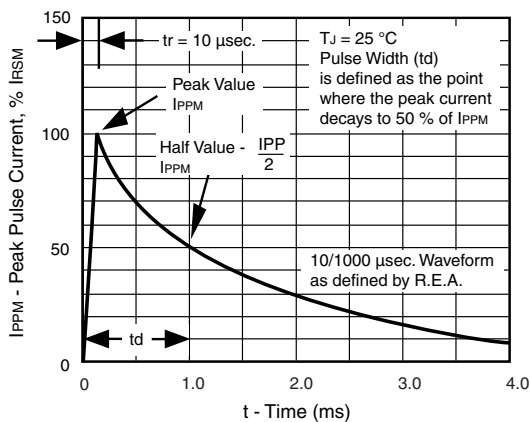


Figure 3. Pulse Waveform

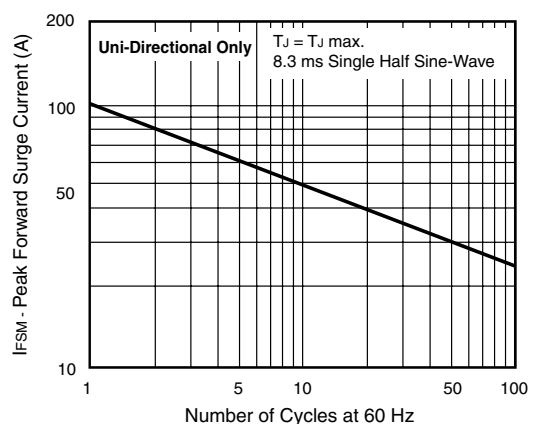


Figure 6. Maximum Non-Repetitive Forward Surge Current

P6KE6.8 thru P6KE600A



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 | (μ A) | 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 | 1 | 19 | 32 | .081 |
| P6KE13A | 12.4 | 13 | 13.7 | 1 | 11.1 | 1 | 18.2 | 33 | .081 |
| P6KE15 | 13.5 | 15 | 16.5 | 1 | 12.1 | 1 | 22 | 27 | .084 |
| P6KE15A | 14.3 | 15 | 15.8 | 1 | 12.8 | 1 | 21.2 | 28 | .084 |
| P6KE16 | 14.4 | 16 | 17.6 | 1 | 12.9 | 1 | 23.5 | 26 | .086 |
| P6KE16A | 15.2 | 16 | 16.8 | 1 | 13.6 | 1 | 22.5 | 27 | .086 |
| P6KE18 | 16.2 | 18 | 19.8 | 1 | 14.5 | 1 | 26.5 | 23 | .088 |
| P6KE18A | 17.1 | 18 | 18.9 | 1 | 15.3 | 1 | 25.2 | 24 | .088 |
| P6KE20 | 18 | 20 | 22 | 1 | 16.2 | 1 | 29.1 | 21 | .090 |
| P6KE20A | 19 | 20 | 21 | 1 | 17.1 | 1 | 27.7 | 22 | .090 |
| P6KE22 | 19.8 | 22 | 24.2 | 1 | 17.8 | 1 | 31.9 | 19 | .092 |
| P6KE22A | 20.9 | 22 | 23.1 | 1 | 18.8 | 1 | 30.6 | 20 | .092 |
| P6KE24 | 21.6 | 24 | 26.4 | 1 | 19.4 | 1 | 34.7 | 17 | .094 |
| P6KE24A | 22.8 | 24 | 25.2 | 1 | 20.5 | 1 | 33.2 | 18 | .094 |
| P6KE27 | 24.3 | 27 | 29.7 | 1 | 21.8 | 1 | 39.1 | 15 | .096 |
| P6KE27A | 25.7 | 27 | 28.4 | 1 | 23.1 | 1 | 37.5 | 16 | .096 |
| P6KE30 | 27 | 30 | 33 | 1 | 24.3 | 1 | 43.5 | 14 | .097 |
| P6KE30A | 28.5 | 30 | 31.5 | 1 | 25.6 | 1 | 41.4 | 14.4 | .097 |
| P6KE33 | 29.7 | 33 | 36.3 | 1 | 26.8 | 1 | 47.7 | 12.6 | .098 |
| P6KE33A | 31.4 | 33 | 34.7 | 1 | 28.2 | 1 | 45.7 | 13.2 | .098 |
| P6KE36 | 32.4 | 36 | 39.6 | 1 | 29.1 | 1 | 52 | 11.6 | .099 |
| P6KE36A | 34.2 | 36 | 37.8 | 1 | 30.8 | 1 | 49.9 | 12 | .099 |
| P6KE39 | 35.1 | 39 | 42.9 | 1 | 31.6 | 1 | 56.4 | 10.6 | .100 |
| P6KE39A | 37.1 | 39 | 41 | 1 | 33.3 | 1 | 53.9 | 11.2 | .100 |
| P6KE43 | 38.7 | 43 | 47.3 | 1 | 34.8 | 1 | 61.9 | 9.6 | .101 |
| P6KE43A | 40.9 | 43 | 45.2 | 1 | 36.8 | 1 | 59.3 | 10.1 | .101 |
| P6KE47 | 42.3 | 47 | 51.7 | 1 | 38.1 | 1 | 67.8 | 8.9 | .101 |
| P6KE47A | 44.7 | 47 | 49.4 | 1 | 40.2 | 1 | 64.8 | 9.3 | .101 |
| P6KE51 | 45.9 | 51 | 56.1 | 1 | 41.3 | 1 | 73.5 | 8.2 | .102 |
| P6KE51A | 48.5 | 51 | 53.6 | 1 | 43.6 | 1 | 70.1 | 8.6 | .102 |
| P6KE56 | 50.4 | 56 | 61.6 | 1 | 45.4 | 1 | 80.5 | 7.4 | .103 |
| P6KE56A | 53.2 | 56 | 58.8 | 1 | 47.8 | 1 | 77 | 7.8 | .103 |
| P6KE62 | 55.8 | 62 | 68.2 | 1 | 50.2 | 1 | 89 | 6.8 | .104 |
| P6KE62A | 58.9 | 62 | 65.1 | 1 | 53 | 1 | 85 | 7.1 | .104 |
| P6KE68 | 61.2 | 68 | 74.8 | 1 | 55.1 | 1 | 98 | 6.1 | .104 |
| P6KE68A | 64.6 | 68 | 71.4 | 1 | 58.1 | 1 | 92 | 6.5 | .104 |

P6KE6.8 thru P6KE600A

| 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 | 1 | 108 | 5.5 | .105 |
| P6KE75A | 71.3 | 75 | 78.8 | 1 | 64.1 | 1 | 103 | 5.8 | .105 |
| P6KE82 | 73.8 | 82 | 90.2 | 1 | 66.4 | 1 | 118 | 5.1 | .105 |
| P6KE82A | 77.9 | 82 | 86.1 | 1 | 70.1 | 1 | 113 | 5.3 | .105 |
| P6KE91 | 81.9 | 91 | 100 | 1 | 73.7 | 1 | 131 | 4.5 | .106 |
| P6KE91A | 86.5 | 91 | 95.5 | 1 | 77.8 | 1 | 125 | 4.8 | .106 |
| P6KE100 | 90 | 100 | 110 | 1 | 81 | 1 | 144 | 4.2 | .106 |
| P6KE100A | 95 | 100 | 105 | 1 | 85.5 | 1 | 137 | 4.4 | .106 |
| P6KE110 | 99 | 110 | 121 | 1 | 89.2 | 1 | 158 | 3.8 | .107 |
| P6KE110A | 105 | 110 | 116 | 1 | 94 | 1 | 152 | 4.0 | .107 |
| P6KE120 | 108 | 120 | 132 | 1 | 97.2 | 1 | 173 | 3.5 | .107 |
| P6KE120A | 114 | 120 | 126 | 1 | 102 | 1 | 165 | 3.6 | .107 |
| P6KE130 | 117 | 130 | 143 | 1 | 105 | 1 | 187 | 3.2 | .108 |
| P6KE130A | 124 | 130 | 137 | 1 | 111 | 1 | 179 | 3.3 | .108 |
| P6KE150 | 135 | 150 | 165 | 1 | 121 | 1 | 215 | 2.8 | .108 |
| P6KE150A | 143 | 150 | 158 | 1 | 128 | 1 | 207 | 2.9 | .108 |
| P6KE160 | 144 | 160 | 176 | 1 | 130 | 1 | 230 | 2.6 | .108 |
| P6KE160A | 152 | 160 | 168 | 1 | 136 | 1 | 219 | 2.7 | .108 |
| P6KE170 | 153 | 170 | 187 | 1 | 138 | 1 | 244 | 2.5 | .108 |
| P6KE170A | 161 | 170 | 179 | 1 | 145 | 1 | 234 | 2.6 | .108 |
| P6KE180 | 162 | 180 | 198 | 1 | 146 | 1 | 258 | 2.3 | .108 |
| P6KE180A | 171 | 180 | 189 | 1 | 154 | 1 | 246 | 2.4 | .108 |
| P6KE200 | 180 | 200 | 220 | 1 | 162 | 1 | 287 | 2.1 | .108 |
| P6KE200A | 190 | 200 | 210 | 1 | 171 | 1 | 274 | 2.2 | .108 |
| P6KE220 | 198 | 220 | 242 | 1 | 175 | 1 | 344 | 1.8 | .108 |
| P6KE220A | 209 | 220 | 231 | 1 | 185 | 1 | 328 | 1.9 | .108 |
| P6KE250 | 225 | 250 | 275 | 1 | 202 | 1 | 360 | 1.7 | .110 |
| P6KE250A | 237 | 250 | 263 | 1 | 214 | 1 | 344 | 1.8 | .110 |
| P6KE300 | 270 | 300 | 330 | 1 | 243 | 1 | 430 | 1.4 | .110 |
| P6KE300A | 285 | 300 | 315 | 1 | 256 | 1 | 414 | 1.5 | .110 |
| P6KE350 | 315 | 350 | 385 | 1 | 284 | 1 | 504 | 1.2 | .110 |
| P6KE350A | 332 | 350 | 368 | 1 | 300 | 1 | 482 | 1.3 | .110 |
| P6KE400 | 360 | 400 | 440 | 1 | 324 | 1 | 574 | 1.05 | .110 |
| P6KE400A | 380 | 400 | 420 | 1 | 342 | 1 | 548 | 1.1 | .110 |
| P6KE440 | 396 | 440 | 484 | 1 | 356 | 1 | 631 | 0.99 | .110 |
| P6KE440A | 418 | 440 | 462 | 1 | 376 | 1 | 600 | 1.04 | .110 |
| P6KE480 | 432 | 480 | 528 | 1 | 389 | 1 | 686 | 0.88 | .110 |
| P6KE480A | 456 | 480 | 504 | 1 | 408 | 1 | 658 | 0.91 | .110 |
| P6KE510 | 459 | 510 | 561 | 1 | 413 | 1 | 729 | 0.82 | .110 |
| P6KE510A | 485 | 510 | 535 | 1 | 434 | 1 | 698 | 0.86 | .110 |
| P6KE540 | 486 | 540 | 594 | 1 | 437 | 1 | 772 | 0.78 | .110 |
| P6KE540A | 513 | 540 | 567 | 1 | 459 | 1 | 740 | 0.81 | .110 |
| P6KE600 | 540 | 600 | 660 | 1 | 480 | 1 | 870 | 0.69 | .110 |
| P6KE600A | 570 | 600 | 630 | 1 | 512 | 1 | 828 | 0.75 | .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

Micro Commercial Components

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 |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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