



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.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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**SMBJP6KE6.8(C)A
 THRU
 SMBJP6KE550(C)A**

Features

- Halogen free available upon request by adding suffix "-HF"
- For surface mount applications in order to optimize board space
- 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)
- Fast response time: typical less than 1.0ps from 0 volts to V_{BR} minimum
- Low inductance
- Excellent clamping capability
- UL Recognized File # E331408

Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Terminals: solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode) except Bidirectional
- Maximum soldering temperature: 260°C for 10 seconds

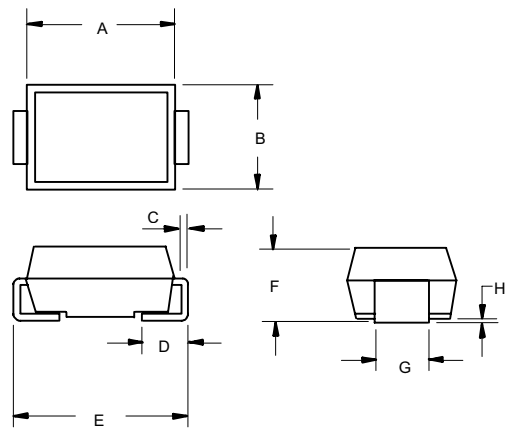
Maximum Ratings @ 25°C Unless Otherwise Specified

| | | | |
|--|----------------|-----------------|----------|
| Peak Pulse Current on 10/1000us waveform | I_{PP} | See Table 1 | Note: 2 |
| Peak Pulse Power Dissipation | P_{PP} | 600W | Note: 2, |
| Peak Forward Surge Current | I_{FSM} | 100A | Note: 3 |
| Operation And Storage Temperature Range | T_J, T_{STG} | -55°C to +175°C | |
| Thermal Resistance | R_{thJC} | 25°C/W | |
| | R_{thJL} | 20°C/W | |

- NOTES: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
2. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ C$ per Fig.2.
3. 8.3ms, single half sine wave duty cycle=4 pulses per. Minute maximum.

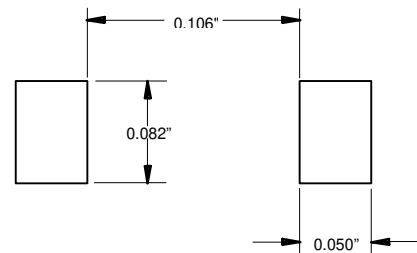
**Transient
 Voltage Suppressor
 6.8 to 550 Volts
 600 Watt**

**DO-214AA
 (SMBJ) (LEAD FRAME)**



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|------|-------|------|
| | INCHES | | MM | | |
| A | .180 | .185 | 4.06 | 4.70 | |
| B | .130 | .155 | 3.30 | 3.94 | |
| C | .006 | .012 | 0.15 | 0.31 | |
| D | .030 | .060 | 0.76 | 1.52 | |
| E | .200 | .220 | 5.08 | 5.59 | |
| F | .079 | .096 | 2.00 | 2.44 | |
| G | .075 | .087 | 1.91 | 2.21 | |
| H | .002 | .008 | 0.05 | 0.203 | |

**SUGGESTED SOLDER
 PAD LAYOUT**



SMBJP6KE6.8(C)A THRU SMBJP6KE550(C)A

ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS) | BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) | | | MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS) | PEAK PULSE CURRENT I_{PP} (AMPS) | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D (μ A) | MARKING CODE |
|--------------------|--|--|--------|------------|---|---|--|-----------------|
| | | MIN | MAX | I_T (mA) | | | | |
| SMBJP6KE6.8A | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 58.1 | 1000 | 6V8A |
| SMBJP6KE7.5A | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 54.0 | 500 | 7V5A |
| SMBJP6KE8.2A | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 50.4 | 200 | 8V2A |
| SMBJP6KE9.1A | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 45.5 | 50 | 9V1A |
| SMBJP6KE10A | 8.55 | 9.50 | 10.50 | 1 | 14.5 | 42.1 | 10 | 10A |
| SMBJP6KE11A | 9.40 | 10.50 | 11.60 | 1 | 15.6 | 39.1 | 5 | 11A |
| SMBJP6KE12A | 10.20 | 11.40 | 12.60 | 1 | 16.7 | 36.5 | 5 | 12A |
| SMBJP6KE13A | 11.10 | 12.40 | 13.70 | 1 | 18.2 | 33.5 | 1 | 13A |
| SMBJP6KE15A | 12.80 | 14.30 | 15.80 | 1 | 21.2 | 28.8 | 1 | 15A |
| SMBJP6KE16A | 13.60 | 15.20 | 16.80 | 1 | 22.5 | 27.1 | 1 | 16A |
| SMBJP6KE18A | 15.30 | 17.10 | 18.90 | 1 | 25.5 | 24.2 | 1 | 18A |
| SMBJP6KE20A | 17.10 | 19.00 | 21.00 | 1 | 27.7 | 22.0 | 1 | 20A |
| SMBJP6KE22A | 18.80 | 20.90 | 23.10 | 1 | 30.6 | 19.9 | 1 | 22A |
| SMBJP6KE24A | 20.50 | 22.80 | 25.20 | 1 | 33.2 | 18.4 | 1 | 24A |
| SMBJP6KE27A | 23.10 | 25.70 | 28.40 | 1 | 37.5 | 16.3 | 1 | 27A |
| SMBJP6KE30A | 25.60 | 28.50 | 31.50 | 1 | 41.4 | 14.7 | 1 | 30A |
| SMBJP6KE33A | 28.20 | 31.40 | 34.70 | 1 | 45.7 | 13.3 | 1 | 33A |
| SMBJP6KE36A | 30.80 | 34.20 | 37.80 | 1 | 49.9 | 12.2 | 1 | 36A |
| SMBJP6KE39A | 33.30 | 37.10 | 41.00 | 1 | 53.9 | 11.3 | 1 | 39A |
| SMBJP6KE43A | 36.80 | 40.90 | 45.20 | 1 | 59.3 | 10.3 | 1 | 43A |
| SMBJP6KE47A | 40.20 | 44.70 | 49.40 | 1 | 64.8 | 9.4 | 1 | 47A |
| SMBJP6KE51A | 43.60 | 48.50 | 53.60 | 1 | 70.1 | 8.7 | 1 | 51A |
| SMBJP6KE56A | 47.80 | 53.20 | 58.80 | 1 | 77.0 | 7.9 | 1 | 56A |
| SMBJP6KE62A | 53.00 | 58.90 | 65.10 | 1 | 85.0 | 7.2 | 1 | 62A |
| SMBJP6KE68A | 58.10 | 64.60 | 71.40 | 1 | 92.0 | 6.6 | 1 | 68A |
| SMBJP6KE75A | 64.10 | 71.30 | 78.80 | 1 | 103.0 | 5.9 | 1 | 75A |
| SMBJP6KE82A | 70.10 | 77.90 | 86.10 | 1 | 113.0 | 5.4 | 1 | 82A |
| SMBJP6KE91A | 77.80 | 86.50 | 95.50 | 1 | 125.0 | 4.9 | 1 | 91A |
| SMBJP6KE100A | 85.50 | 95.00 | 105.00 | 1 | 137.0 | 4.5 | 1 | 100A |
| SMBJP6KE110A | 94.00 | 105.00 | 116.00 | 1 | 152.0 | 4.0 | 1 | 110A |
| SMBJP6KE120A | 102.00 | 114.00 | 126.00 | 1 | 165.0 | 3.7 | 1 | 120A |
| SMBJP6KE130A | 111.00 | 124.00 | 137.00 | 1 | 179.0 | 3.4 | 1 | 130A |
| SMBJP6KE150A | 128.00 | 143.00 | 158.00 | 1 | 207.0 | 2.9 | 1 | 150A |
| SMBJP6KE160A | 136.00 | 152.00 | 168.00 | 1 | 219.0 | 2.8 | 1 | 160A |
| SMBJP6KE170A | 145.00 | 162.00 | 179.00 | 1 | 234.0 | 2.6 | 1 | 170A |
| SMBJP6KE180A | 154.00 | 171.00 | 189.00 | 1 | 246.0 | 2.5 | 1 | 180A |
| SMBJP6KE200A | 171.00 | 190.00 | 210.00 | 1 | 274.0 | 2.2 | 1 | 200A |
| SMBJP6KE220A | 185.00 | 209.00 | 231.00 | 1 | 328.0 | 1.9 | 1 | 220A |
| SMBJP6KE250A | 214.00 | 237.00 | 263.00 | 1 | 344.0 | 1.9 | 1 | 250A |
| SMBJP6KE300A | 256.00 | 285.00 | 315.00 | 1 | 414.0 | 1.5 | 1 | 300A |
| SMBJP6KE350A | 300.00 | 332.00 | 368.00 | 1 | 482.0 | 1.3 | 1 | 350A |
| SMBJP6KE400A | 342.00 | 380.00 | 420.00 | 1 | 548.0 | 1.1 | 1 | 400A |
| SMBJP6KE440A | 376.00 | 418.00 | 462.00 | 1 | 602.0 | 1.0 | 1 | 440A |
| SMBJP6KE480A | 408.00 | 456.00 | 504.00 | 1 | 658.0 | 0.9 | 1 | 480A |
| SMBJP6KE510A | 434.00 | 485.00 | 535.00 | 1 | 698.0 | 0.9 | 1 | 510A |
| SMBJP6KE530A | 477.00 | 503.50 | 556.50 | 1 | 725.0 | 0.8 | 1 | 530A |
| SMBJP6KE540A | 459.00 | 513.00 | 567.00 | 1 | 740.0 | 0.8 | 1 | 540A |
| SMBJP6KE550A | 495.00 | 522.50 | 577.50 | 1 | 760.0 | 0.8 | 1 | 550A |

For bi-directional type having V_{rwm} of 10 volts and less, the I_R limit is double.

The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

SMBJP6KE6.8(C)A THRU SMBJP6KE550(C)A



Micro Commercial Components

ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS) | BREAKDOWN VOLTAGE V_{BR} @ I_T (VOLTS) | | | MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS) | PEAK PULSE CURRENT I_{PP} (AMPS) | MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D (μ A) | MARKING CODE |
|--------------------|--|--|--------|------------|---|---|--|-----------------|
| | | MIN | MAX | I_T (mA) | | | | |
| SMBJP6KE6.8CA | 5.80 | 6.45 | 7.14 | 10 | 10.5 | 58.1 | 1000 | 6V8C |
| SMBJP6KE7.5CA | 6.40 | 7.13 | 7.88 | 10 | 11.3 | 54.0 | 500 | 7V5C |
| SMBJP6KE8.2CA | 7.02 | 7.79 | 8.61 | 10 | 12.1 | 50.4 | 200 | 8V2C |
| SMBJP6KE9.1CA | 7.78 | 8.65 | 9.55 | 1 | 13.4 | 45.5 | 50 | 9V1C |
| SMBJP6KE10CA | 8.55 | 9.50 | 10.50 | 1 | 14.5 | 42.1 | 10 | 10C |
| SMBJP6KE11CA | 9.40 | 10.50 | 11.60 | 1 | 15.6 | 39.1 | 5 | 11C |
| SMBJP6KE12CA | 10.20 | 11.40 | 12.60 | 1 | 16.7 | 36.5 | 5 | 12C |
| SMBJP6KE13CA | 11.10 | 12.40 | 13.70 | 1 | 18.2 | 33.5 | 5 | 13C |
| SMBJP6KE15CA | 12.80 | 14.30 | 15.80 | 1 | 21.2 | 28.8 | 5 | 15C |
| SMBJP6KE16CA | 13.60 | 15.20 | 16.80 | 1 | 22.5 | 27.1 | 5 | 16C |
| SMBJP6KE18CA | 15.30 | 17.10 | 18.90 | 1 | 25.5 | 24.2 | 5 | 18C |
| SMBJP6KE20CA | 17.10 | 19.00 | 21.00 | 1 | 27.7 | 22.0 | 5 | 20C |
| SMBJP6KE22CA | 18.80 | 20.90 | 23.10 | 1 | 30.6 | 19.9 | 5 | 22C |
| SMBJP6KE24CA | 20.50 | 22.80 | 25.20 | 1 | 33.2 | 18.4 | 5 | 24C |
| SMBJP6KE27CA | 23.10 | 25.70 | 28.40 | 1 | 37.5 | 16.3 | 5 | 27C |
| SMBJP6KE30CA | 25.60 | 28.50 | 31.50 | 1 | 41.4 | 14.7 | 5 | 30C |
| SMBJP6KE33CA | 28.20 | 31.40 | 34.70 | 1 | 45.7 | 13.3 | 5 | 33C |
| SMBJP6KE36CA | 30.80 | 34.20 | 37.80 | 1 | 49.9 | 12.2 | 5 | 36C |
| SMBJP6KE39CA | 33.30 | 37.10 | 41.00 | 1 | 53.9 | 11.3 | 5 | 39C |
| SMBJP6KE43CA | 36.80 | 40.90 | 45.20 | 1 | 59.3 | 10.3 | 5 | 43C |
| SMBJP6KE47CA | 40.20 | 44.70 | 49.40 | 1 | 64.8 | 9.4 | 5 | 47C |
| SMBJP6KE51CA | 43.60 | 48.50 | 53.60 | 1 | 70.1 | 8.7 | 5 | 51C |
| SMBJP6KE56CA | 47.80 | 53.20 | 58.80 | 1 | 77.0 | 7.9 | 5 | 56C |
| SMBJP6KE62CA | 53.00 | 58.90 | 65.10 | 1 | 85.0 | 7.2 | 5 | 62C |
| SMBJP6KE68CA | 58.10 | 64.60 | 71.40 | 1 | 92.0 | 6.6 | 5 | 68C |
| SMBJP6KE75CA | 64.10 | 71.30 | 78.80 | 1 | 103.0 | 5.9 | 5 | 75C |
| SMBJP6KE82CA | 70.10 | 77.90 | 86.10 | 1 | 113.0 | 5.4 | 5 | 82C |
| SMBJP6KE91CA | 77.80 | 86.50 | 95.50 | 1 | 125.0 | 4.9 | 5 | 91C |
| SMBJP6KE100CA | 85.50 | 95.00 | 105.00 | 1 | 137.0 | 4.5 | 5 | 100C |
| SMBJP6KE110CA | 94.00 | 105.00 | 116.00 | 1 | 152.0 | 4.0 | 5 | 110C |
| SMBJP6KE120CA | 102.00 | 114.00 | 126.00 | 1 | 165.0 | 3.7 | 5 | 120C |
| SMBJP6KE130CA | 111.00 | 124.00 | 137.00 | 1 | 179.0 | 3.4 | 5 | 130C |
| SMBJP6KE150CA | 128.00 | 143.00 | 158.00 | 1 | 207.0 | 2.9 | 5 | 150C |
| SMBJP6KE160CA | 136.00 | 152.00 | 168.00 | 1 | 219.0 | 2.8 | 5 | 160C |
| SMBJP6KE170CA | 145.00 | 162.00 | 179.00 | 1 | 234.0 | 2.6 | 5 | 170C |
| SMBJP6KE180CA | 154.00 | 171.00 | 189.00 | 1 | 246.0 | 2.5 | 5 | 180C |
| SMBJP6KE200CA | 171.00 | 190.00 | 210.00 | 1 | 274.0 | 2.2 | 5 | 200C |
| SMBJP6KE220CA | 185.00 | 209.00 | 231.00 | 1 | 328.0 | 1.9 | 5 | 220C |
| SMBJP6KE250CA | 214.00 | 237.00 | 263.00 | 1 | 344.0 | 1.9 | 5 | 250C |
| SMBJP6KE300CA | 256.00 | 285.00 | 315.00 | 1 | 414.0 | 1.5 | 5 | 300C |
| SMBJP6KE350CA | 300.00 | 332.00 | 368.00 | 1 | 482.0 | 1.3 | 5 | 350C |
| SMBJP6KE400CA | 342.00 | 380.00 | 420.00 | 1 | 548.0 | 1.1 | 5 | 400C |
| SMBJP6KE440CA | 376.00 | 418.00 | 462.00 | 1 | 602.0 | 1.0 | 5 | 440C |
| SMBJP6KE480CA | 408.00 | 456.00 | 504.00 | 1 | 658.0 | 0.9 | 5 | 480C |
| SMBJP6KE510CA | 434.00 | 485.00 | 535.00 | 1 | 698.0 | 0.9 | 5 | 510C |
| SMBJP6KE530CA | 477.00 | 503.50 | 556.50 | 1 | 725.0 | 0.8 | 5 | 530C |
| SMBJP6KE540CA | 459.00 | 513.00 | 567.00 | 1 | 740.0 | 0.8 | 5 | 540C |
| SMBJP6KE550CA | 495.00 | 522.50 | 577.50 | 1 | 760.0 | 0.8 | 5 | 550C |

For bi-directional type having V_{RWM} of 10 volts and less, the I_R limit is double.
The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

SMBJP6KE6.8(C)A THRU SMBJP6KE550(C)A

RATINGS AND CHARACTERISTIC CURVES

Fig. 1 – Peak Pulse Power Rating Curve

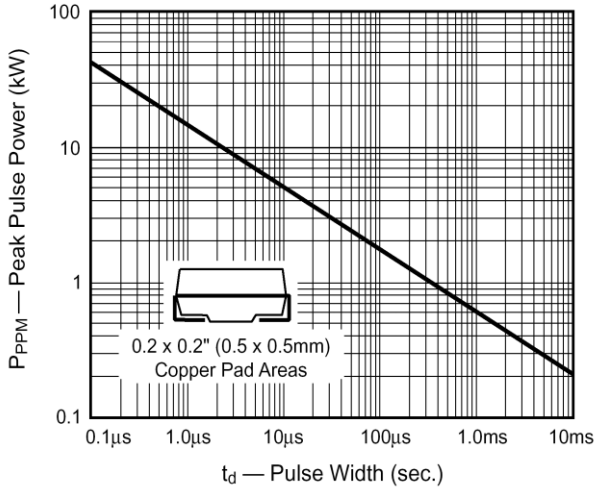


Fig. 2-PULSE RATING CURVE

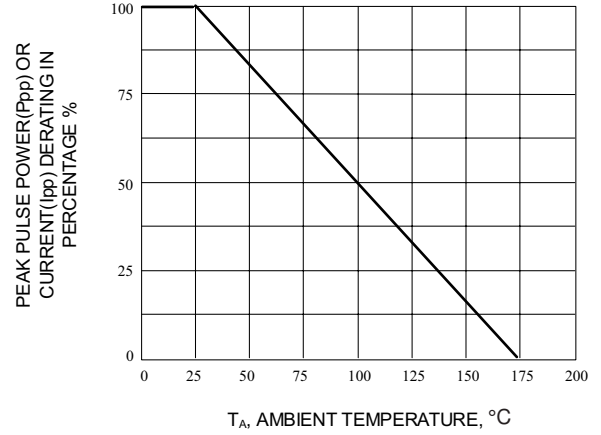


Fig. 3 – Pulse Waveform

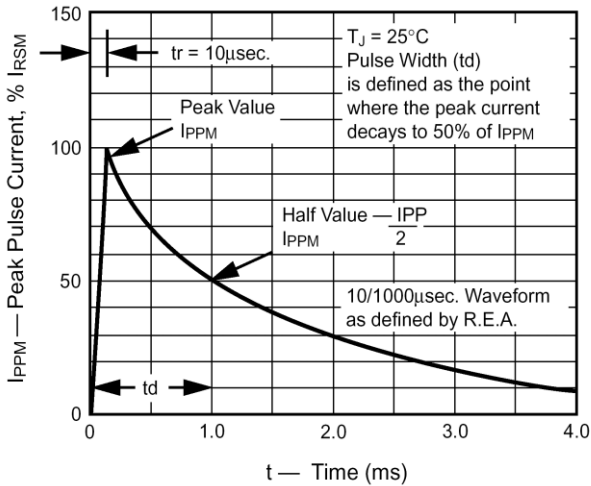


Fig. 4 – Typical Junction Capacitance

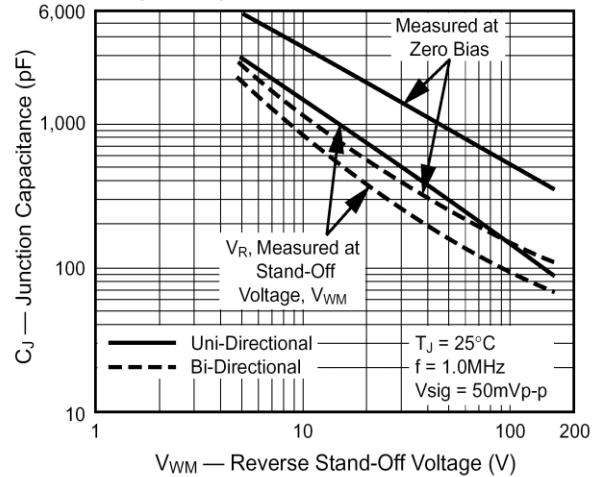


Fig. 5 – Typical Transient Thermal Impedance

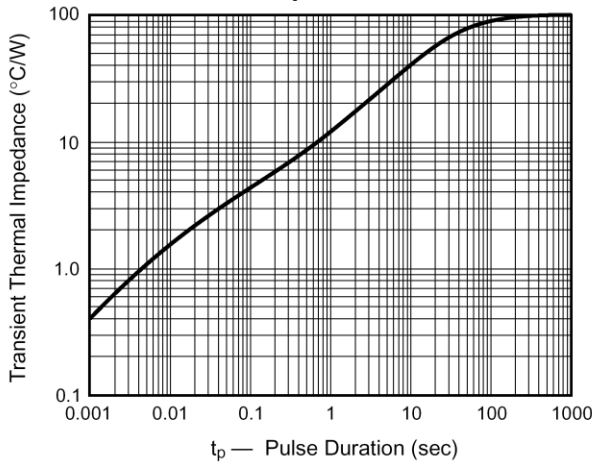
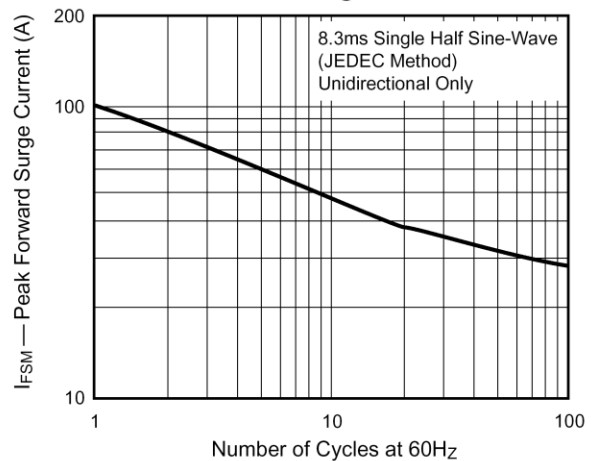


Fig. 6 – Maximum Non-Repetitive Peak Forward Surge Current





Micro Commercial Components

Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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

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