



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

## SMA6J5.0A THRU SMA6J33A

### Features

- For Surface Mount Applications
- Unidirectional And Bidirectional
- High Surge Capability
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMA6J9.0CA for 5% Tolerance
- Lead Free Finish/Rohs Compliant (Note1) ("P"Suffix designates Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

### Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Polarity: Indicated by cathode band except bi-directional types

### Maximum Rating:

- Operating Temperature: -55°C to +175°C
- Storage Temperature: -55°C to +175°C
- Typical Thermal Resistance: 33°C/W Junction to Ambient

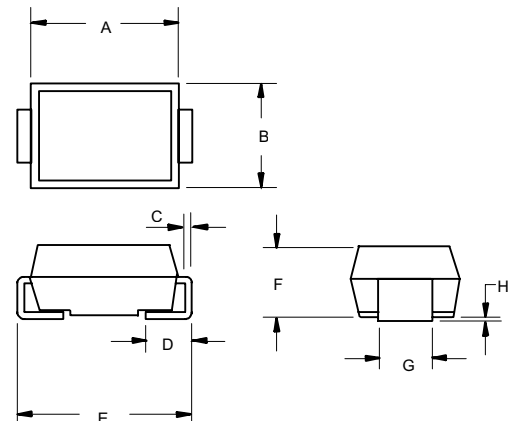
|                                          |                    |             |           |
|------------------------------------------|--------------------|-------------|-----------|
| Peak Pulse Current on 10/1000µs Waveform | I <sub>PPM</sub>   | See Table 1 | Note 2    |
| Peak Pulse Power Dissipation             | P <sub>PPM</sub>   | Min 600 W   | Note 2, 6 |
| Steady State Power Dissipation           | P <sub>M(AV)</sub> | 3.0 W       | Note 5    |

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

2. Non-repetitive current pulse, per Fig.4 and derated above T<sub>A</sub>=25°C per Fig.1.
3. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.
5. Lead temperature at T<sub>L</sub> = 75°C.
6. Peak pulse power waveform is 10/1000µs.

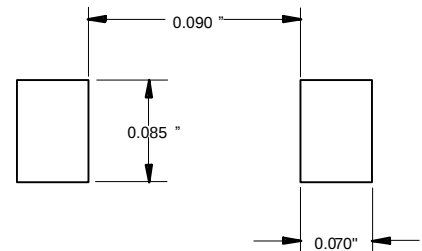
## 600 Watt Transient Voltage Suppressors 5.0 to 33 Volts

### DO-214AC (SMA)(LEAD FRAME)



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| A   | .157   | .181 | 4.00  | 4.60  |      |
| B   | .098   | .114 | 2.50  | 2.90  |      |
| C   | .006   | .012 | 0.152 | 0.305 |      |
| D   | .030   | .060 | 0.76  | 1.52  |      |
| E   | .188   | .208 | 4.80  | 5.28  |      |
| F   | .078   | .096 | 2.00  | 2.44  |      |
| G   | .050   | .064 | 1.27  | 1.63  |      |
| H   | .002   | .008 | 0.051 | 0.203 |      |

### SUGGESTED SOLDER PAD LAYOUT



# SMA6J5.0A thru SMA6J33A

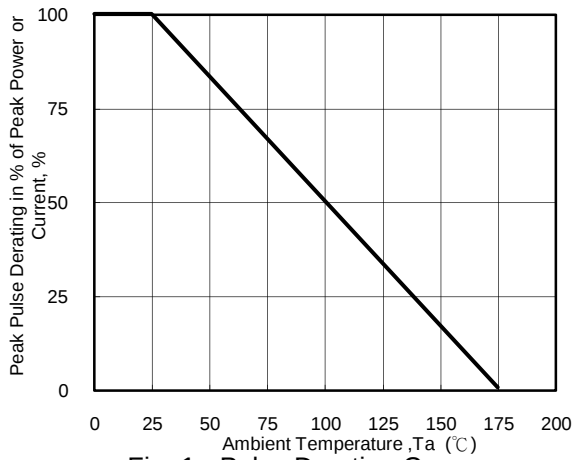


Fig. 1 - Pulse Derating Curve

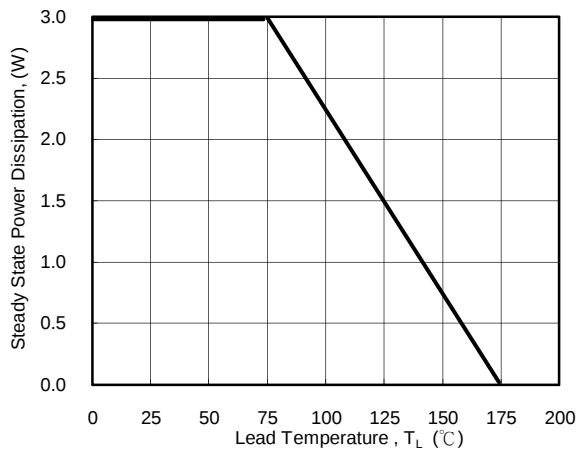


Fig. 2 - Steady State Power Derating Curve

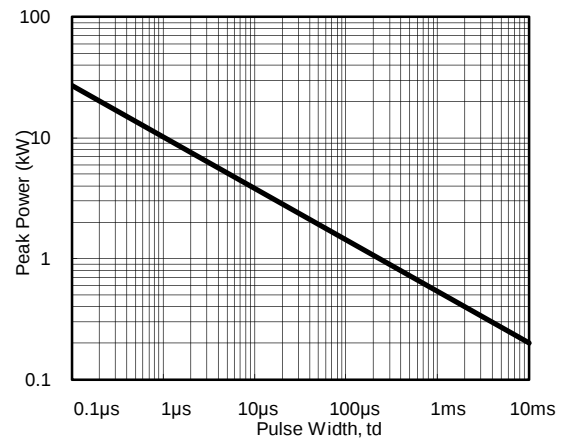


Fig. 3 - Peak Pulse Power Rating Curve

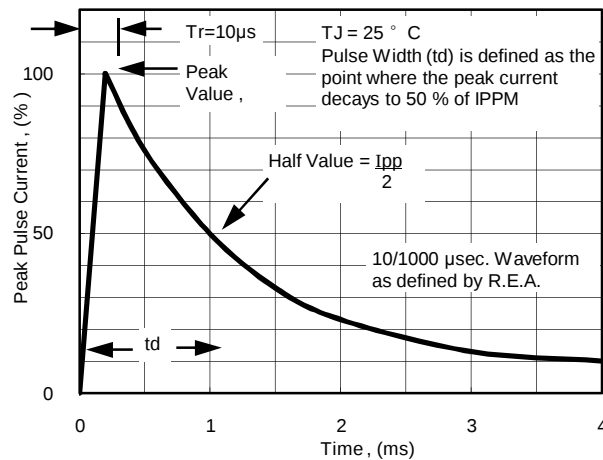


Fig. 4 - Pulse Waveform

# SMA6J5.0A thru SMA6J33A

Micro Commercial Components

| MCC<br>Part Number        |                           | Breakdown Voltage<br>$V_{BR}$ @ $I_T$ |          |            | Maximum<br>Reverse<br>Leakage<br>$I_D(\mu A)$<br>@VWM | Reverse<br>Stand-Off<br>Voltage $V_{WM}$<br>(Volts) | Maximum<br>Reverse<br>Surge Current<br>$I_{pp}(A)$<br>@10x1000us<br>sinewave | Maximum<br>Clamping<br>Voltage<br>$V_c$ (Volts)<br>@ $I_{pp}$ | Device<br>Marking<br>Code |    |
|---------------------------|---------------------------|---------------------------------------|----------|------------|-------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------|----|
| Uni-polar                 | Bi-polar                  | Min. (V)                              | Max. (V) | $I_T$ (mA) |                                                       |                                                     |                                                                              |                                                               | Uni                       | Bi |
| <a href="#">SMA6J5.0A</a> |                           | 6.40                                  | 7.00     | 10         | 800                                                   | 5.0                                                 | 65.2                                                                         | 9.2                                                           | KE                        |    |
| <a href="#">SMA6J6.0A</a> |                           | 6.67                                  | 7.37     | 10         | 800                                                   | 6.0                                                 | 58.3                                                                         | 10.3                                                          | KG                        |    |
| SMA6J9.0A                 | SMA6J9.0CA                | 10.0                                  | 11.1     | 1          | 5.0                                                   | 9.0                                                 | 39.0                                                                         | 15.4                                                          | KV                        | TV |
| SMA6J10A                  | SMA6J10CA                 | 11.1                                  | 12.3     | 1          | 5.0                                                   | 10                                                  | 35.3                                                                         | 17.0                                                          | KX                        | TX |
| SMA6J11A                  | SMA6J11CA                 | 12.2                                  | 13.5     | 1          | 5.0                                                   | 11                                                  | 33.0                                                                         | 18.2                                                          | KZ                        | TZ |
| SMA6J12A                  | SMA6J12CA                 | 13.3                                  | 14.7     | 1          | 5.0                                                   | 12                                                  | 30.2                                                                         | 19.9                                                          | LE                        | UE |
| SMA6J13A                  | SMA6J13CA                 | 14.4                                  | 15.9     | 1          | 5.0                                                   | 13                                                  | 27.9                                                                         | 21.5                                                          | LG                        | UG |
| SMA6J14A                  | SMA6J14CA                 | 15.6                                  | 17.2     | 1          | 5.0                                                   | 14                                                  | 25.9                                                                         | 23.2                                                          | LK                        | UK |
| SMA6J15A                  | SMA6J15CA                 | 16.7                                  | 18.5     | 1          | 5.0                                                   | 15                                                  | 24.6                                                                         | 24.4                                                          | LM                        | UM |
| SMA6J16A                  | SMA6J16CA                 | 17.8                                  | 19.7     | 1          | 5.0                                                   | 16                                                  | 23.1                                                                         | 26.0                                                          | LP                        | UP |
| SMA6J17A                  | SMA6J17CA                 | 18.9                                  | 20.9     | 1          | 5.0                                                   | 17                                                  | 21.7                                                                         | 27.6                                                          | LR                        | UR |
| SMA6J18A                  |                           | 20.0                                  | 22.1     | 1          | 5.0                                                   | 18                                                  | 20.5                                                                         | 29.2                                                          | LT                        |    |
| SMA6J19A                  |                           | 21.1                                  | 23.3     | 1          | 5.0                                                   | 19                                                  | 19.5                                                                         | 30.8                                                          | LB                        |    |
| SMA6J20A                  |                           | 22.2                                  | 24.5     | 1          | 5.0                                                   | 20                                                  | 18.5                                                                         | 32.4                                                          | LV                        |    |
| SMA6J22A                  |                           | 24.4                                  | 26.9     | 1          | 5.0                                                   | 22                                                  | 16.9                                                                         | 35.5                                                          | LX                        |    |
| SMA6J24A                  | <a href="#">SMA6J24CA</a> | 26.7                                  | 29.5     | 1          | 5.0                                                   | 24                                                  | 15.4                                                                         | 38.9                                                          | LZ                        | UZ |
| SMA6J26A                  |                           | 28.9                                  | 31.9     | 1          | 5.0                                                   | 26                                                  | 14.3                                                                         | 42.1                                                          | ME                        |    |
|                           | <a href="#">SMA6J28CA</a> | 31.1                                  | 34.4     | 1          | 5.0                                                   | 28                                                  | 13.2                                                                         | 45.4                                                          |                           | WG |
| <a href="#">SMA6J33A</a>  |                           | 36.7                                  | 40.6     | 1          | 5.0                                                   | 33                                                  | 11.3                                                                         | 53.3                                                          | MM                        |    |

Note:

1. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .
2. The items in blue character are still under development.

## Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel; 5Kpcs/Reel |

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

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.