



Micro Commercial Components



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## 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

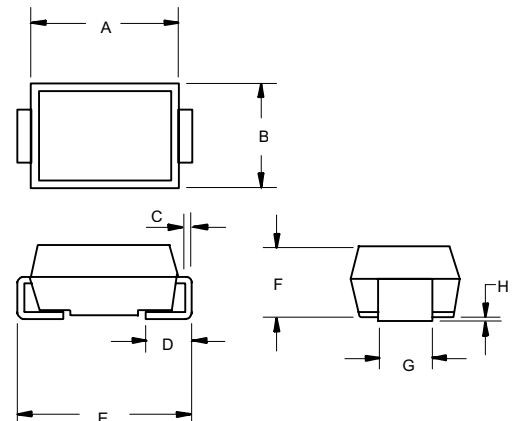
|                                          |                    |             |           |
|------------------------------------------|--------------------|-------------|-----------|
| Peak Pulse Current on 10/1000µs Waveform | I <sub>PPM</sub>   | See Table 1 | Note 2    |
| Peak Pulse Power Dissipation             | 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.

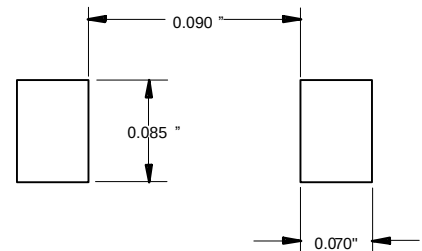
## 600 Watt Transient Voltage Suppressors 5.0 to 33 Volts

### 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

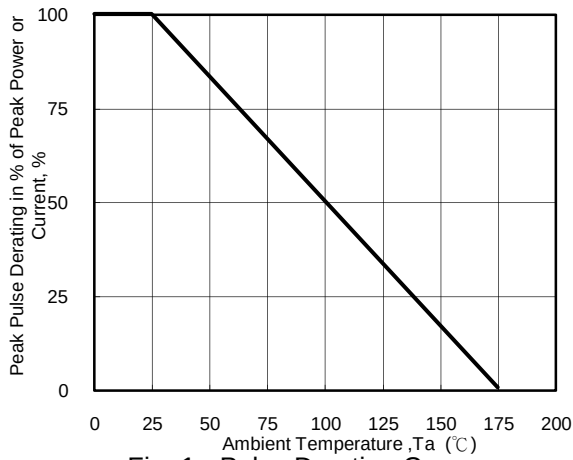


Fig. 1 - Pulse Derating Curve

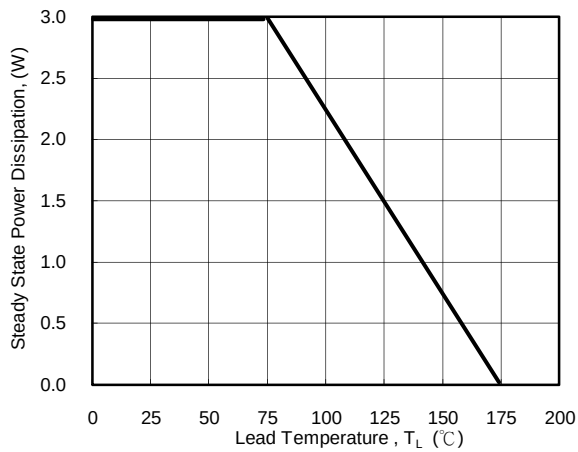


Fig. 2 - Steady State Power Derating Curve

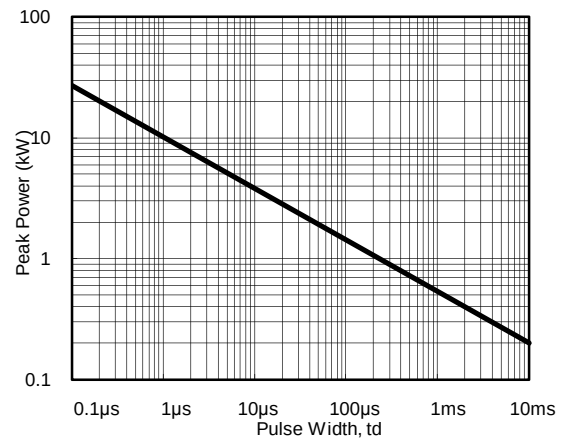


Fig. 3 - Peak Pulse Power Rating Curve

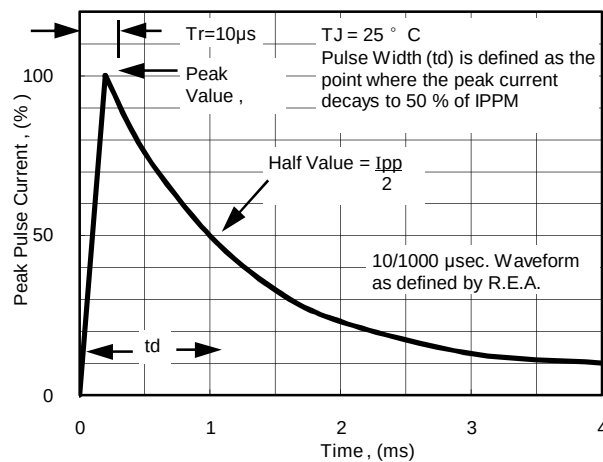


Fig. 4 - Pulse Waveform

# SMA6J5.0A thru SMA6J33A

| 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

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