

## P2AL3.3A ~ P2AL40A Series

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Voltage**

**3.3~40 V**

**Power**

**200 W**

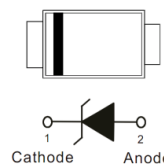
#### Features

- Ultra thin profile package for space constrained utilization.
- High temperature soldering: 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### Mechanical Data

- Case: Molded plastic, SOD-123FL
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end
- Approx. Weight: 0.0006 ounces, 0.0173 grams

SOD-123FL



### Maximum Ratings and Thermal Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                                                                   | SYMBOL                | LIMIT       | UNITS              |
|-----------------------------------------------------------------------------|-----------------------|-------------|--------------------|
| Peak Pulse Power Dissipation( $t_p = 10/1000\text{ us}$ )                   | $P_{PP}^{(1,2)}$      | 200         | W                  |
| Peak Pulse Current on $t_p = 10/1000\text{ us}$ waveform <sup>(Fig.2)</sup> | $I_{PPM}^{(1)}$       | See table 1 | A                  |
| ESD IEC61000-4-2(Air)                                                       | $V_{ESD}$             | $\pm 30$    | kV                 |
| ESD IEC61000-4-2(Contact)                                                   |                       | $\pm 30$    |                    |
| Typical Thermal Resistance Junction to Ambient                              | $R_{\theta JA}^{(3)}$ | 200         | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range                                        | $T_J$                 | -55~150     | $^\circ\text{C}$   |
| Storage Temperature Range                                                   | $T_{STG}$             | -65~150     | $^\circ\text{C}$   |



## P2AL3.3A ~ P2AL40A Series

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

| Part Number                       | V <sub>RWM</sub> | V <sub>BR</sub> |      |                | I <sub>R</sub> @V <sub>RWM</sub> | V <sub>C</sub> @I <sub>PP</sub> |      | Marking<br>Code |
|-----------------------------------|------------------|-----------------|------|----------------|----------------------------------|---------------------------------|------|-----------------|
|                                   |                  | Min.            | Max. | I <sub>T</sub> |                                  |                                 |      |                 |
|                                   | V                | V               | V    | mA             | uA                               | V                               | A    |                 |
| 200W Transient Voltage Suppressor |                  |                 |      |                |                                  |                                 |      |                 |
| P2AL3.3A                          | 3.3              | 5.2             | 6    | 10             | 50                               | 8.5                             | 23.5 | 2E1             |
| P2AL5.0A                          | 5                | 6.4             | 7    | 10             | 25                               | 9.2                             | 21.7 | 2E2             |
| P2AL6.0A                          | 6                | 6.67            | 7.37 | 10             | 25                               | 10.3                            | 19.4 | 2E3             |
| P2AL6.5A                          | 6.5              | 7.22            | 7.98 | 10             | 20                               | 11.2                            | 17.9 | 2E4             |
| P2AL7.0A                          | 7                | 7.78            | 8.6  | 10             | 20                               | 12                              | 16.7 | 2E5             |
| P2AL7.5A                          | 7.5              | 8.33            | 9.21 | 1              | 15                               | 12.9                            | 15.5 | 2E6             |
| P2AL8.0A                          | 8                | 8.89            | 9.83 | 1              | 2                                | 13.6                            | 14.7 | 2E7             |
| P2AL8.5A                          | 8.5              | 9.44            | 10.4 | 1              | 2                                | 14.4                            | 13.9 | 2E8             |
| P2AL9.0A                          | 9                | 10              | 11.1 | 1              | 0.5                              | 15.4                            | 13   | 2E9             |
| P2AL10A                           | 10               | 11.1            | 12.3 | 1              | 0.5                              | 17                              | 11.8 | 2EA             |
| P2AL11A                           | 11               | 12.2            | 13.5 | 1              | 0.5                              | 18.2                            | 11   | 2EC             |
| P2AL12A                           | 12               | 13.3            | 14.7 | 1              | 0.5                              | 19.9                            | 10.1 | 2ED             |
| P2AL13A                           | 13               | 14.4            | 15.9 | 1              | 0.1                              | 21.5                            | 9.3  | 2EE             |
| P2AL14A                           | 14               | 15.6            | 17.2 | 1              | 0.1                              | 23.2                            | 8.6  | 2EF             |
| P2AL15A                           | 15               | 16.7            | 18.5 | 1              | 0.1                              | 24.4                            | 8.2  | 2EH             |
| P2AL16A                           | 16               | 17.8            | 19.7 | 1              | 0.1                              | 26                              | 7.7  | 2EJ             |
| P2AL17A                           | 17               | 18.9            | 20.9 | 1              | 0.1                              | 27.6                            | 7.2  | 2EK             |
| P2AL18A                           | 18               | 20              | 22.1 | 1              | 0.1                              | 29.2                            | 6.8  | 2EL             |
| P2AL20A                           | 20               | 22.2            | 24.5 | 1              | 0.1                              | 32.4                            | 6.2  | 2EM             |
| P2AL22A                           | 22               | 24.4            | 26.9 | 1              | 0.1                              | 35.5                            | 5.6  | 2EN             |
| P2AL24A                           | 24               | 26.7            | 29.5 | 1              | 0.1                              | 38.9                            | 5.1  | 2EP             |
| P2AL26A                           | 26               | 28.9            | 31.9 | 1              | 0.1                              | 42.1                            | 4.8  | 2ER             |
| P2AL28A                           | 28               | 31.1            | 34.4 | 1              | 0.1                              | 45.4                            | 4.4  | 2ET             |
| P2AL30A                           | 30               | 33.3            | 36.8 | 1              | 0.1                              | 48.4                            | 4.1  | 2EU             |
| P2AL33A                           | 33               | 36.7            | 40.6 | 1              | 0.1                              | 53.3                            | 3.8  | 2EV             |
| P2AL36A                           | 36               | 40              | 44.2 | 1              | 0.1                              | 58.1                            | 3.4  | 2EW             |
| P2AL40A                           | 40               | 44.4            | 49.1 | 1              | 0.1                              | 64.5                            | 3.1  | 2EX             |

#### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2
2. Mounted on 5mm<sup>2</sup> copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, mini pad

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### TYPICAL CHARACTERISTIC CURVES

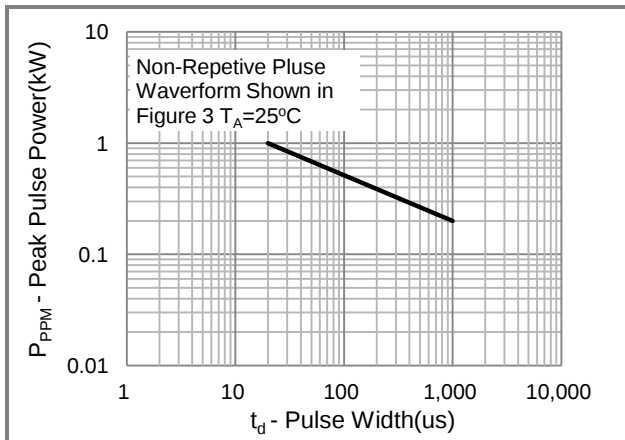


Fig.1 Pulse Power Rating Curve

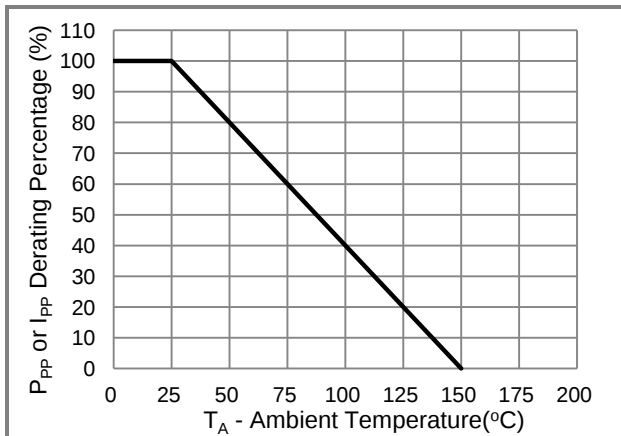


Fig.2 Derating Curve

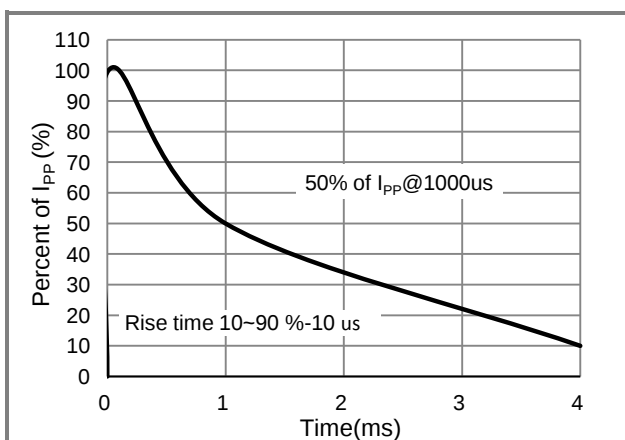


Fig.3 Pulse Waveform

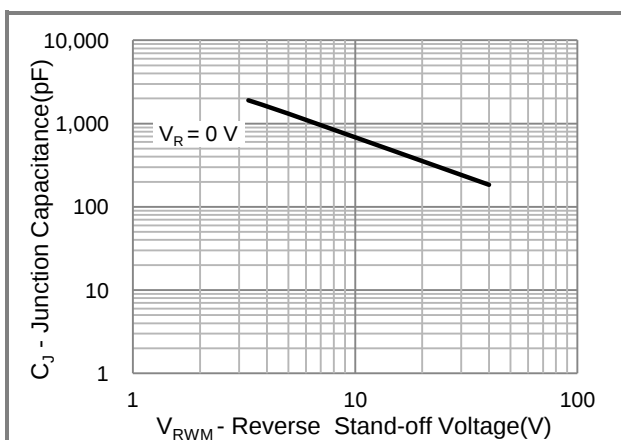


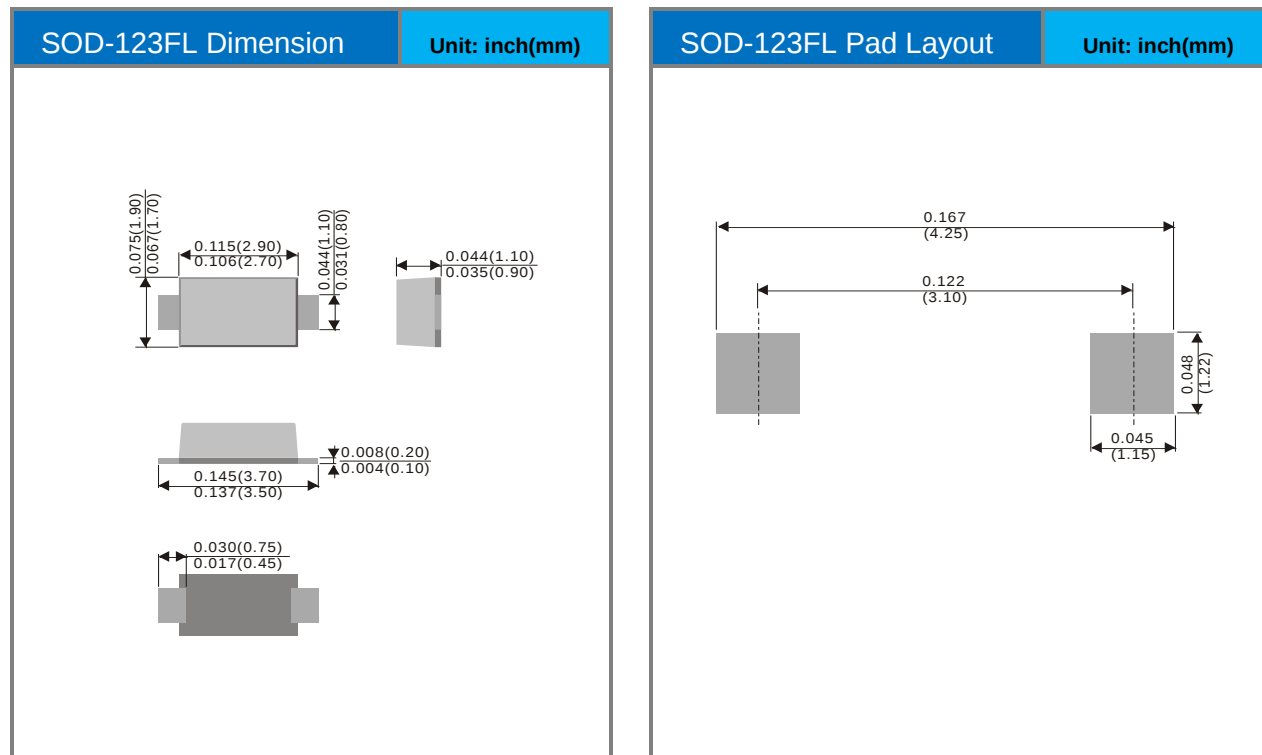
Fig.4 Typical Capacitance

## P2AL3.3A ~ P2AL40A Series

### Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type     | Marking   | Version      |
|----------------------|--------------|------------------|-----------|--------------|
| P2ALxxxA_R1_00001    | SOD-123FL    | 3K pcs / 7" reel | See Table | Halogen free |

### Packaging Information & Mounting Pad Layout





## **P2AL3.3A ~ P2AL40A Series**

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