

# P4FL3.3A-AU~P4FL64A-AU

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Voltage**

**3.3~64 V**

**Power**

**400 W**

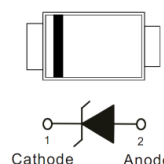
### Features

- 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
- AEC-Q101 qualified

### 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<sub>A</sub> = 25 °C unless otherwise noted)

| PARAMETER                                                         | SYMBOL                           | LIMIT       | UNITS |
|-------------------------------------------------------------------|----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10/1000 us)                     | P <sub>PP</sub> <sup>(1,2)</sup> | 400         | W     |
| Peak Pulse Current on tp = 10/1000 us waveform <sup>(Fig.2)</sup> | I <sub>PPM</sub> <sup>(1)</sup>  | See table 1 | A     |
| ESD IEC61000-4-2(Air)                                             | V <sub>ESD</sub>                 | ±30         | kV    |
| ESD IEC61000-4-2(Contact)                                         |                                  | ±30         |       |
| Typical Thermal Resistance Junction to Ambient                    | R <sub>θJA</sub> <sup>(3)</sup>  | 200         | °C/W  |
| Operating Junction Temperature Range                              | T <sub>J</sub>                   | -55~150     | °C    |
| Storage Temperature Range                                         | T <sub>STG</sub>                 | -65~150     | °C    |



## P4FL3.3A-AU~P4FL64A-AU

### 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 Code |
|-----------------------------------|------------------|-----------------|------|----------------|----------------------------------|---------------------------------|------|--------------|
|                                   |                  | Min.            | Max. | I <sub>T</sub> |                                  |                                 |      |              |
|                                   | V                | V               | V    | mA             | uA                               | V                               | A    |              |
| 400W Transient Voltage Suppressor |                  |                 |      |                |                                  |                                 |      |              |
| P4FL3.3A-AU                       | 3.3              | 5.2             | 6    | 10             | 100                              | 8.5                             | 47   | 4F1          |
| P4FL5.0A-AU                       | 5                | 6.4             | 7    | 10             | 50                               | 9.2                             | 43.5 | 4F2          |
| P4FL6.0A-AU                       | 6                | 6.67            | 7.37 | 10             | 50                               | 10.3                            | 38.8 | 4F3          |
| P4FL6.5A-AU                       | 6.5              | 7.22            | 7.98 | 10             | 40                               | 11.2                            | 35.7 | 4F4          |
| P4FL7.0A-AU                       | 7                | 7.78            | 8.6  | 10             | 40                               | 12                              | 33.3 | 4F5          |
| P4FL7.5A-AU                       | 7.5              | 8.33            | 9.21 | 1              | 30                               | 12.9                            | 31   | 4F6          |
| P4FL8.0A-AU                       | 8                | 8.89            | 9.83 | 1              | 5                                | 13.6                            | 29.4 | 4F7          |
| P4FL8.5A-AU                       | 8.5              | 9.44            | 10.4 | 1              | 5                                | 14.4                            | 27.8 | 4F8          |
| P4FL9.0A-AU                       | 9                | 10              | 11.1 | 1              | 0.5                              | 15.4                            | 26   | 4F9          |
| P4FL10A-AU                        | 10               | 11.1            | 12.3 | 1              | 0.5                              | 17                              | 23.5 | 4FA          |
| P4FL11A-AU                        | 11               | 12.2            | 13.5 | 1              | 0.5                              | 18.2                            | 22   | 4FB          |
| P4FL12A-AU                        | 12               | 13.3            | 14.7 | 1              | 0.5                              | 19.9                            | 20.1 | 4FC          |
| P4FL13A-AU                        | 13               | 14.4            | 15.9 | 1              | 0.1                              | 21.5                            | 18.6 | 4FD          |
| P4FL14A-AU                        | 14               | 15.6            | 17.2 | 1              | 0.1                              | 23.2                            | 17.2 | 4FE          |
| P4FL15A-AU                        | 15               | 16.7            | 18.5 | 1              | 0.1                              | 24.4                            | 16.4 | 4FF          |
| P4FL16A-AU                        | 16               | 17.8            | 19.7 | 1              | 0.1                              | 26                              | 15.4 | 4FH          |
| P4FL17A-AU                        | 17               | 18.9            | 20.9 | 1              | 0.1                              | 27.6                            | 14.5 | 4FJ          |
| P4FL18A-AU                        | 18               | 20              | 22.1 | 1              | 0.1                              | 29.2                            | 13.7 | 4FK          |
| P4FL20A-AU                        | 20               | 22.2            | 24.5 | 1              | 0.1                              | 32.4                            | 12.3 | 4FL          |
| P4FL22A-AU                        | 22               | 24.4            | 26.9 | 1              | 0.1                              | 35.5                            | 11.3 | 4FM          |
| P4FL24A-AU                        | 24               | 26.7            | 29.5 | 1              | 0.1                              | 38.9                            | 10.3 | 4FN          |
| P4FL26A-AU                        | 26               | 28.9            | 31.9 | 1              | 0.1                              | 42.1                            | 9.5  | 4FP          |
| P4FL28A-AU                        | 28               | 31.1            | 34.4 | 1              | 0.1                              | 45.4                            | 8.8  | 4FR          |
| P4FL30A-AU                        | 30               | 33.3            | 36.8 | 1              | 0.1                              | 48.4                            | 8.3  | 4FT          |
| P4FL33A-AU                        | 33               | 36.7            | 40.6 | 1              | 0.1                              | 53.3                            | 7.5  | 4FU          |
| P4FL36A-AU                        | 36               | 40              | 44.2 | 1              | 0.1                              | 58.1                            | 6.9  | 4FV          |
| P4FL40A-AU                        | 40               | 44.4            | 49.1 | 1              | 0.1                              | 64.5                            | 6.2  | 4FW          |
| P4FL43A-AU                        | 43               | 47.8            | 52.8 | 1              | 0.1                              | 69.4                            | 5.8  | 4FX          |
| P4FL45A-AU                        | 45               | 50              | 55.3 | 1              | 0.1                              | 72.2                            | 5.5  | 4FY          |
| P4FL48A-AU                        | 48               | 53.3            | 58.9 | 1              | 0.1                              | 77.4                            | 5.2  | 4FZ          |
| P4FL51A-AU                        | 51               | 56.7            | 62.7 | 1              | 0.1                              | 82.4                            | 4.9  | 4H1          |



## P4FL3.3A-AU~P4FL64A-AU

### 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 Code |
|-----------------------------------|------------------|-----------------|------|----------------|----------------------------------|---------------------------------|-----|--------------|
|                                   |                  | Min.            | Max. | I <sub>T</sub> |                                  |                                 |     |              |
|                                   | V                | V               | V    | mA             | uA                               | V                               | A   |              |
| 400W Transient Voltage Suppressor |                  |                 |      |                |                                  |                                 |     |              |
| P4FL54A-AU                        | 54               | 60              | 66.3 | 1              | 0.1                              | 87.1                            | 4.6 | 4H2          |
| P4FL58A-AU                        | 58               | 64.4            | 71.2 | 1              | 0.1                              | 93.6                            | 4.3 | 4H3          |
| P4FL60A-AU                        | 60               | 66.7            | 73.7 | 1              | 0.1                              | 96.8                            | 4.1 | 4H4          |
| P4FL64A-AU                        | 64               | 71.1            | 78.6 | 1              | 0.1                              | 103                             | 3.9 | 4H5          |

#### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^\circ\text{C}$  per Fig.2
2. Mounted on  $5\text{mm}^2$  copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, mini pad
4. TVS is a transient protection device, it is strongly recommended not to use as a Zener

## P4FL3.3A-AU~P4FL64A-AU

### TYPICAL CHARACTERISTIC CURVES



Fig.1 Pulse Power Rating Curve



Fig.2 Derating Curve

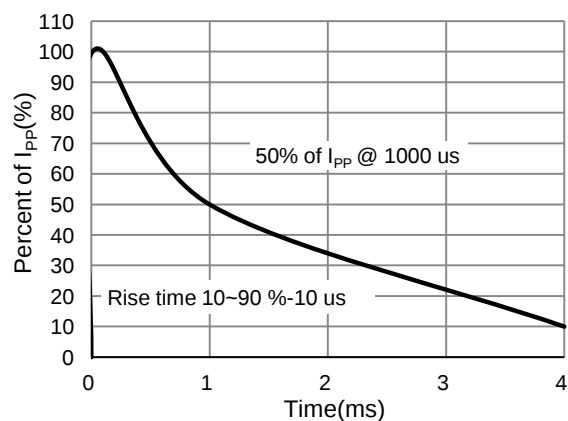


Fig.3 Pulse Waveform



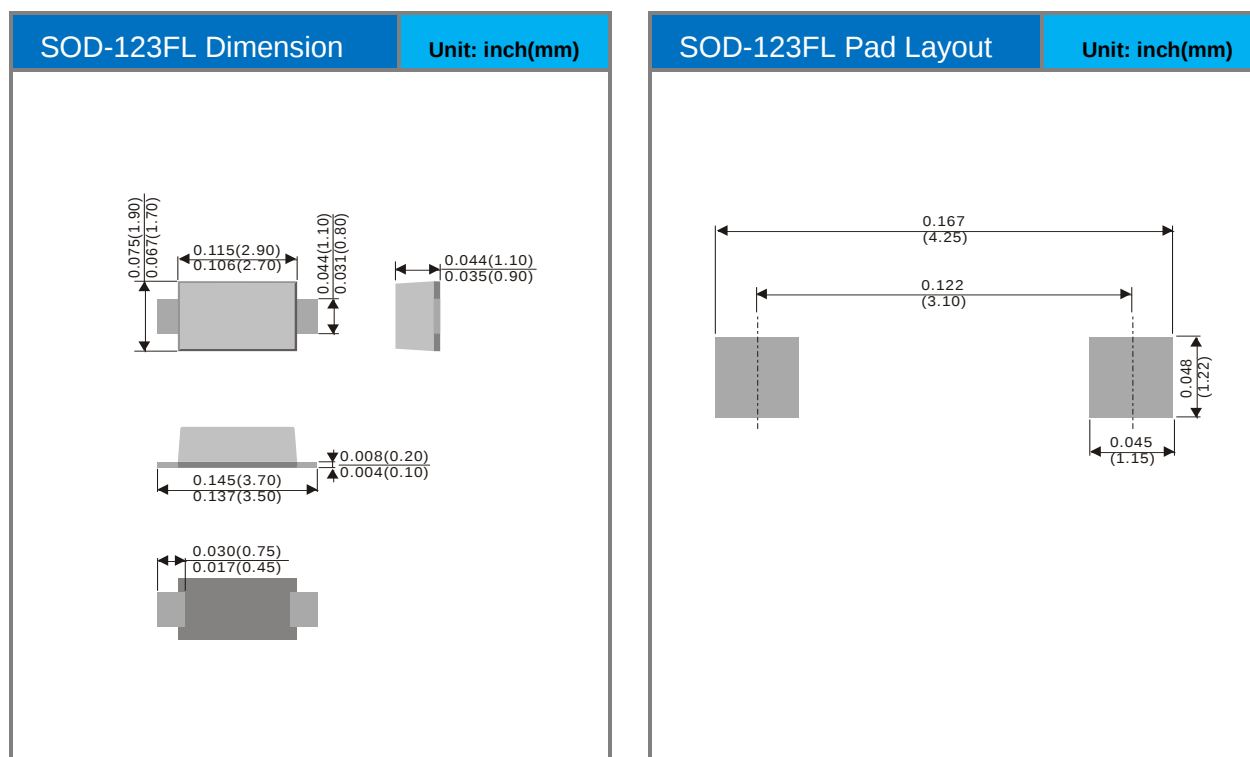
Fig.4 Typical Capacitance

## P4FL3.3A-AU~P4FL64A-AU

### Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type     | Marking | Version      |
|----------------------|--------------|------------------|---------|--------------|
| P4FL3.3A-AU_R1_000A1 | SOD-123FL    | 3K pcs / 7" reel | 4F1     | Halogen free |

### Packaging Information & Mounting Pad Layout





## P4FL3.3A-AU~P4FL64A-AU

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