



# 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                       | $V_{RWM}$ | $V_{BR}$ |      |       | $I_R@V_{RWM}$ | $V_C@I_{PP}$ |      | Marking Code |
|-----------------------------------|-----------|----------|------|-------|---------------|--------------|------|--------------|
|                                   |           | Min.     | Max. | $I_T$ |               | V            | A    |              |
|                                   | V         | V        | V    | mA    | uA            |              |      |              |
| 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                       | $V_{RWM}$ | $V_{BR}$ |      |       | $I_R@V_{RWM}$ | $V_C@I_{PP}$ |     | Marking Code |
|-----------------------------------|-----------|----------|------|-------|---------------|--------------|-----|--------------|
|                                   |           | Min.     | Max. | $I_T$ |               | V            | A   |              |
|                                   | V         | V        | V    | mA    | uA            |              |     |              |
| 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



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## TYPICAL CHARACTERISTIC CURVES



Fig.1 Pulse Power Rating Curve

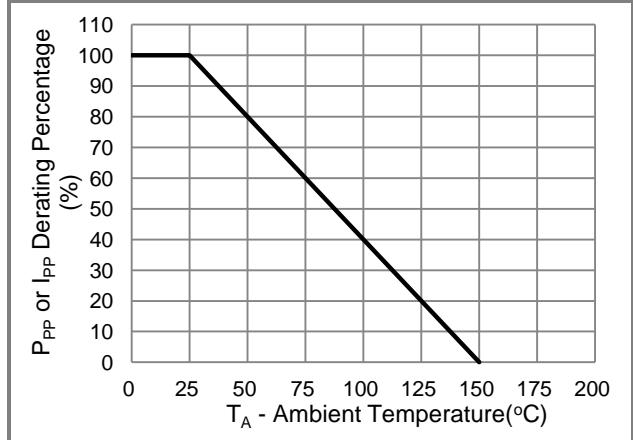


Fig.2 Derating Curve



Fig.3 Pulse Waveform

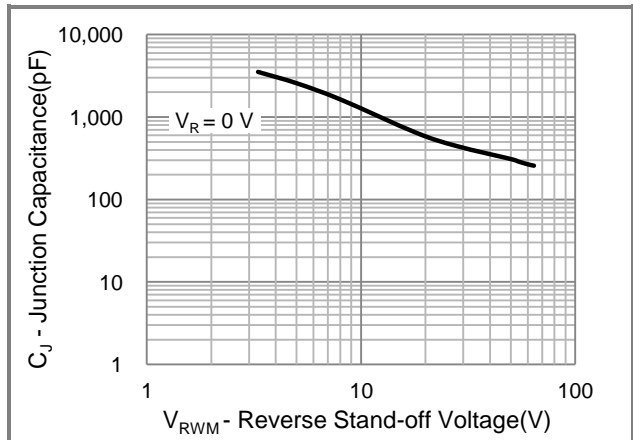


Fig.4 Typical Capacitance



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## 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

