



P4FL3.3A ~ P4FL64A Series

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

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($t_p = 10/1000$ us) | $P_{PP}^{(1,2)}$ | 400 | W |
| Peak Pulse Current on $t_p = 10/1000$ us waveform ^(Fig.2) | $I_{PPM}^{(1)}$ | See table 1 | A |
| ESD IEC61000-4-2(Air) | V_{ESD} | ±30 | kV |
| ESD IEC61000-4-2(Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}^{(3)}$ | 200 | °C/W |
| Operating Junction Temperature Range | T_J | -55~150 | °C |
| Storage Temperature Range | T_{STG} | -65~150 | °C |



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



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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 | 54 | 60 | 66.3 | 1 | 0.1 | 87.1 | 4.6 | 4H2 |
| P4FL58A | 58 | 64.4 | 71.2 | 1 | 0.1 | 93.6 | 4.3 | 4H3 |
| P4FL60A | 60 | 66.7 | 73.7 | 1 | 0.1 | 96.8 | 4.1 | 4H4 |
| P4FL64A | 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 5mm^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

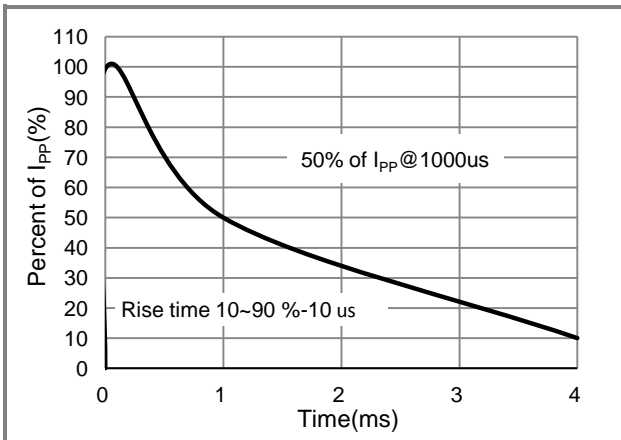


Fig.3 Pulse Waveform



Fig.4 Typical Capacitance

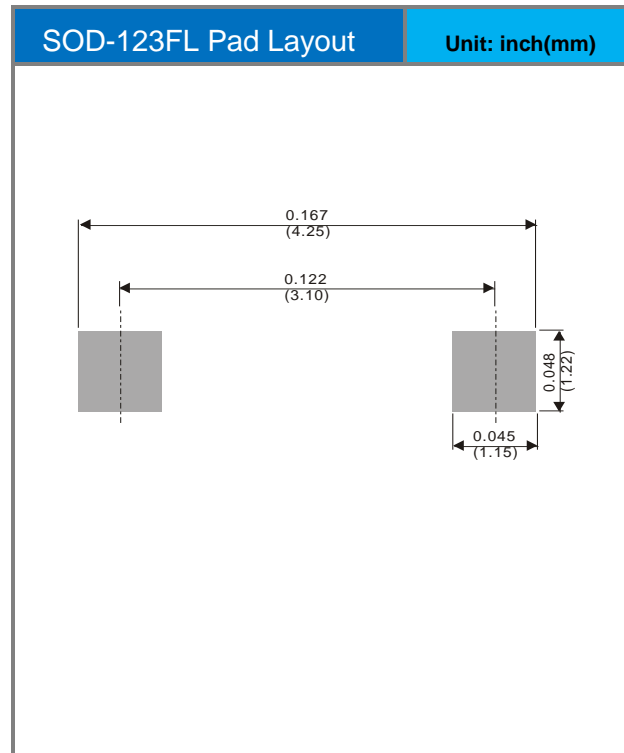
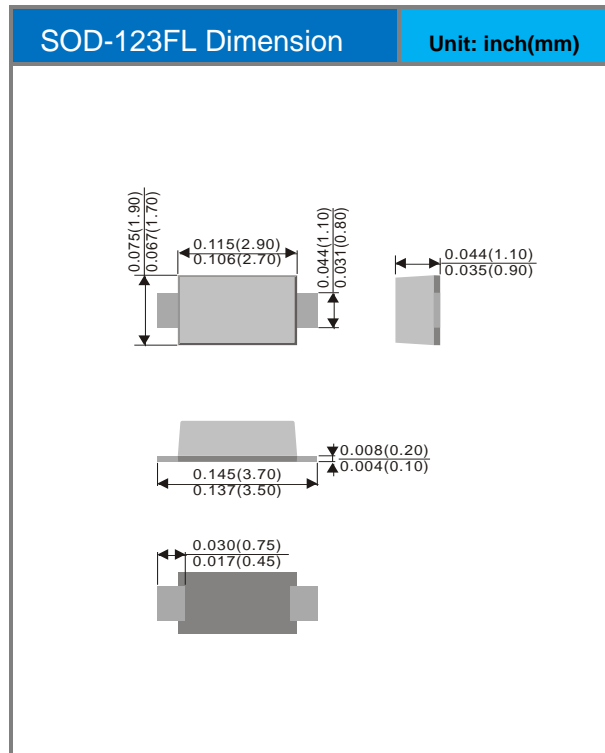


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|----------------------|--------------|------------------|-----------|--------------|
| P4FLxxxA_R1_00001 | SOD-123FL | 3K pcs / 7" reel | See Table | Halogen free |

Packaging Information & Mounting Pad Layout





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