



SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Voltage

3.3~64 V

Power

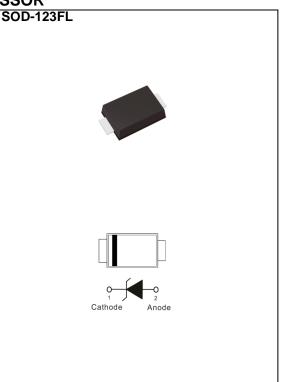
400 W

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



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|---------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10/1000 us) | P _{PP} (1,2) | 400 | W |
| Peak Pulse Current on tp = 10/1000 us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | Α |
| ESD IEC61000-4-2(Air) | N/ | ±30 | 1.37 |
| ESD IEC61000-4-2(Contact) | V _{ESD} | ±30 | kV |
| 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 |





Electrical Characteristics (T_A = 25°C unless otherwise noted)

| | | V_{BR} | | | | | | | |
|-------------------|-----------------------------------|----------|------|----------------|---------------|---------------------------------|------|---------|--|
| Part Number | V_{RWM} | Min. | Max. | I _T | $I_R@V_{RWM}$ | V _C @I _{PP} | | Marking | |
| | V | V | V | mA | uA | V | Α | Code | |
| 400W Transient Vo | 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 | |





Electrical Characteristics (T_A = 25°C unless otherwise noted)

| Part Number | V_{RWM} | V_{BR} | | | 1.87 | V @I | | Marking |
|-----------------------------------|-----------|----------|------|----------------|---------------|---------------------------------|-----|---------|
| | | Min. | Max. | I _T | $I_R@V_{RWM}$ | V _C @I _{PP} | | Marking |
| | V | V | V | mA | uA | V | А | Code |
| 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°C per Fig.2
- 2. Mounted on 5mm² 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





TYPICAL CHARACTERISTIC CURVES

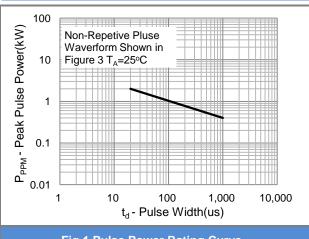


Fig.1 Pulse Power Rating Curve

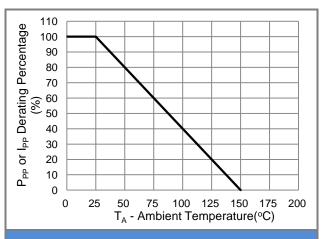
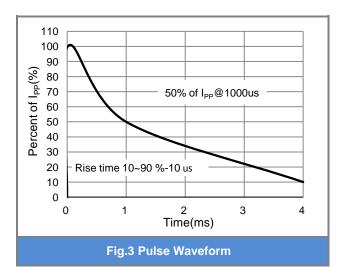
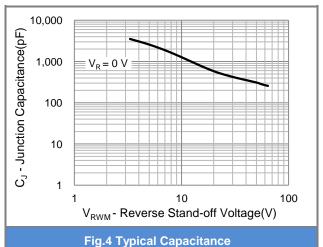


Fig.2 Derating Curve





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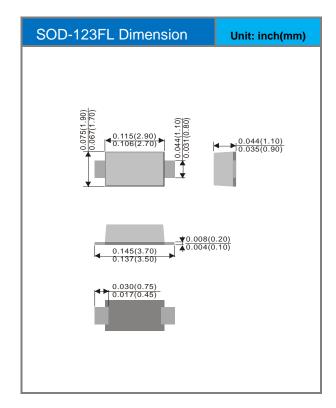


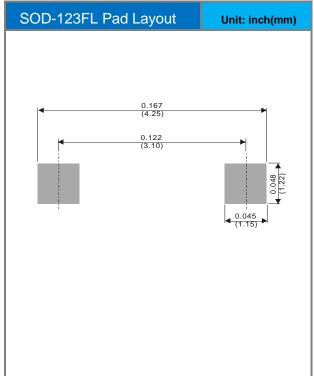


Part No Packing Code Version

| 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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