



P6AF3.3A-AU~P6AF64A-AU

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

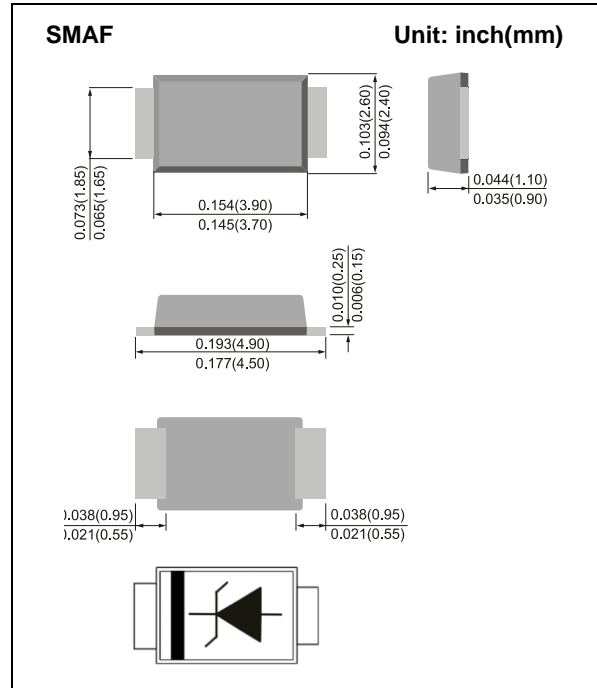
Voltage 3.3~64 V **Power** 600 W

Features

- For surface mounted applications in order to optimize board space.
- Ultra thin profile package for space constrained utilization.
- Package suitable for automated handling
- Low inductance
- High temperature soldering : 260°C/10 seconds at terminals
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SMAF, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0011 ounces, 0.0328 grams



Maximum Ratings

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|-----------------|-------------|-------|
| Peak Pulse Power Dissipation($t_p=10/1000\mu s$) ^(NOTE1,2) | P_{PP} | 600 | W |
| Peak Forward Surge Current (8.3ms single half sine-wave) | I_{FSM} | 100 | A |
| Peak Pulse Current on $t_p=10/1000\mu s$ Waveform ^(NOTE1, Fig.2) | I_{PPM} | 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 ^(NOTE 3) | $R_{\theta JA}$ | 150 | °C/W |
| Operating Junction Temperature Range | T_J | -55 to +150 | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | °C |

Notes :

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ C$ per Fig.2
2. Mounted on 5mm² copper pads to each terminal.
3. Mounted on a FR4 PCB, single-sided copper, mini pad.
4. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operation voltage level.
5. TVS is a transient protection device, it is strongly recommended not to use as a Zener.



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Electrical Characteristics

| Part Number | V_{RWM} (NOTE 4) | V_{BR} | | | $I_R@V_{RWM}$ | $V_C@I_{PP}$ | | Marking Code |
|-------------|-----------------------|----------|------|-------|---------------|--------------|------|-----------------|
| | | Min. | Max. | I_T | | Max. | | |
| | V | V | V | mA | μA | V | A | |
| P6AF3.3A-AU | 3.3 | 5.2 | 6 | 10 | 100 | 8 | 75 | FKCS |
| P6AF5.0A-AU | 5 | 6.4 | 7 | 10 | 50 | 9.2 | 65.2 | FKES |
| P6AF6.0A-AU | 6 | 6.67 | 7.37 | 10 | 50 | 10.3 | 58.3 | FKGS |
| P6AF6.5A-AU | 6.5 | 7.22 | 7.98 | 10 | 40 | 11.2 | 53.6 | FKKS |
| P6AF7.0A-AU | 7 | 7.78 | 8.6 | 10 | 40 | 12 | 50 | FKMS |
| P6AF7.5A-AU | 7.5 | 8.33 | 9.21 | 1 | 30 | 12.9 | 46.5 | FKPS |
| P6AF8.0A-AU | 8 | 8.89 | 9.83 | 1 | 5 | 13.6 | 44.1 | FKRS |
| P6AF8.5A-AU | 8.5 | 9.44 | 10.4 | 1 | 5 | 14.4 | 41.7 | FKTS |
| P6AF9.0A-AU | 9 | 10 | 11.1 | 1 | 0.5 | 15.4 | 39 | FKVS |
| P6AF10A-AU | 10 | 11.1 | 12.3 | 1 | 0.5 | 17 | 35.3 | FKXS |
| P6AF11A-AU | 11 | 12.2 | 13.5 | 1 | 0.5 | 18.2 | 33 | FKZS |
| P6AF12A-AU | 12 | 13.3 | 14.7 | 1 | 0.5 | 19.9 | 30.2 | FLFS |
| P6AF13A-AU | 13 | 14.4 | 15.9 | 1 | 0.1 | 21.5 | 27.9 | FLGS |
| P6AF14A-AU | 14 | 15.6 | 17.2 | 1 | 0.1 | 23.2 | 25.9 | FLKS |
| P6AF15A-AU | 15 | 16.7 | 18.5 | 1 | 0.1 | 24.4 | 24.6 | FLMS |
| P6AF16A-AU | 16 | 17.8 | 19.7 | 1 | 0.1 | 26 | 23.1 | FLPS |
| P6AF17A-AU | 17 | 18.9 | 20.9 | 1 | 0.1 | 27.6 | 21.7 | FLRS |
| P6AF18A-AU | 18 | 20 | 22.1 | 1 | 0.1 | 29.2 | 20.5 | FLTS |
| P6AF20A-AU | 20 | 22.2 | 24.5 | 1 | 0.1 | 32.4 | 18.5 | FLVS |
| P6AF22A-AU | 22 | 24.4 | 26.9 | 1 | 0.1 | 35.5 | 16.9 | FLXS |
| P6AF24A-AU | 24 | 26.7 | 29.5 | 1 | 0.1 | 38.9 | 15.4 | FLZS |
| P6AF26A-AU | 26 | 28.9 | 31.9 | 1 | 0.1 | 42.1 | 14.3 | FMES |
| P6AF28A-AU | 28 | 31.1 | 34.4 | 1 | 0.1 | 45.4 | 13.2 | FMGS |
| P6AF30A-AU | 30 | 33.3 | 36.8 | 1 | 0.1 | 48.4 | 12.4 | FMKS |
| P6AF33A-AU | 33 | 36.7 | 40.6 | 1 | 0.1 | 53.3 | 11.3 | FMMS |
| P6AF36A-AU | 36 | 40 | 44.2 | 1 | 0.1 | 58.1 | 10.3 | FMPS |
| P6AF40A-AU | 40 | 44.4 | 49.1 | 1 | 0.1 | 64.5 | 9.3 | FMRS |
| P6AF43A-AU | 43 | 47.8 | 52.8 | 1 | 0.1 | 69.4 | 8.6 | FMTS |
| P6AF45A-AU | 45 | 50 | 55.3 | 1 | 0.1 | 72.7 | 8.3 | FMVS |
| P6AF48A-AU | 48 | 53.3 | 58.9 | 1 | 0.1 | 77.4 | 7.8 | FMXS |
| P6AF51A-AU | 51 | 56.7 | 62.7 | 1 | 0.1 | 82.4 | 7.3 | FMZS |
| P6AF54A-AU | 54 | 60 | 66.3 | 1 | 0.1 | 87.1 | 6.9 | FNES |
| P6AF58A-AU | 58 | 64.4 | 71.2 | 1 | 0.1 | 93.6 | 6.4 | FNGS |
| P6AF60A-AU | 60 | 66.7 | 73.7 | 1 | 0.1 | 96.8 | 6.2 | FNKS |
| P6AF64A-AU | 64 | 71.1 | 78.6 | 1 | 0.1 | 103 | 5.8 | FNMS |



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TYPICAL CHARACTERISTIC CURVES

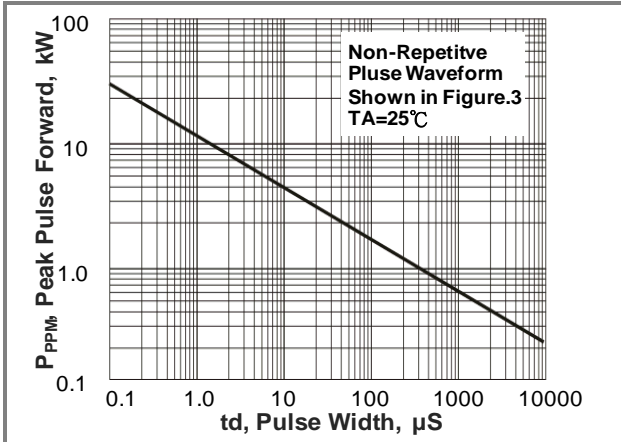


Fig.1 Peak Pulse Power Rating Curve

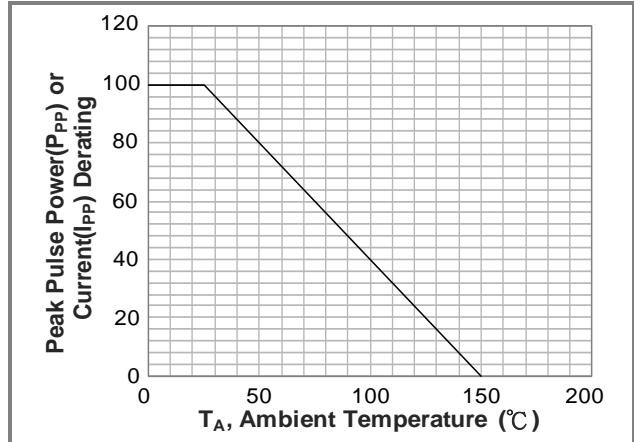


Fig.2 Derating Curve

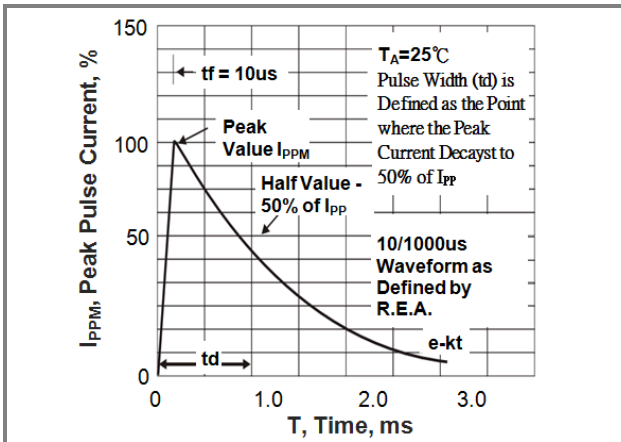


Fig.3 Pulse Waveform

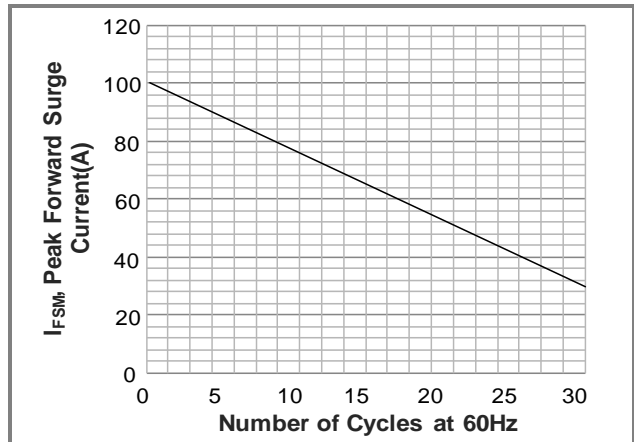


Fig.4 Maximum Non-repetitive Peak Forward Surge Current

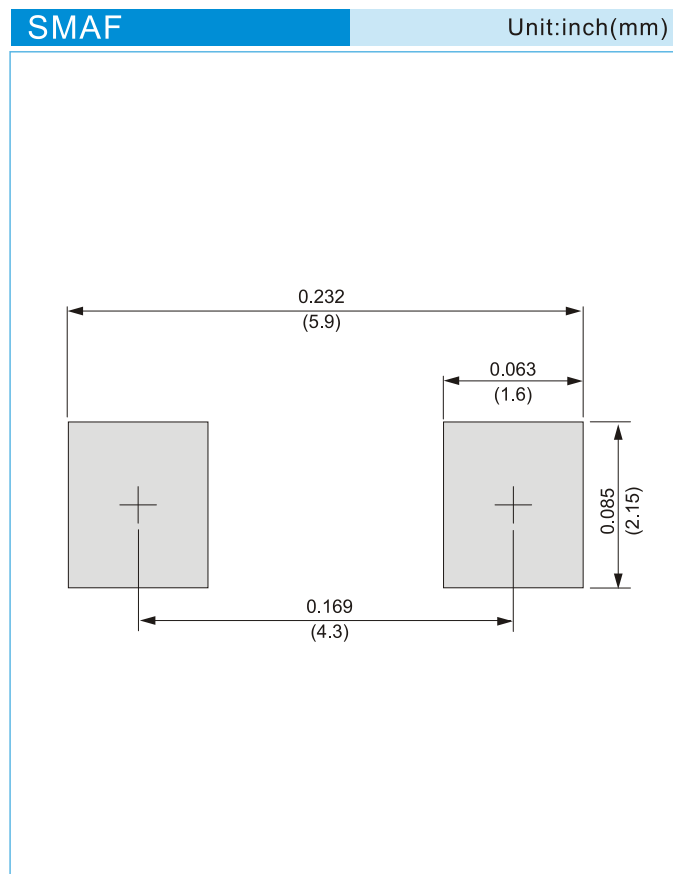


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|----------------------|--------------|--------------------|---------|--------------|
| P6AF3.3A-AU_R1_000A1 | SMAF | 3K pcs / 7" reel | FKCS | Halogen free |
| P6AF3.3A-AU_R2_000A1 | SMAF | 10K pcs / 13" reel | FKCS | Halogen free |

Mounting Pad Layout





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