

VOLTAGE RANGE: 5.0 - 170V

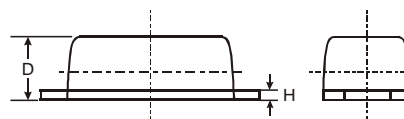
POWER: 200Watts

Features

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability
- 200W peak pulse power capability with a 10/1000 μ s wave from, repetition rate (duty cycle): 0.01%
- High temperature soldering guaranteed: 260 /10 seconds, at terminals

Mechanical Data

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Polarity: Color band denotes positive end (cathode) except for bidirectional
- Mounting position: Any
- Weight: 0.006 ounces, 0.02 gram



| SOD-123FL | | | |
|----------------------|-------|------|------|
| Dim | Min | Max | Typ |
| A | 3.58 | 3.72 | 3.65 |
| B | 2.72 | 2.78 | 2.75 |
| C | 1.77 | 1.83 | 1.80 |
| D | 1.02 | 1.08 | 1.05 |
| E | 0.097 | 1.03 | 1.00 |
| H | 0.13 | 0.17 | 0.15 |
| L | 0.53 | 0.57 | 0.55 |
| All Dimensions in mm | | | |

Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------------|---------------------------|
| Maximum P_{PK} Dissipation (PW - 10/1000 μ s) | P_{PK} | 200 | W |
| Maximum P_{PK} Dissipation @ $T_a = 25^\circ\text{C}$ (PW - 8/10 μ s) (Note 2) | P_{PK} | 1000 | W |
| DC Power Dissipation @ $T_a = 25^\circ\text{C}$ (Note 3) | P_D | 385 | mW |
| Derate above 25°C | | 4.0 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient (Note 3) | $R_{\theta JA}$ | 325 | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance, Junction to Lead (Note 3) | $R_{\theta JL}$ | 26 | $^\circ\text{C}/\text{W}$ |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Notes :

- (1) Non-repetitive current pulse at $T_a = 25^\circ\text{C}$, per waveform of Fig. 2.
- (2) Non-repetitive current pulse at $T_a = 25^\circ\text{C}$, per waveform of Fig. 5.
- (3) Mounted with recommended minimum pad size, DC board FR4.

| TYPE | | Marking | | Reverse Stand-Off Voltage | Breakdown Voltage Min. @I _T | Breakdown Voltage Max. @ I _T | Test Current | Reverse Leakage @V _{RWM} | Maximum Clamping Voltage @I _{PP} | Peak Pulse Current |
|---------|----------|---------|------|---------------------------|--|---|---------------------|-----------------------------------|---|----------------------|
| (Uni) | (Bi) | (Uni) | (Bi) | V _{RWM} (V) | V _{BR MIN} (V) | V _{BR MAX} (V) | I _T (mA) | I _R (uA) | V _C (V) | I _{PP} (mA) |
| SMF5.0A | SMF5.0CA | KE | FE | 5.0 | 6.40 | 7.00 | 10 | 400 | 9.2 | 21.7 |
| SMF6.0A | SMF6.0CA | KG | FG | 6.0 | 6.67 | 7.37 | 10 | 400 | 10.3 | 19.4 |
| SMF6.5A | SMF6.5CA | KK | FK | 6.5 | 7.22 | 7.98 | 10 | 250 | 11.2 | 17.9 |
| SMF7.0A | SMF7.0CA | KM | FM | 7.0 | 7.78 | 8.60 | 10 | 100 | 12.0 | 16.7 |
| SMF7.5A | SMF7.5CA | KP | FP | 7.5 | 8.33 | 9.21 | 1.0 | 50 | 12.9 | 15.5 |
| SMF8.0A | SMF8.0CA | KR | FR | 8.0 | 8.89 | 9.83 | 1.0 | 25 | 13.6 | 14.7 |
| SMF8.5A | SMF8.5CA | KT | FT | 8.5 | 9.44 | 10.4 | 1.0 | 10 | 14.4 | 13.9 |
| SMF9.0A | SMF9.0CA | KV | FV | 9.0 | 10.0 | 11.1 | 1.0 | 5.0 | 15.4 | 13.0 |
| SMF10A | SMF10CA | KX | FX | 10 | 11.1 | 12.3 | 1.0 | 2.5 | 17.0 | 11.8 |
| SMF11A | SMF11CA | KZ | FZ | 11 | 12.2 | 13.5 | 1.0 | 2.5 | 18.2 | 11.0 |
| SMF12A | SMF12CA | LE | HE | 12 | 13.3 | 14.7 | 1.0 | 2.5 | 19.9 | 10.1 |
| SMF13A | SMF13CA | LG | HG | 13 | 14.4 | 15.9 | 1.0 | 1.0 | 21.5 | 9.3 |
| SMF14A | SMF14CA | LK | HK | 14 | 15.6 | 17.2 | 1.0 | 1.0 | 23.2 | 8.6 |
| SMF15A | SMF15CA | LM | HM | 15 | 16.7 | 18.5 | 1.0 | 1.0 | 24.4 | 8.2 |
| SMF16A | SMF16CA | LP | HP | 16 | 17.8 | 19.7 | 1.0 | 1.0 | 26.0 | 7.7 |
| SMF17A | SMF17CA | LR | HR | 17 | 18.9 | 20.9 | 1.0 | 1.0 | 27.6 | 7.2 |
| SMF18A | SMF18CA | LT | HT | 18 | 20.0 | 22.1 | 1.0 | 1.0 | 29.2 | 6.8 |
| SMF20A | SMF20CA | LV | HV | 20 | 22.2 | 24.5 | 1.0 | 1.0 | 32.4 | 6.2 |
| SMF22A | SMF22CA | LX | HX | 22 | 24.4 | 26.9 | 1.0 | 1.0 | 35.5 | 5.6 |
| SMF24A | SMF24CA | LZ | HZ | 24 | 26.7 | 29.5 | 1.0 | 1.0 | 38.9 | 5.1 |
| SMF26A | SMF26CA | ME | JE | 26 | 28.9 | 31.9 | 1.0 | 1.0 | 42.1 | 4.8 |
| SMF28A | SMF28CA | MG | JG | 28 | 31.1 | 34.4 | 1.0 | 1.0 | 45.4 | 4.4 |
| SMF30A | SMF30CA | MK | JK | 30 | 33.3 | 36.8 | 1.0 | 1.0 | 48.4 | 4.1 |
| SMF33A | SMF33CA | MM | JM | 33 | 36.7 | 40.6 | 1.0 | 1.0 | 53.3 | 3.8 |
| SMF36A | SMF36CA | MP | JP | 36 | 40.0 | 44.2 | 1.0 | 1.0 | 58.1 | 3.4 |
| SMF40A | SMF40CA | MR | JR | 40 | 44.4 | 49.1 | 1.0 | 1.0 | 64.5 | 3.1 |
| SMF43A | SMF43CA | MT | JT | 43 | 47.8 | 52.8 | 1.0 | 1.0 | 69.4 | 2.9 |
| SMF45A | SMF45CA | MV | JV | 45 | 50.0 | 55.3 | 1.0 | 1.0 | 72.7 | 2.8 |
| SMF48A | SMF48CA | MX | JX | 48 | 53.3 | 58.9 | 1.0 | 1.0 | 77.4 | 2.6 |
| SMF51A | SMF51CA | MZ | JZ | 51 | 56.7 | 62.7 | 1.0 | 1.0 | 82.4 | 2.4 |
| SMF54A | SMF54CA | NE | XE | 54 | 60.0 | 66.3 | 1.0 | 1.0 | 87.1 | 2.3 |
| SMF58A | SMF58CA | NG | XG | 58 | 64.4 | 71.2 | 1.0 | 1.0 | 93.6 | 2.1 |
| SMF60A | SMF60CA | NK | XK | 60 | 66.7 | 73.7 | 1.0 | 1.0 | 96.8 | 1.8 |
| SMF64A | SMF64CA | NM | XM | 64 | 71.1 | 78.6 | 1.0 | 1.0 | 103 | 1.7 |
| SMF70A | SMF70CA | NP | XP | 70 | 77.8 | 86.0 | 1.0 | 1.0 | 113 | 1.5 |
| SMF75A | SMF75CA | NR | XR | 75 | 83.3 | 92.1 | 1.0 | 1.0 | 121 | 1.4 |
| SMF78A | SMF78CA | NT | XT | 78 | 86.7 | 95.8 | 1.0 | 1.0 | 126 | 1.4 |
| SMF85A | SMF85CA | NV | XB | 85 | 94.4 | 104 | 1.0 | 1.0 | 137 | 1.3 |
| SMF90A | SMF90CA | NX | XX | 90 | 100 | 111 | 1.0 | 1.0 | 146 | 1.2 |
| SMF100A | SMF100CA | NZ | XZ | 100 | 111 | 123 | 1.0 | 1.0 | 162 | 1.1 |
| SMF110A | SMF110CA | PE | TE | 110 | 122 | 135 | 1.0 | 1.0 | 177 | 1.0 |
| SMF120A | SMF120CA | PG | TG | 120 | 133 | 147 | 1.0 | 1.0 | 193 | 0.9 |
| SMF130A | SMF130CA | PK | TK | 130 | 144 | 159 | 1.0 | 1.0 | 209 | 0.8 |
| SMF150A | SMF150CA | PM | TM | 150 | 167 | 185 | 1.0 | 1.0 | 243 | 0.7 |
| SMF160A | SMF160CA | PP | TP | 160 | 178 | 197 | 1.0 | 1.0 | 259 | 0.7 |
| SMF170A | SMF170CA | PR | TR | 170 | 189 | 209 | 1.0 | 1.0 | 275 | 0.6 |

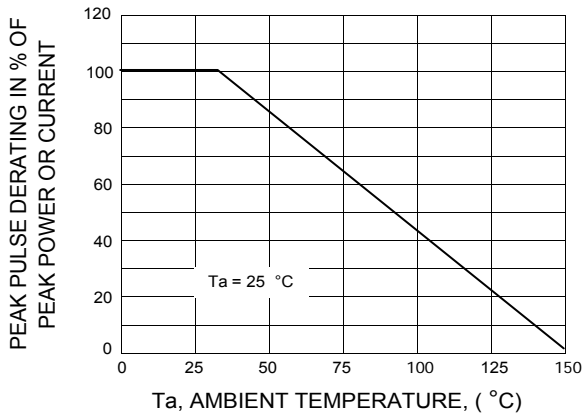
FIG.1 - PULSE DERATING CURVE

FIG.2 - 10 x 1000 μs PULSE WAVEFORM

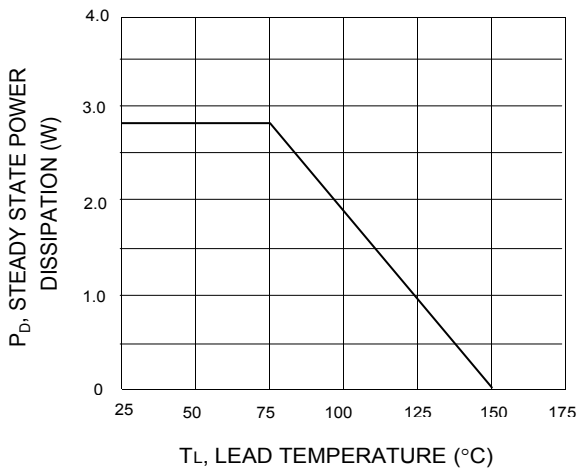
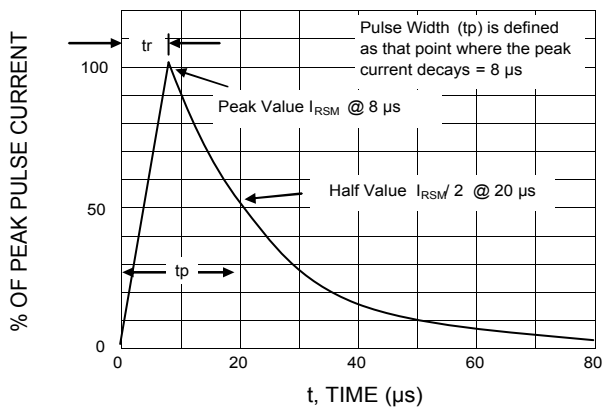
FIG.3 - STEADY STATE POWER DERATING

FIG.4 - PULSE RATING CURVE

FIG.5 - 8 x 20 μs PULSE WAVEFORM

FIG. 6 - CAPACITANCE VS. WORKING PEAK REVERSE VOLTAGE


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