

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

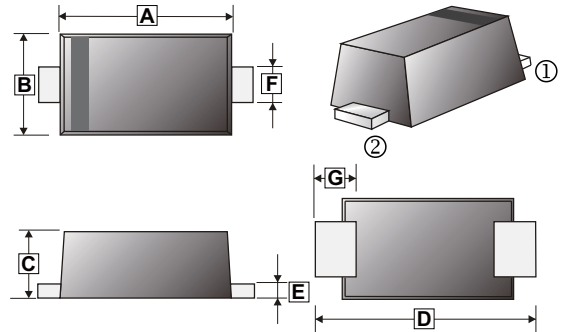
FEATURES

- Low profile package
- For surface mounted applications
- Ideal for automated placement
- Low power loss, high efficiency
- High temperature soldering :
250°C / 10 seconds at terminals

MECHANICAL DATA

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.006 ounces, 0.02 gram

SOD-123FL



MARKING

| Product | Marking Code |
|----------|--------------|
| SM0520FL | B2 |

| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.70 | 2.90 | E | 0.10 | 0.30 |
| B | 2.00 | 1.80 | F | 0.80 | 1.20 |
| C | 1.55 | 1.25 | G | 0.35 | 0.85 |
| D | 3.50 | 3.90 | | | |

PACKAGE INFORMATION

| Package | MPQ | LeaderSize |
|-----------|------|------------|
| SOD-123FL | 2.5K | 7' inch |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| PARAMETERS | SYMBOL | VALUE | UNITS |
|--|-----------------|-----------|-----------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | V |
| Maximum working peak reverse voltage | V_{RWM} | 20 | V |
| Maximum DC blocking voltage | V_R | 20 | V |
| Maximum average forward rectified current at rated V_R @ $T_L = 129^\circ\text{C}$ | $I_{(AV)}$ | 0.5 | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_L = 25^\circ\text{C}$ | I_{FSM} | 6.5 | A |
| Typical thermal resistance to ambient (NOTE 1) | $R_{\theta JA}$ | 200 | $^\circ\text{C} / \text{W}$ |
| Typical thermal resistance to lead (NOTE 2) | $R_{\theta JL}$ | 25 | $^\circ\text{C} / \text{W}$ |
| Operating Temperature Range | T_J | -55 ~ 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 ~ 150 | $^\circ\text{C}$ |

- NOTES : 1. Mounted on epoxy substrate with 3 x 3 mm CU pads ($\geq 40 \mu\text{m}$ thick).
2. Mounted with minimum recommended pad size, PC board FR4.

| PARAMETERS | | SYMBOL | MIN | TYP. | MAX | UNIT |
|--|------------------------------|--------|-----|------|-------|---------|
| Maximum instantaneous forward voltage (NOTE 3) | $I_F=0.1A, T_J=25^{\circ}C$ | V_F | - | - | 0.375 | V |
| | $I_F=0.1A, T_J=100^{\circ}C$ | | - | - | 0.260 | |
| | $I_F=0.5A, T_J=25^{\circ}C$ | | - | - | 0.440 | |
| | $I_F=0.5A, T_J=100^{\circ}C$ | | - | - | 0.360 | |
| Maximum DC reverse current at rated DC blocking voltage | $V_R=10V, T_J=25^{\circ}C$ | I_R | - | - | 40 | μA |
| | $V_R=10V, T_J=100^{\circ}C$ | | - | - | 3.0 | mA |
| | $V_R=20V, T_J=25^{\circ}C$ | | - | - | 150 | μA |
| | $V_R=20V, T_J=100^{\circ}C$ | | - | - | 7.0 | mA |
| Max.junction capacitance (NOTE 4) | | C_T | - | - | 110 | pF |

NOTES : 3. Pulse test < 300 μ S, duty cycle < 2%.

4. $V_R = 5V_{DC}$ (test signal range 100KHz to 1MHz)

RATINGS AND CHARACTERISTIC CURVES (SM0520FL)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

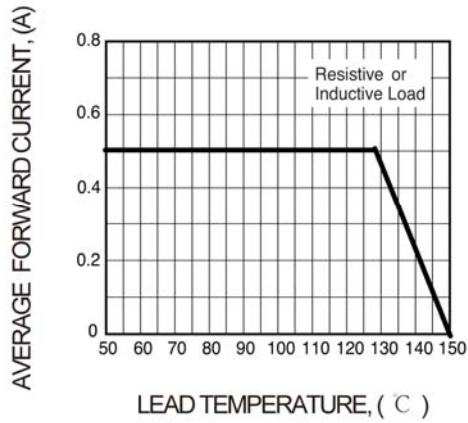


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

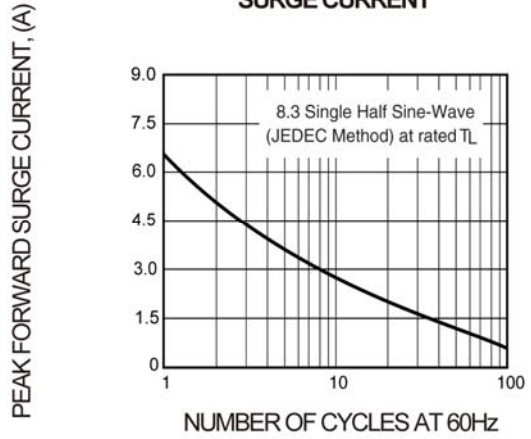


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

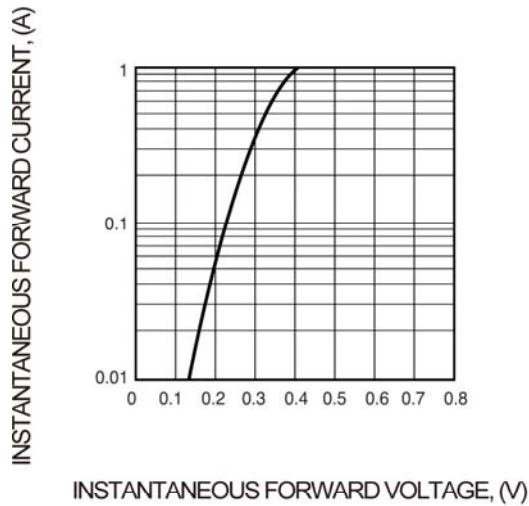


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

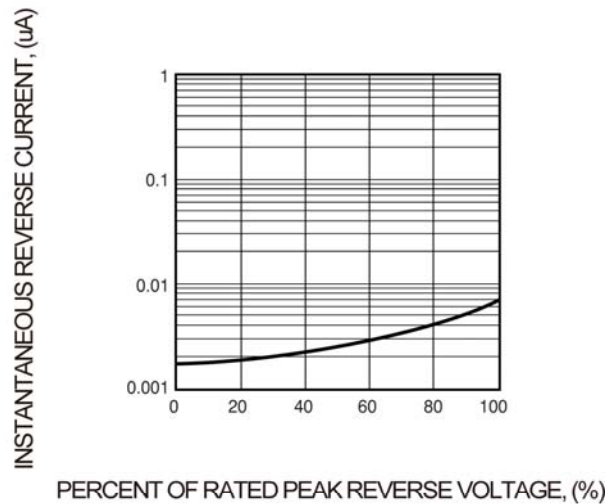


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

