

**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIERS**

**REVERSE VOLTAGE – 20 to 80 Volts
FORWARD CURRENT – 2.0 Amperes**

FEATURES

- Low power loss, high efficiency.
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications.
- Guarding for over voltage protection.
- High temperature soldering guaranteed; 260°C/10 seconds at terminals.
- Lead free in RoHS 2.0 compliant

MECHANICAL DATA

- Case: SOD-123FL molded plastic over sky die.
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl) “Halogen-free”
- Polarity: Color band denotes cathode end.
- Mounting Position: Any.
- Weight : 0.0155 g

SOD-123FL



MAXIMUM RATINGS @ T_A = 25°C unless otherwise specified

| PARAMETER | SYMBOL | FB2020L | FB2030L | FB2040L | FB2050L | FB2060L | FB2080L | UNIT |
|--|--------------------|-------------|---------|---------|---------|---------|---------|------|
| Device marking code | Note | 22 | 23 | 24 | 25 | 26 | 28 | -- |
| Maximum repetitive peak reverse voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | V |
| Maximum DC blocking voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | 80 | V |
| Maximum average forward rectified current @ T _C = 75°C | I _{F(AV)} | 2.0 | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 50 | | | | | | A |
| Operating junction temperature range | T _J | -55 to +150 | | | | | | °C |
| Storage temperature range | T _{STG} | -65 to +175 | | | | | | °C |

STATIC ELECTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITION | SYMBOL | FB2020L | FB2030L | FB2040L | FB2050L | FB2060L | FB2080L | UNIT |
|--|--|----------------|-----------|---------|---------|---------|---------|---------|------|
| Forward voltage | I _F = 2.0 A T _J = 25°C | V _F | 0.50 | 0.50 | 0.50 | 0.70 | 0.70 | 0.85 | V |
| Leakage current | VR at rated T _J = 25°C T _J = 100°C | I _R | 0.5 20 | | | | | | mA |
| Typical junction capacitance at 4.0V, 1MHz | | C _J | 160 | | | | | | pF |

THERMAL CHARACTERISTICS @ T_A = 25°C unless otherwise specified

| PARAMETER | SYMBOL | TYP. | UNIT |
|-----------------------------|-------------------|------|------|
| Thermal resistance (Note 1) | R _{thJA} | 85 | °C/W |

Note :

(1) 8.0mm² (0.013mm thick) land areas

**RATING AND CHARACTERISTIC CURVES
FB2020L thru FB2080L**



FIG.1 – FORWARD CURRENT DEARTING CURVE

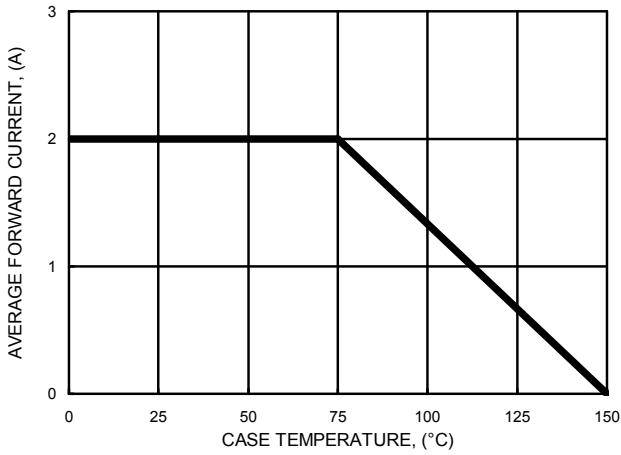


FIG.2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

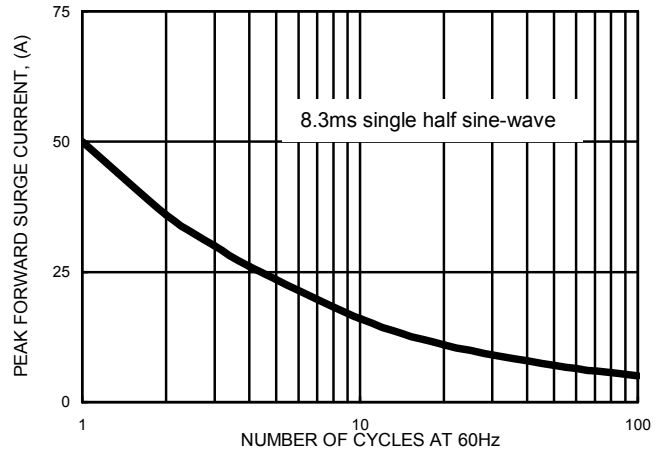


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

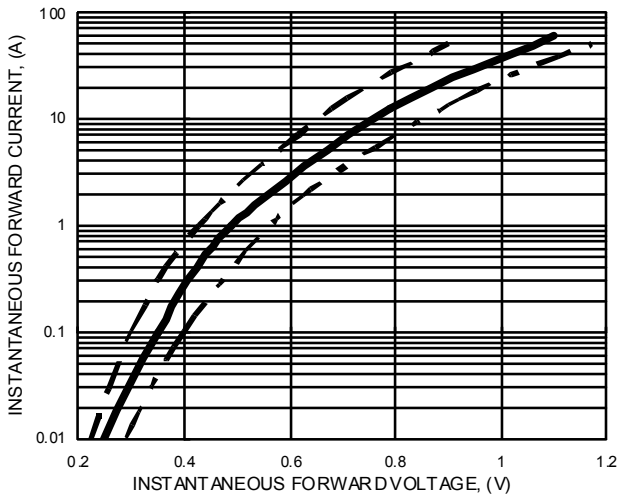


FIG.4 – TYPICAL REVERSE CHARACTERISTIC

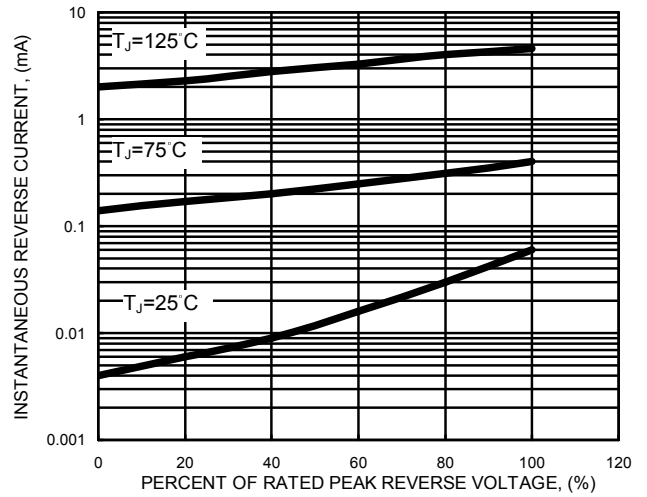


FIG.5 – TYPICAL TRANSIENT THERMAL IMPEDANCE

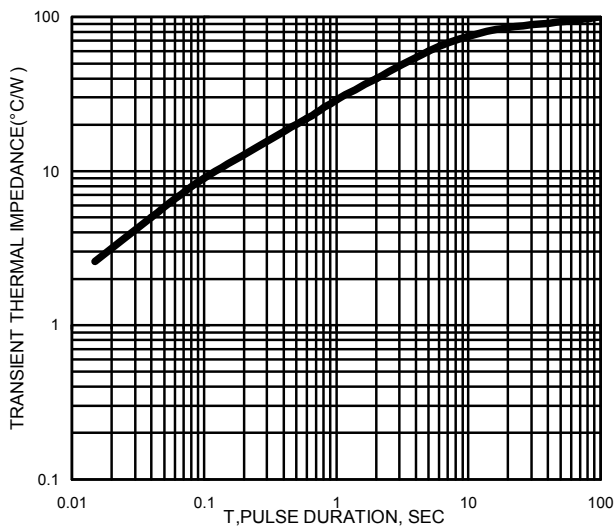
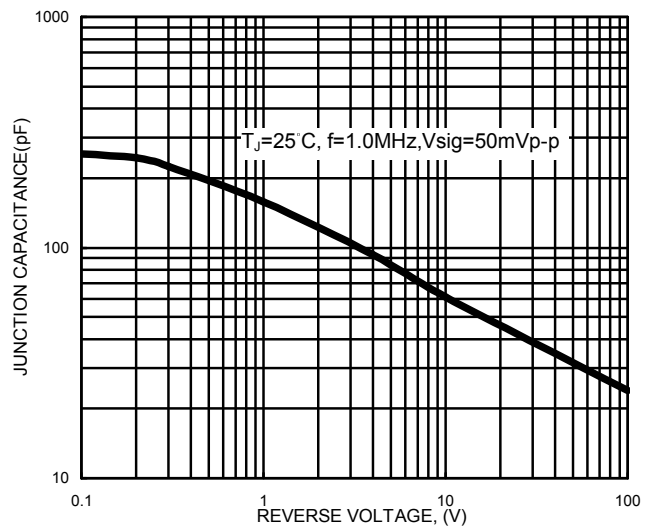


FIG.6 – TYPICAL JUNCTION CAPACITANCE

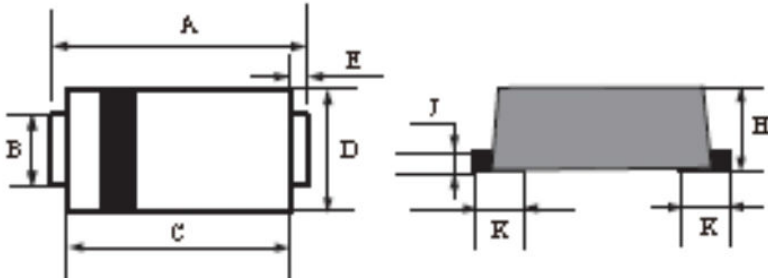


MECHANICAL INFORMATION
FB2020L thru FB2080L



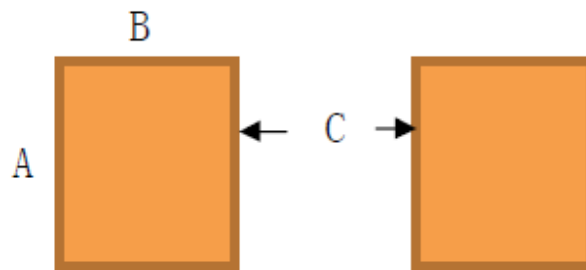
Package Dimensions :

SOD-123FL



| Dim. | INCHES | | MILLIMETERS | |
|------|------------|-------|-------------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.138 | 0.159 | 3.50 | 3.90 |
| B | 0.029 | 0.037 | 0.75 | 0.95 |
| C | 0.103 | 0.119 | 2.60 | 3.00 |
| D | 0.063 | 0.079 | 1.60 | 2.00 |
| E | 0.018 Typ. | | 0.45 Typ. | |
| H | 0.036 | 0.047 | 0.90 | 1.20 |
| J | 0.005 | 0.009 | 0.12 | 0.22 |
| K | 0.032 Typ. | | 0.80 Typ. | |

Soldering Pad Layout :



Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|-----------|-------------|-------------|-------------|
| SOD-123FL | 0.044(1.10) | 0.040(1.00) | 0.079(2.00) |

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