

FEATURES

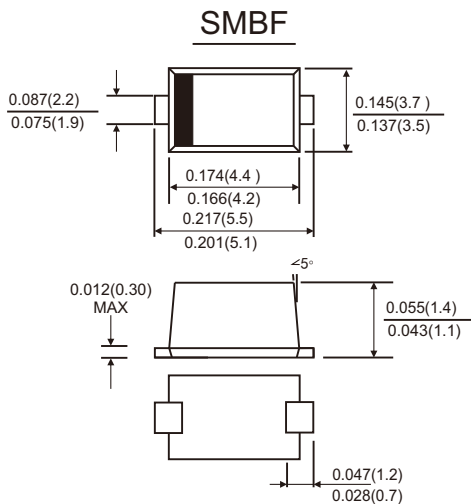
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Very low profile - typical height of 1.0 mm
- Ideal for automated placement
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU



RoHS
COMPLIANT

MECHANICAL DATA

- Case: SMBF molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end



Dimensions in inches and (millimeters)

TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|--|-------------|------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 100 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 5.0 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | I_{FSM} | 80 | A |
| Operating junction temperature range | T_J | -55 to+150 | °C |
| Storage temperature range | T_{stg} | -55 to+150 | °C |

RATINGS AND CHARACTERISTIC OF SS510LBT

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

| Parameter | Test Conditions | | Symbol | TYP. | MAX. | Unit |
|-------------------------------|----------------------|-----------------------|------------------------------|------|------|------|
| Instantaneous forward voltage | I _F =5.0A | T _A =25°C | V _F ¹⁾ | 0.65 | 0.70 | V |
| | | T _A =100°C | | 0.62 | — | |
| | | T _A =125°C | | 0.60 | — | |
| | I _F =2.0A | T _A =25°C | | 0.50 | — | |
| | | T _A =100°C | | 0.46 | — | |
| | | T _A =125°C | | 0.45 | — | |
| Reverse current | V _R =100V | T _A =25°C | I _R ²⁾ | 10 | 50 | μA |
| | | T _A =100°C | | — | 5 | mA |
| | | T _A =125°C | | — | 20 | |
| Typical junction capacitance | 4V, 1MHz | | C _J | 370 | | pF |

Notes: 1.Pulse test: 300 μs pulse width, 1% duty cycle

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS

| Parameter | Symbol | SMBF | Unit |
|--|------------------|------|------|
| Typical thermal resistance ³⁾ | R _{θJA} | 70.0 | °C/W |
| | R _{θJL} | 25.0 | |

3. Unit mounted on PC board with 5.0mm×5.0 mm (0.013 mm thick) copper pads as heat sink

AVAILABLE PACK INFORMATION

| Product code | Pack | Reel Size (mm) | Quantity (pcs/reel) | Box Size L×W×H (mm) | Quantity (reel/box) | Carton Size L×W×H (mm) | Quantity (box/carton) |
|---------------|------|----------------|---------------------|---------------------|---------------------|------------------------|-----------------------|
| SS510LBT-SMBF | T/R | Φ330 | 5000 | 336×336×40 | 2 | 364×364×360 | 8 |

RATINGS AND CHARACTERISTIC OF SS510LBT

FIG.1-FORWARD CURRENT DERATING CURVE

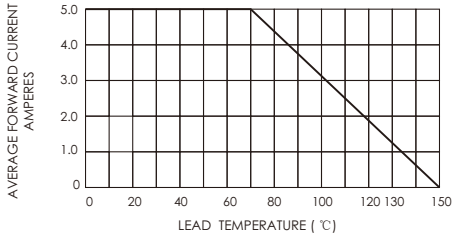


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

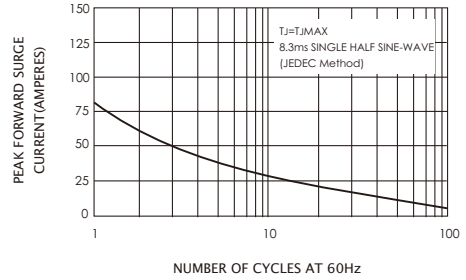


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

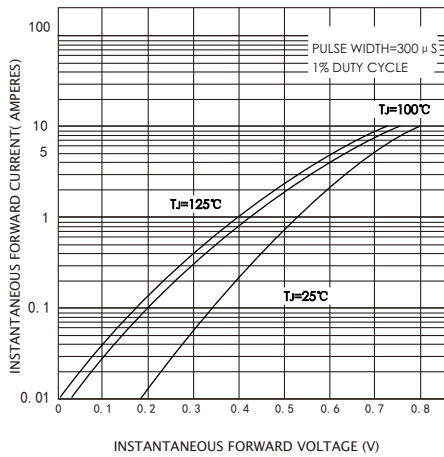


FIG.4-TYPICAL REVERSE CHARACTERISTICS

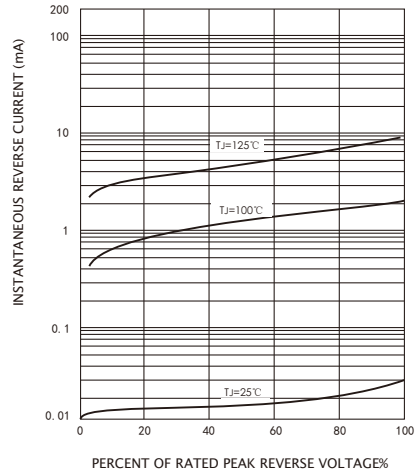


FIG.5-TYPICAL JUNCTION CAPACITANCE

