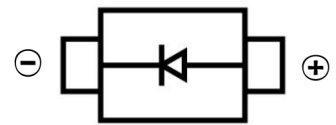


**SCHOTTKY BARRIER DIODE****FEATURES**

- Small Surface Mount device
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

**SMAF****MECHANICAL DATA**

- Case: SMAF
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.027 grams (approximate)

**MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**

| Parameter                                                       | Symbol          | Value      | Unit               |
|-----------------------------------------------------------------|-----------------|------------|--------------------|
| Repetitive peak reverse voltage                                 | $V_{RRM}$       | 150        | V                  |
| DC Reverse Voltage                                              | $V_R$           | 150        | V                  |
| RMS Reverse Voltage                                             | $V_{RMS}$       | 105        | V                  |
| Non-Repetitive Peak Forward Surge Current @ $t = 8.3\text{ ms}$ | $I_{FSM}$       | 150        | A                  |
| Mean rectifying current                                         | $I_F$           | 5          | A                  |
| Thermal Resistance From Junction To Ambient                     | $R_{\theta JA}$ | 50         | $^\circ\text{C/W}$ |
| Junction Temperature                                            | $T_J$           | 150        | $^\circ\text{C}$   |
| Storage Temperature                                             | $T_{STG}$       | -55 ~ +150 | $^\circ\text{C}$   |

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                             | Symbol | Min | Max  | Unit | Conditions                     |
|---------------------------------------|--------|-----|------|------|--------------------------------|
| Forward voltage                       | $V_F$  |     | 0.85 | V    | $I_F=5\text{A}$                |
| Reverse current $T=25^\circ\text{C}$  | $I_R$  |     | 0.20 | mA   | $V_R=150\text{V}$              |
| Reverse current $T=100^\circ\text{C}$ | $I_R$  |     | 2    | mA   | $V_R=150\text{V}$              |
| Junction capacitance                  | $C_J$  |     | 200  | pF   | $V_R=4\text{V}, f=1\text{MHz}$ |

## SCHOTTKY BARRIER DIODE

## Typical Characteristics

Fig.1 Forward Current Derating Curve

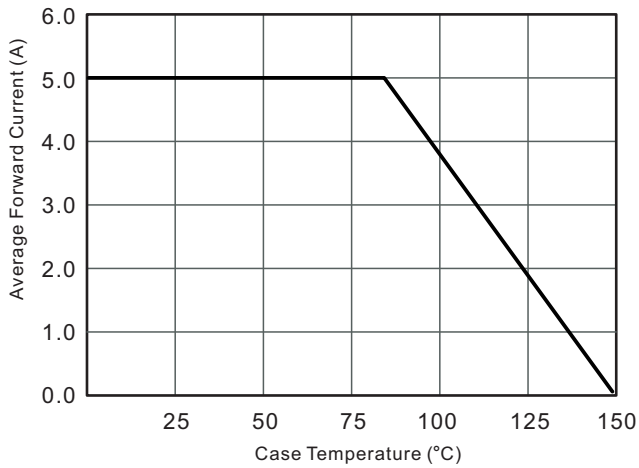


Fig.2 Typical Reverse Characteristics

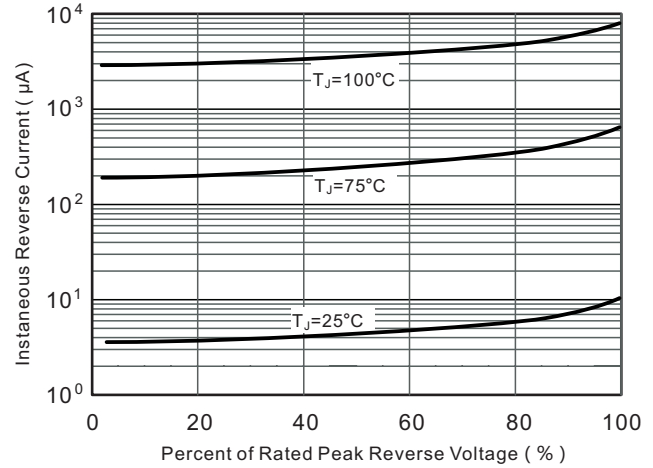


Fig.3 Typical Forward Characteristic

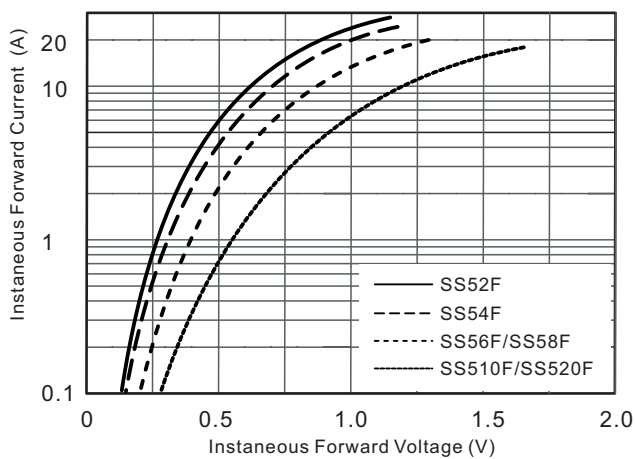


Fig.4 Typical Junction Capacitance

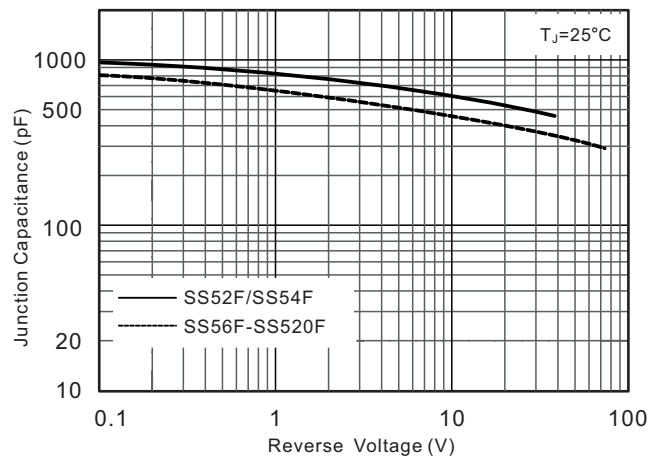


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

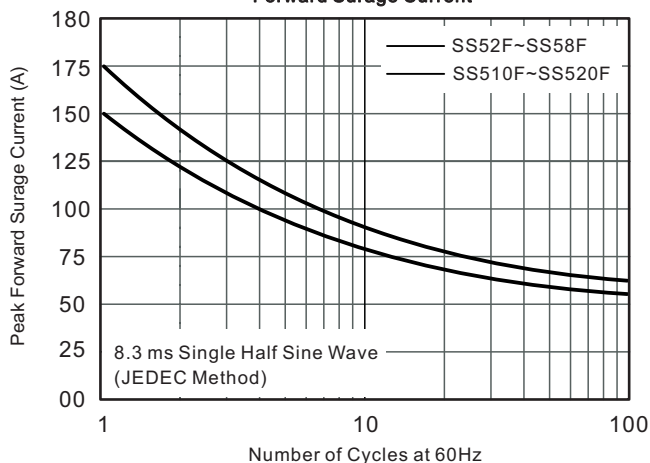
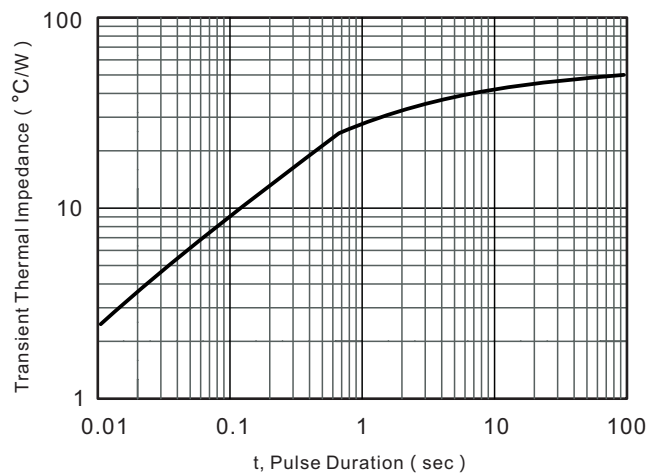
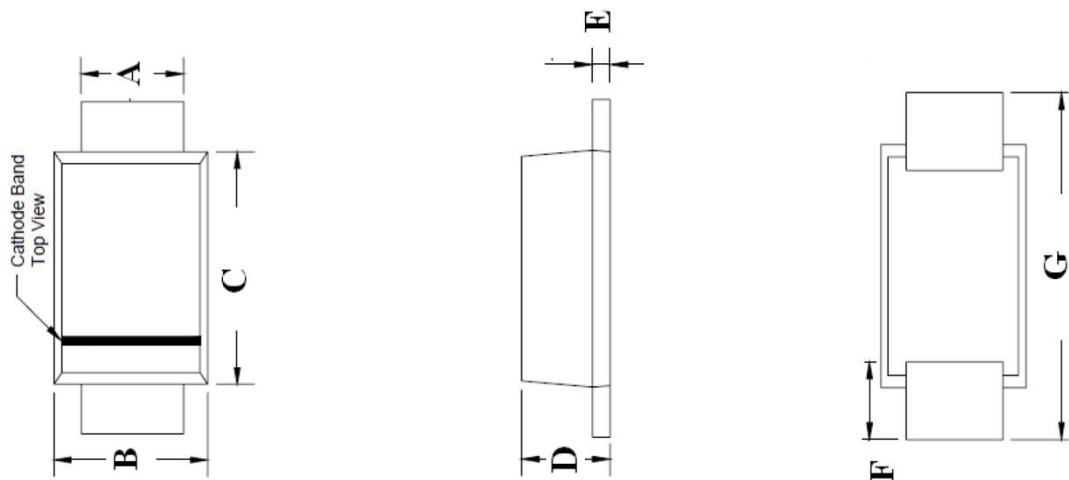


Fig.6 Typical Transient Thermal Impedance



**SCHOTTKY BARRIER DIODE****SMAF Package Outline Dimensions**

| Symbol | Dimensions In Millimeters |      | Dimensions In Inches |       |
|--------|---------------------------|------|----------------------|-------|
|        | Min.                      | Max. | Min.                 | Max.  |
| A      | 1.30                      | 1.60 | 0.051                | 0.063 |
| B      | 2.40                      | 2.80 | 0.094                | 0.110 |
| C      | 3.25                      | 3.65 | 0.128                | 0.144 |
| D      | 1.10                      | 1.40 | 0.043                | 0.055 |
| E      | 0.15                      | 0.25 | 0.006                | 0.010 |
| F      | 0.70                      | 1.20 | 0.028                | 0.047 |
| G      | 4.40                      | 4.90 | 0.173                | 0.193 |

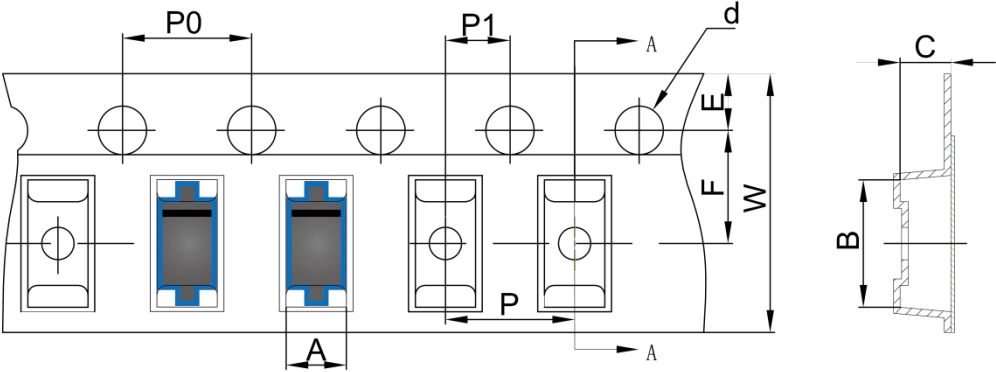
**SMAF Suggested Pad Layout****Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SCHOTTKY BARRIER DIODE

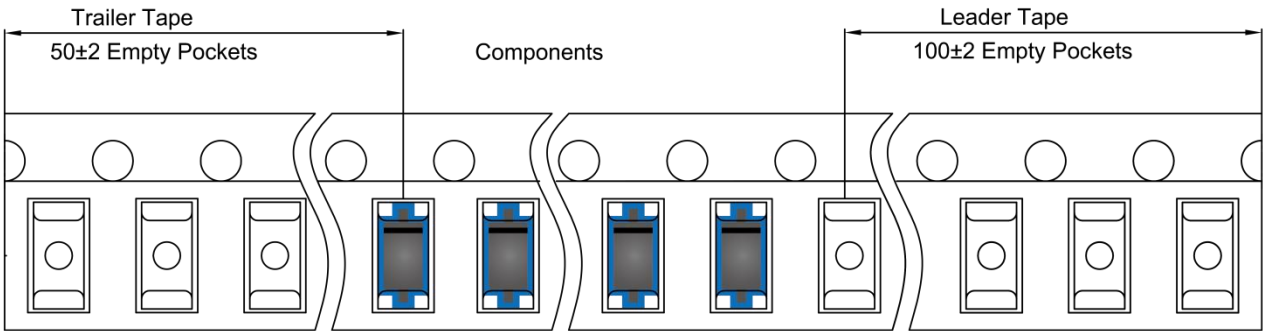
**SMAF Tape and Reel**

**SMAF Embossed Carrier Tape**

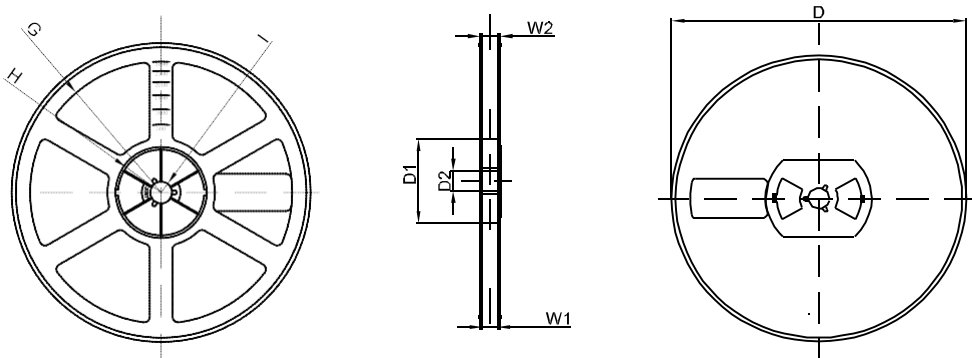


|           | DIMENSIONS ARE IN MILLIMETER |      |      |       |      |      |      |      |      |       |
|-----------|------------------------------|------|------|-------|------|------|------|------|------|-------|
| TYPE      | A                            | B    | C    | d     | E    | F    | P0   | P    | P1   | W     |
| SMAF      | 2.79                         | 5.35 | 1.48 | Ø1.50 | 1.75 | 5.50 | 4.00 | 4.00 | 2.00 | 12.00 |
| TOLERANCE | ±0.1                         | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1  |

**SMAF Tape Leader and Trailer**



**SMAF Reel**



|             | DIMENSIONS ARE IN MILLIMETER |       |       |     |        |       |       |       |
|-------------|------------------------------|-------|-------|-----|--------|-------|-------|-------|
| REEL OPTION | D                            | D1    | D2    | G   | H      | I     | W1    | W2    |
| 7" DIA      | Ø178                         | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 12.40 | 17.60 |
| TOLERANCE   | ±2                           | ±1    | ±1    | ±1  | ±1     | ±1    | ±1    | ±1    |