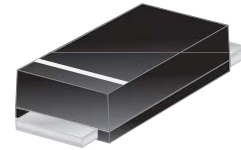
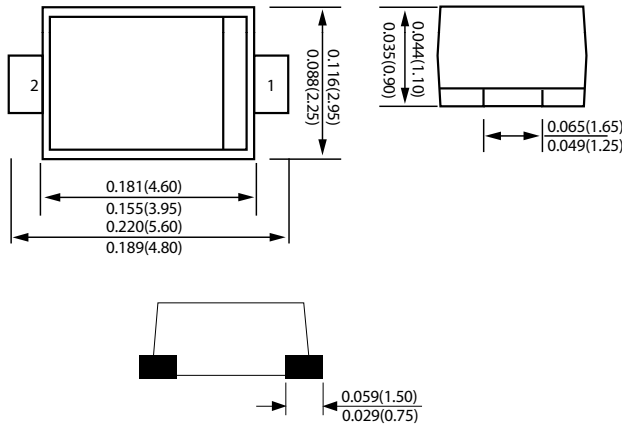




SM220AF thru SM2200AF



Schottky Barrier Rectifiers



DO-221AC(SMAF)

Dimensions in inches and (millimeters)

| Ordering Information | |
|----------------------|--------------|
| Part Number | Remark |
| SM2xxAF | General |
| SM2xxAF-H | Halogen Free |
| SM2xxAF-Q | Automotive |

| PRIMARY CHARACTERISTICS | |
|-------------------------|-------------------------------|
| I_F | 2A |
| V_{RRM} | 20~200V |
| I_{FSM} | 50A |
| V_F | 0.50, 0.70, 0.85, 0.87, 0.90V |
| T_J max | 125°C, 150°C |

Features

- Low profile package
- Ideal for automated placement
- Guard Ring for over voltage protection
- Low forward voltage drop
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Mechanical Data

- Case: DO-221AC (SMAF)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.032 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| PARAMETER | SYMBOL | SM2 20AF | SM2 30AF | SM2 40AF | SM2 50AF | SM2 60AF | SM2 80AF | SM2 100AF | SM2 150AF | SM2 200AF | UNIT | |
|--|------------------------------------|-------------|----------|----------|----------|----------|-------------|-----------|-----------|-----------|------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | V | |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| Maximum average forward rectified current | I_F | 2.0 | | | | | | | | | A | |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 50.0 | | | | | | | | | A | |
| Maximum Instantaneous Forward Voltage IF=2A @ 25°C | V_F | 0.50 | | | 0.70 | | 0.85 | | 0.87 | 0.90 | V | |
| Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C | I_R | 0.5 15 | | | | | 0.2 5.0 | | | | mA | |
| Typical Junction Capacitance(NOTE1) | C_j | 150 | | | 120 | | | 100 | | | pF | |
| Typical Thermal Resistance(NOTE2) | $R_{\theta Ja}$ $R_{\theta Jc}$ | 120 90 | | | | | | | | | | °C/W |
| Operating Temperature Range | T_J | -55 to +125 | | | | | -55 to +150 | | | | | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | | | | °C |

NOTES:

1. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC
2. Device mounted on FR-4 substrate, 1"×1", 2oz, single-sided, PC boards with 0.1"×0.15" copper pad.



FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

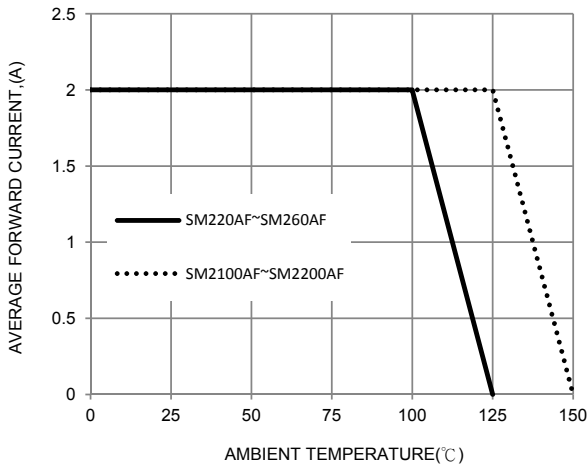


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

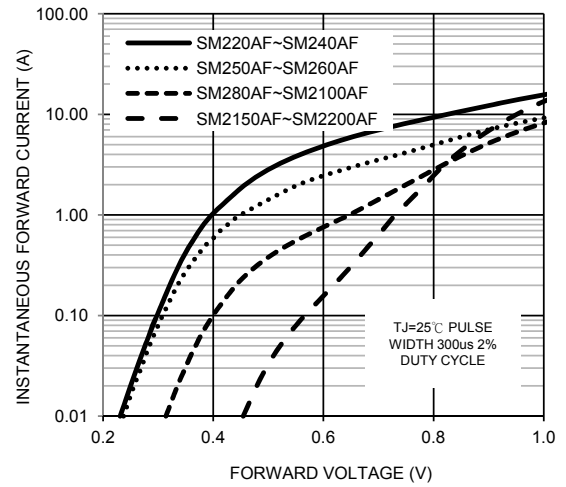


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

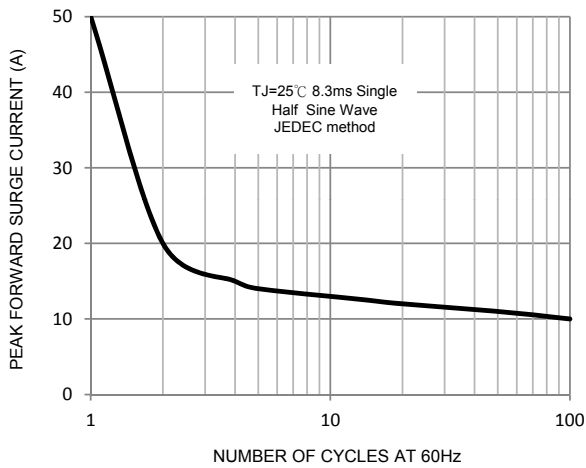


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

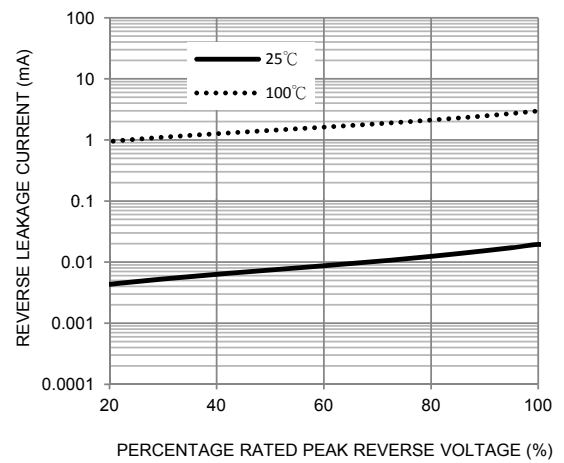


FIG. 5-TYPICAL JUNCTION CAPACITANCE

