# SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE RANGE: 20 --- 40 V**
**CURRENT: 1.0 A**

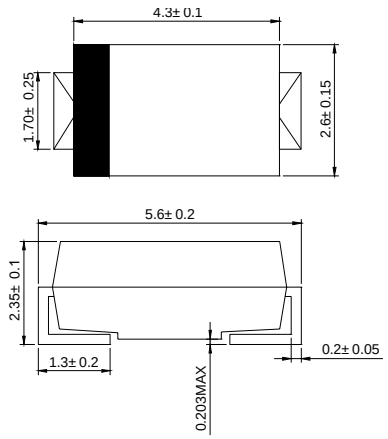
## FEATURES

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop,low switching losses
- ◇ High surge capability
- ◇ For use in low voltage,high frequency inverters free wheeling,and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

## MECHANICAL DATA

- ◇ Case:JEDEC SMAJ,molded plastic
- ◇ Terminals: Solderable per MIL- STD-202,method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Mounting position: Any

**SMAJ**




Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

Single phase,half wave,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

| | | S5817J | S5818J | S5819J | UNITS |
|---|---|---|---|---|---|
| Device marking code | | S17 | S18 | S19 | |
| Maximum recurrent peak reverse voltage | $V_{RRM}$ | 20 | 30 | 40 | V |
| Maximum RMS voltage | $V_{RMS}$ | 14 | 21 | 28 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 20 | 30 | 40 | V |
| Maximum average forw ard rectified current @$T_L$=90℃ | $I_{F(AV)}$ | 1.0 | | | A |
| Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load | $I_{FSM}$ | 25 | | | A |
| Maximum instantaneous forw ard voltage @ 1.0A (Note 1) @ 3.0A | $V_F$ | 0.45<br>0.75 | 0.55<br>0.875 | 0.60<br>0.90 | V |
| Maximum reverse current @$T_A$=25℃<br>at rated DC blocking voltage @$T_A$=100℃ | $I_R$ | 1.0<br>10 | | | mA |
| Typical junction capacitance (Note2) | $C_J$ | 110 | | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JA}$ | 50 | | | ℃/W |
| Operating junction temperature range | $T_J$ | - 55 ---- + 125 | | | ℃ |
| Storage temperature range | $T_{STG}$ | - 55 ---- + 150 | | | ℃ |

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

2. Measured at 1.0$MH_Z$ and applied reverse voltage of 4.0V DC.

3.Thermal resistance junction to ambient

**FIG.1 -- FORWARD DERATING CURVE**

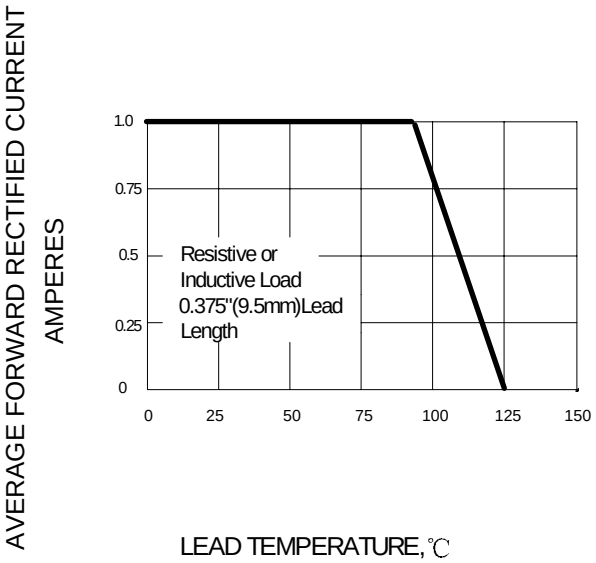



**FIG.2 -- PEAK FORWARD SURGE CURRENT**

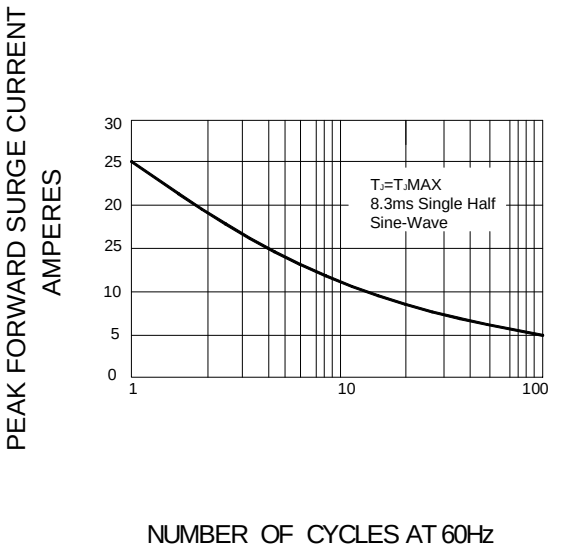
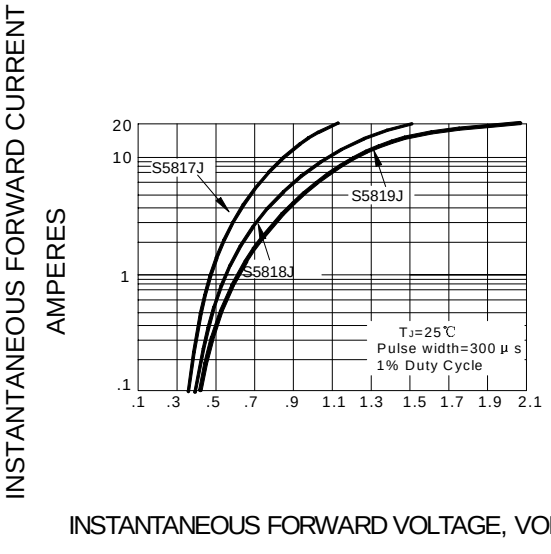



**FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



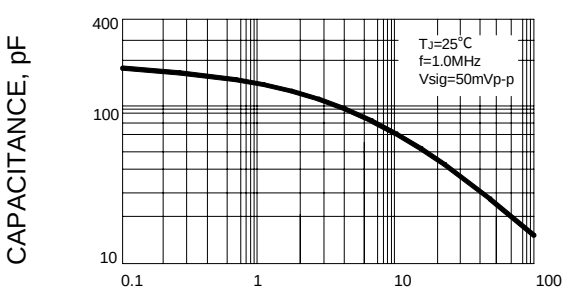


**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**