

### SCHOTTKY BARRIER RECTIFIERS

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

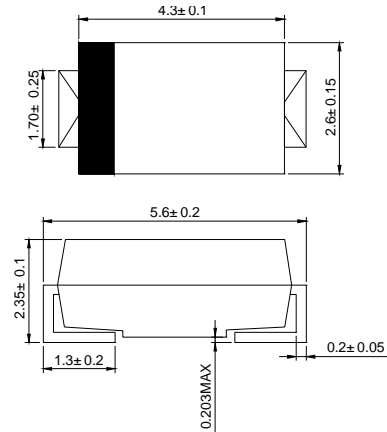
#### FEATURES

- ◇ 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°C ambient temperature unless otherwise specified.

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

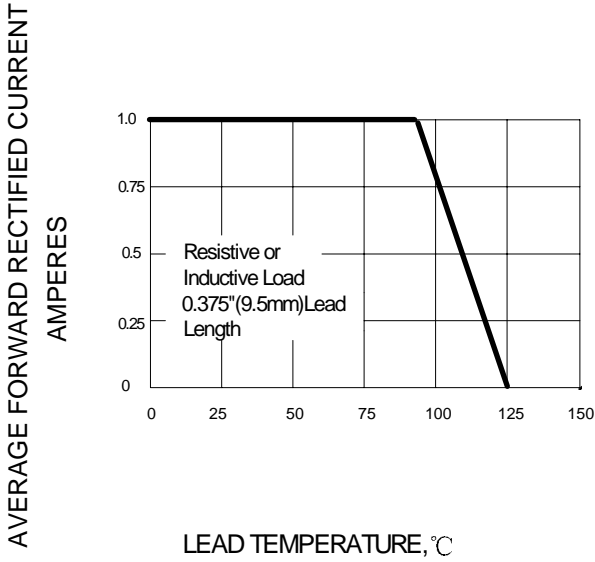
		S5817J	S5818J	S5819J	UNITS
Device marking code		S17	S18	S19	
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	40	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	V
Maximum average forward rectified current @ $T_L = 90^\circ C$	$I_{F(AV)}$	1.0			A
Peak forward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

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

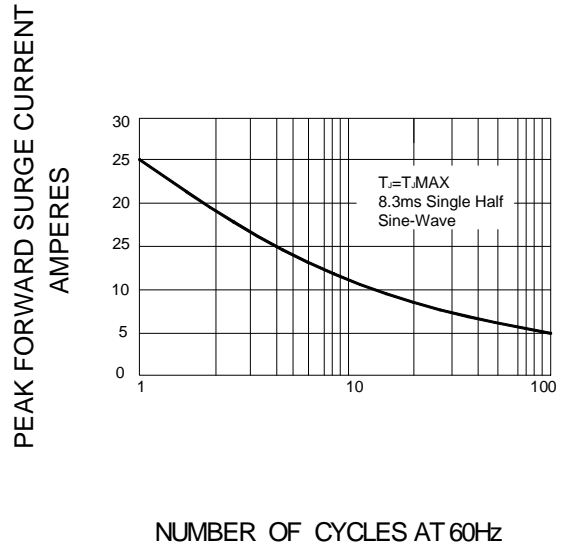
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient

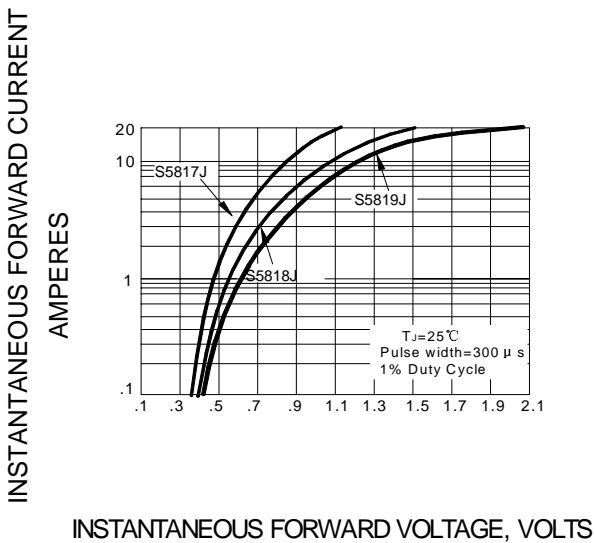
**FIG.1 – FORWARD DERATING CURVE**



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



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



**FIG.4 – TYPICAL JUNCTION CAPACITANCE**

