

### SCHOTTKY BARRIER RECTIFIER

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

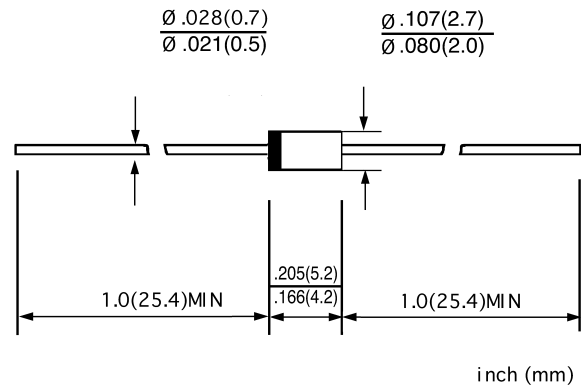
#### FEATURES

- ◇ 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 A-405, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.008 ounces, 0.23 grams
- ◇ Mounting position: Any

#### A - 405



#### 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%.

		1N5817S	1N5818S	1N5819S	UNITS
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 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0			A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=70^\circ\text{C}$	$I_{FSM}$	25.0			A
Maximum instantaneous forward voltage @ 1.0A (Note 1) @ 3.0A	$V_F$	0.45 0.75	0.55 0.875	0.60 0.90	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	1.0 10.0			mA
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

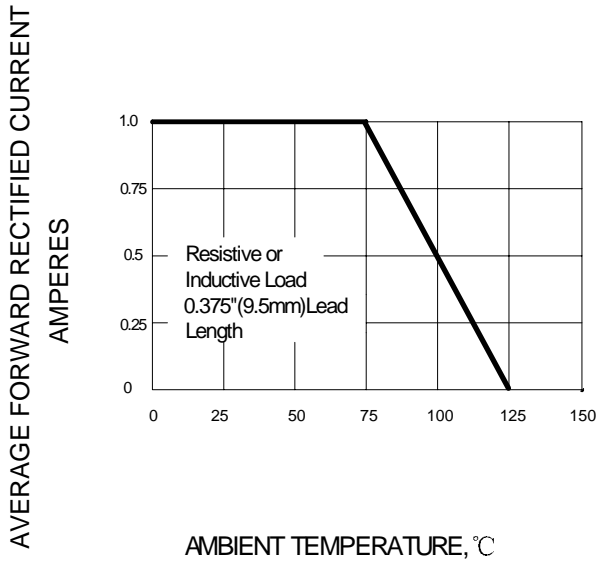
NOTE: 1. Pulse test : 300  $\mu\text{s}$  pulse width, 1% duty cycle.

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

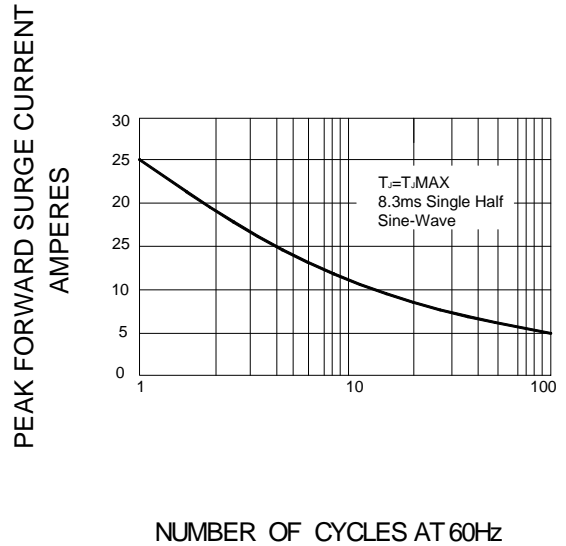
3. Thermal resistance junction to ambient

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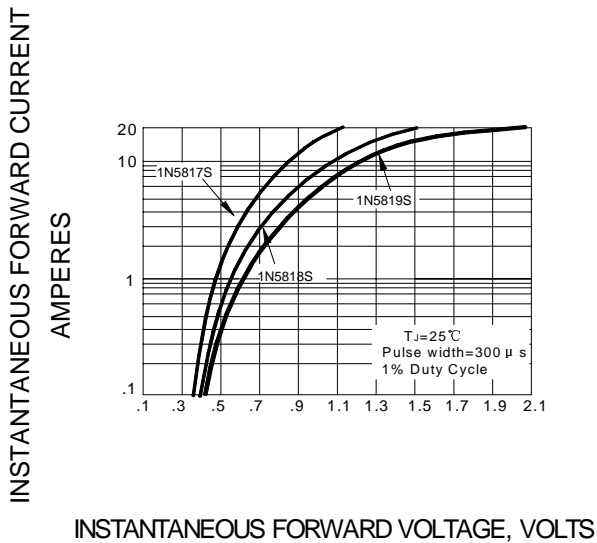
**FIG.1 – FORWARD DERATING CURVE**



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



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



**FIG.4 – TYPICAL JUNCTION CAPACITANCE**

