

### SURFACE MOUNT RECTIFIERS

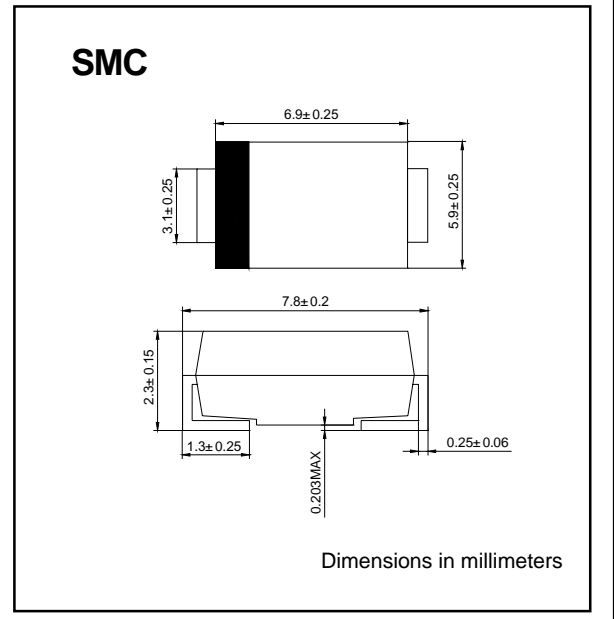
VOLTAGE RANGE: 500 --- 600 V  
CURRENT: 3.0 A

#### FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-214AB(SMC), molded plastic
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.21 grams
- ◇ Mounting position: Any



#### 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%.

		ES3H	ES3J	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	500	600	V
Maximum RMS voltage	$V_{RMS}$	350	420	V
Maximum DC blocking voltage	$V_{DC}$	500	600	V
Maximum average forward rectified current @ $T_A=100^\circ\text{C}$	$I_{F(AV)}$	3.0		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	100		A
Maximum instantaneous forward voltage at 3.0 A	$V_F$	1.70		V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	10	500	$\mu\text{A}$
Typical reverse recovery time (Note1)	$t_{rr}$	35		ns
Typical junction capacitance (Note2)	$C_J$	45		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	25		$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55 ---- + 150		$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150		$^\circ\text{C}$

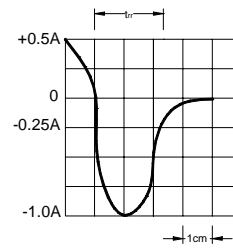
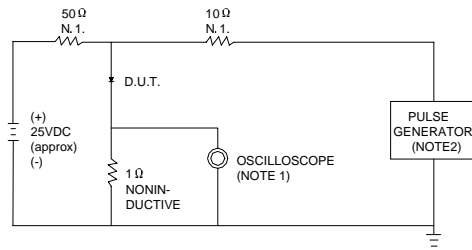
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

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

3. Thermal resistance from junction to ambient and junction to lead P.C.B. mounted on 0.27"X0.27"(7.0X7.0mm<sup>2</sup>) copper pad areas

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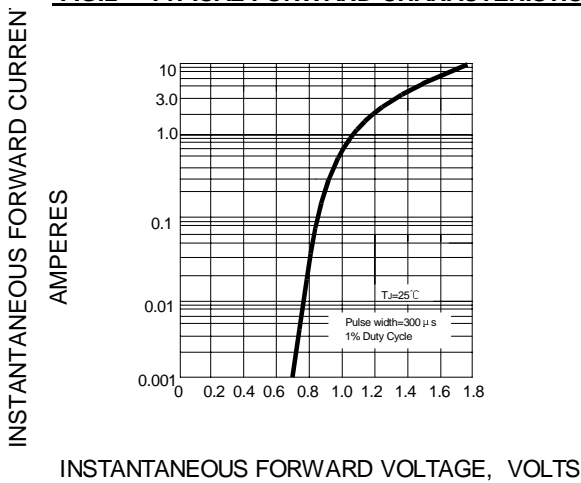
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



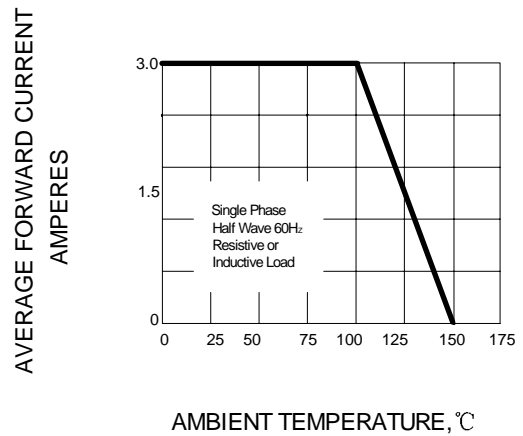
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 20/30 ns/cm

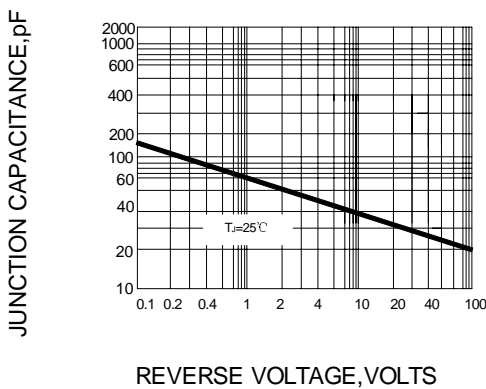
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 -- FORWARD DERATING CURVE**



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



**FIG.5 -- PEAK FORWARD SURGE CURRENT**

