

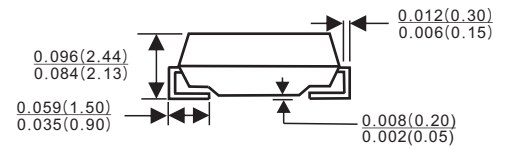
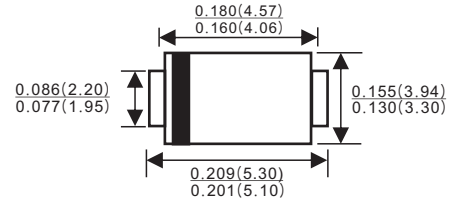


### Features

- ✧ 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

**VOLTAGE RANGE: 50 --- 600 V**  
**CURRENT: 1.0 A**

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### Mechanical Data

- ✧ Case: JEDEC DO-214AA, molded plastic
- ✧ Terminals: Solderable per MIL- STD-202, Method 208
- ✧ Polarity: Color band denotes cathode
- ✧ Weight: 0.003 ounces, 0.093 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%.

Parameter	Symbol	ES1AB	ES1BB	ES1CB	ES1DB	ES1GB	ES1HB	ES1JB	UNITS
		ES1A	ES1B	ES1C	ES1D	ES1G	ES1H	ES1J	
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	400	500	600	V
Maximum average forward rectified current @ $T_A=75^\circ C$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	30							A
Maximum instantaneous forward voltage at 1.0 A	$V_F$	0.95				1.25	1.70	V	
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=125^\circ C$	$I_R$	5.0 200							$\mu A$
Typical reverse recovery time (Note1)	$t_{rr}$	35							ns
Typical junction capacitance (Note2)	$C_J$	19							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50							$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 150							$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150							$^\circ C$

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

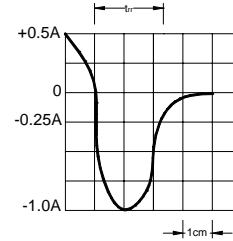
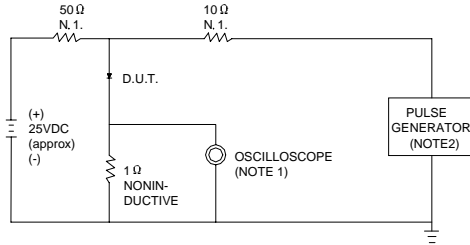
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

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



# Ratings And Characteristic Curves

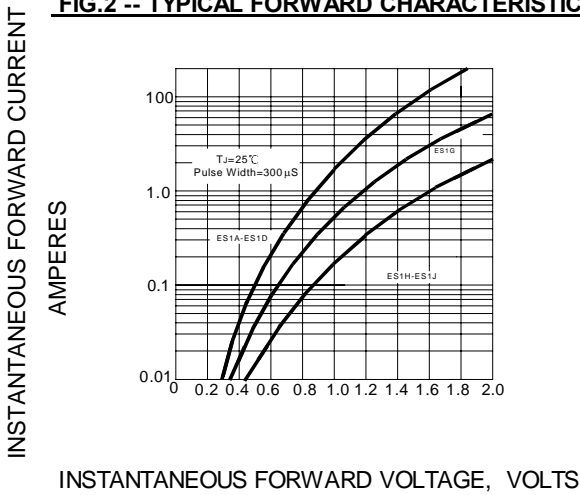
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



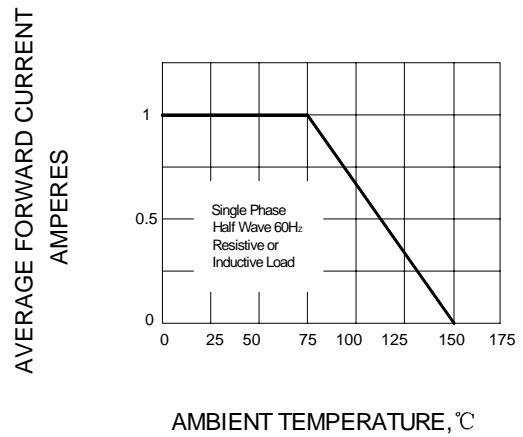
NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ .22pF.  
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω .

SET TIME BASE FOR 10/15 ns/cm

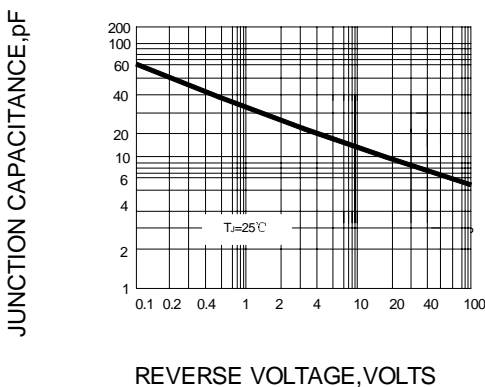
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



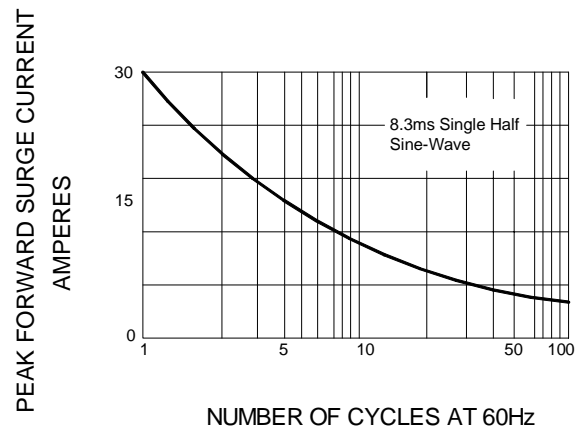
**FIG.3 -- FORWARD DERATING CURVE**



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



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



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMB	3000/REEL	48000	36X30.6X31	12.00	11.00