

### SURFACE MOUNT RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V  
CURRENT: 1.0 A

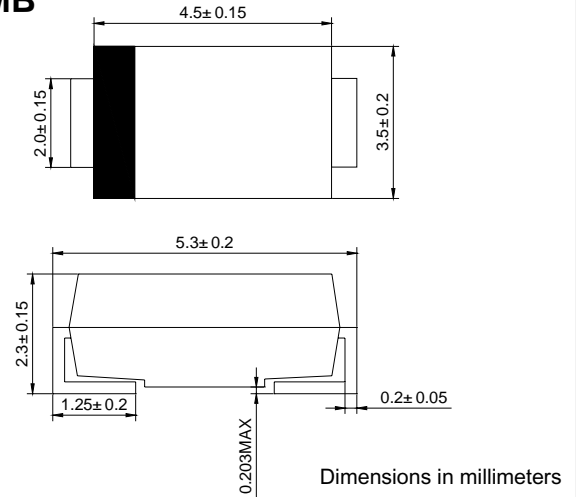
#### FEATURES

- ◇ 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 SMB, 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

#### SMB



#### 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%.

		ER1AB	ER1BB	ER1CB	ER1DB	ER1EB	ER1GB	ER1HB	ER1JB	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0								A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	30.0								A
Maximum instantaneous forward voltage @ 1.0A	$V_F$	0.95			1.25		1.7			V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 100								$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	35								ns
Typical junction capacitance (Note 2)	$C_J$	22								pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	50								$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	- 55 ----- + 150								$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ----- + 150								$^\circ\text{C}$

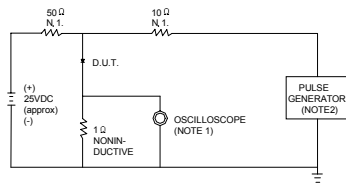
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

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

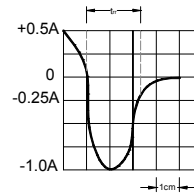
3. Thermal resistance junction to ambient.

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



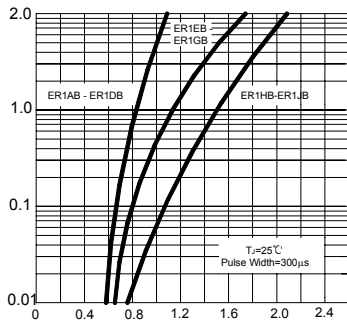
NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ, 22pF.  
 2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50 Ω.



SET TIME BASE FOR 10/20 ns/cm

**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**

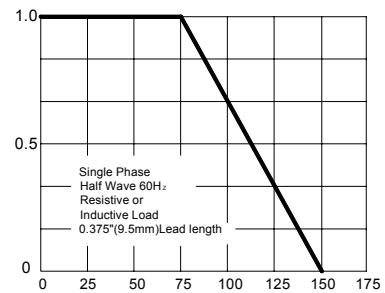
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

**FIG.3 – FORWARD DERATING CURVE**

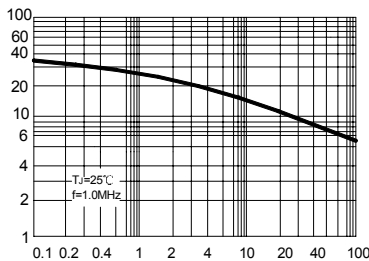
AVERAGE FORWARD CURRENT AMPERES



AMBIENT TEMPERATURE, °C

**FIG.4 – TYPICAL JUNCTION CAPACITANCE**

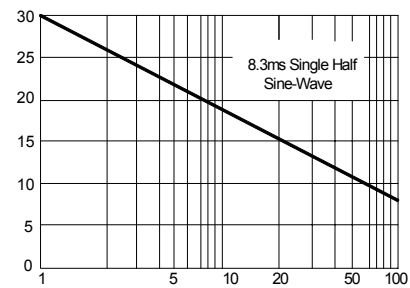
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

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

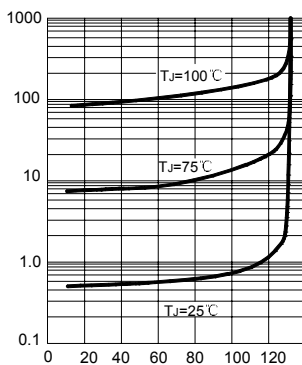
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 60Hz

**FIG.6 – TYPICAL REVERSE CHARACTERISTICS**

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE. %