

## SURFACE MOUNT RECTIFIER

VOLTAGE RANGE: 50 --- 400 V  
CURRENT: 3.0 A

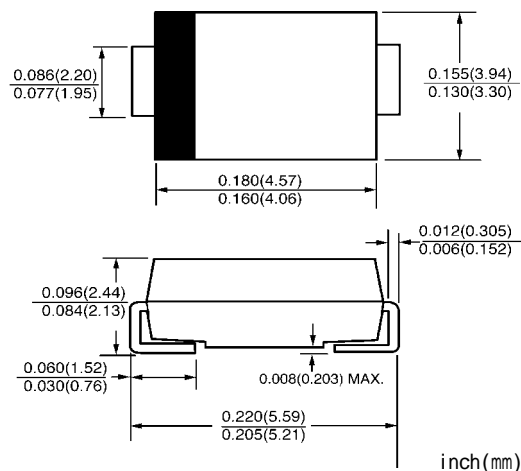
### FEATURES

- ◇ 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-214AA, 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

### DO-214AA(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%.

		ES3AB	ES3BB	ES3CB	ES3DB	ES3GB	UNITS
Device marking code		EA	EB	EC	ED	EG	
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	400	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	400	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	$V_F$	0.90			1.25		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)	$t_{rr}$	25			35		ns
Typical junction capacitance (Note2)	$C_J$	45					pF
Typical thermal resistance	$R_{\theta JA}$	40					$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	- 55 ---- + 150					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150					$^\circ\text{C}$

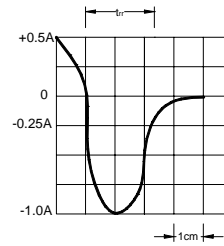
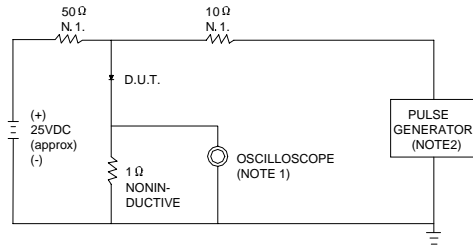
NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

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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

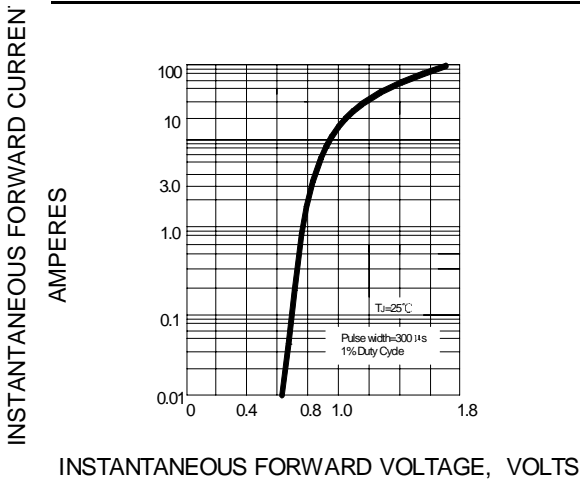
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



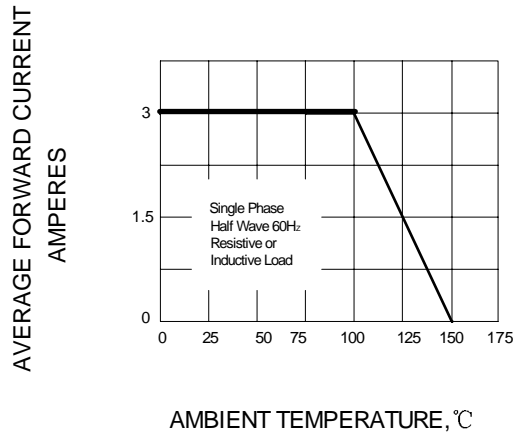
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 20/30 ns/cm

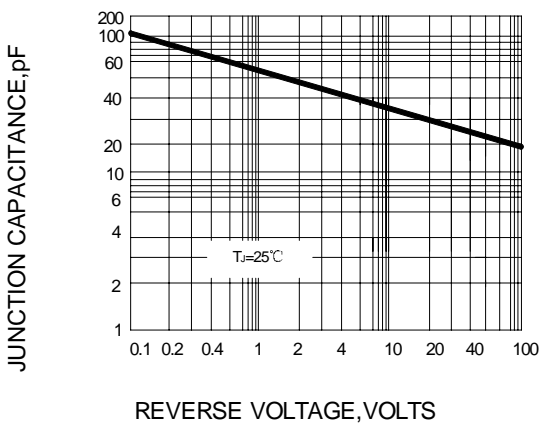
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



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



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



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

