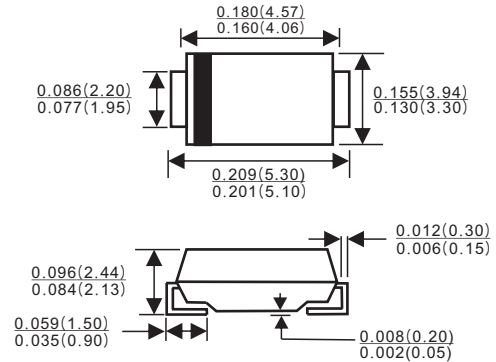




### SMB/DO-214AA

#### Features

- ◇ Glass passivated junction chip
- ◇ For surface mounted applications
- ◇ Low profile package
- ◇ Built-in strain relief
- ◇ Ideal for automated placement
- ◇ Easy pick and place
- ◇ Super fast recovery time for high efficiency
- ◇ Glass passivated chip junction
- ◇ High temperature soldering:  
260°C/10 seconds at terminals
- ◇ Plastic material used carries Underwriters  
Laboratory Classification 94V-0



#### Mechanical Data

- ◇ Cases: Molded plastic
- ◇ Terminals: Pure tin plated, lead free.
- ◇ Polarity: Indicated by cathode band
- ◇ Weight: 0.21 gram

Dimensions in inches and(millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	ES 3A	ES 3B	ES 3C	ES 3D	ES 3F	ES 3G	ES 3H	ES 3J	ES 3K	ES 3M	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	800	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	560	700	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	800	600	V	
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	3.0										A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) @ $T_L = 100^\circ\text{C}$	$I_{FSM}$	100										A	
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	0.95			1.3			1.7			V		
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$	10						500					uA
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	35											nS
Typical Junction Capacitance ( Note 2 )	$C_j$	45					30					pF	
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	47						12					$^\circ\text{C} / \text{W}$
Operating Temperature Range	$T_J$	-55 to +150										$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-55 to +150										$^\circ\text{C}$	

- Notes:
1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
  2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts
  3. Units Mounted on P.C.B. with 0.6" x 0.6"(16mm x 16mm) Copper Pad Areas

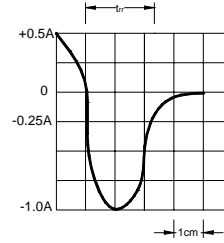
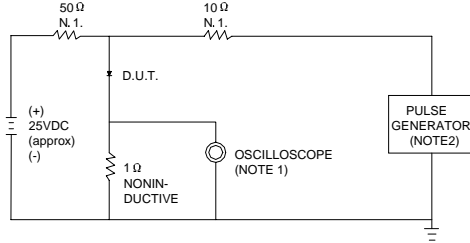
# ES3A-ES3M

3.0AMPS Surface Mount Super Fast Rectifiers



## Ratings AND Characteristic Curves

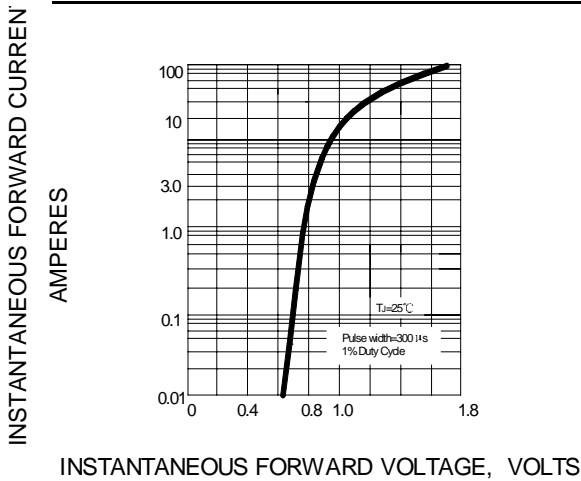
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



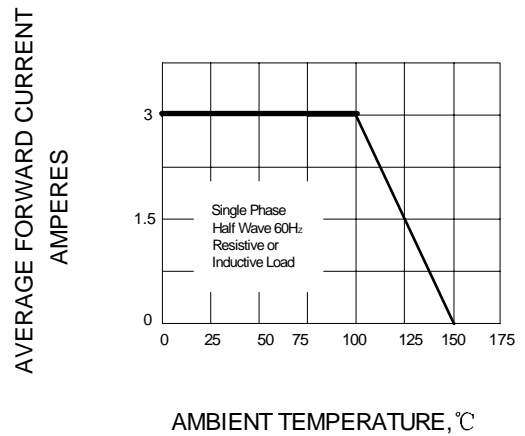
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω .

SET TIME BASE FOR 20/30 ns/cm

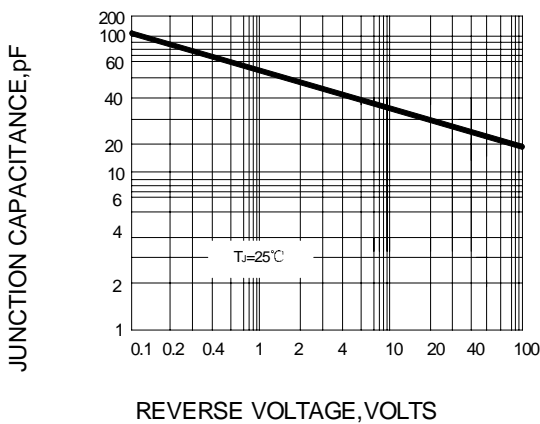
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



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



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



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

