

Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 5 0A Peak
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



SMB (DO – 214AA)

Mechanical Data

- Case: SMA/DO-214AC,SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: SMA Weight: 0.064 grams (approx.)
SMB Weight: 0.093 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version**

Major Ratings and Characteristics

$I_{F(AV)}$	2.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	50 A
t_{rr}	35 nS
V_F	0.95 V, 1.25 V, 1.7 V
$T_j \text{ max.}$	150 °C

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J	ES2K	ES2M	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	600	800	1000	V	
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	420	560	700	V	
Average Rectified Output Current @ $T_L = 120^\circ\text{C}$	I_O	2.0									A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50									A	
Forward Voltage @ $I_F = 2.0\text{A}$	V_{FM}	0.95			1.25		1.7				V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	I_{RM}	2.0						500				μA
Reverse Recovery Time (Note 1)	t_{rr}	35								75	nS	
Typical Junction Capacitance (Note 2)	C_j	10										pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	35										$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150									$^\circ\text{C}$	

- Note: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$. See figure 5.
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
 3. Mounted on P.C. Board with 8.0mm² land area.

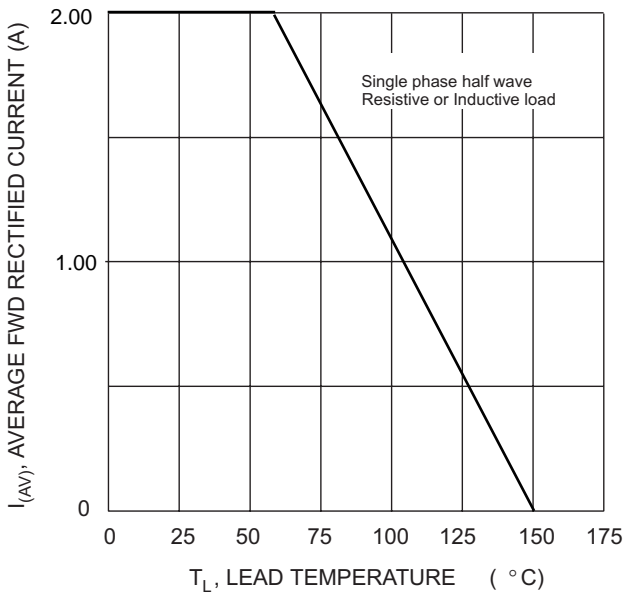


Fig. 1 Forward Current Derating Curve

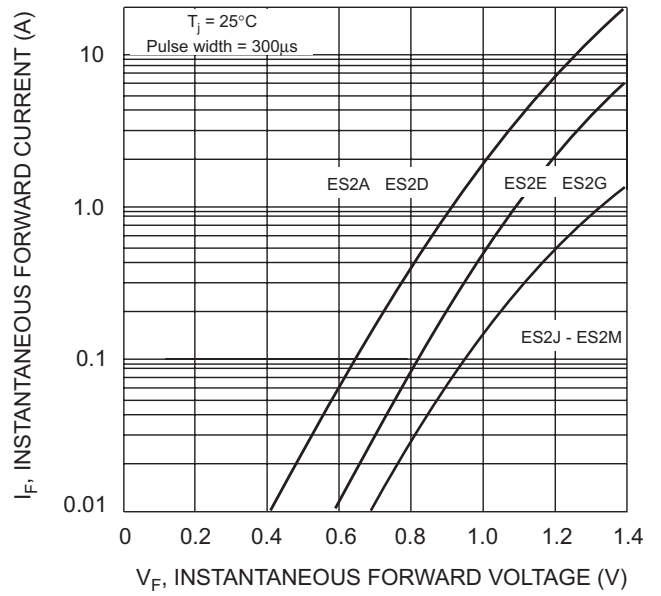


Fig. 2 Typical Forward Characteristics

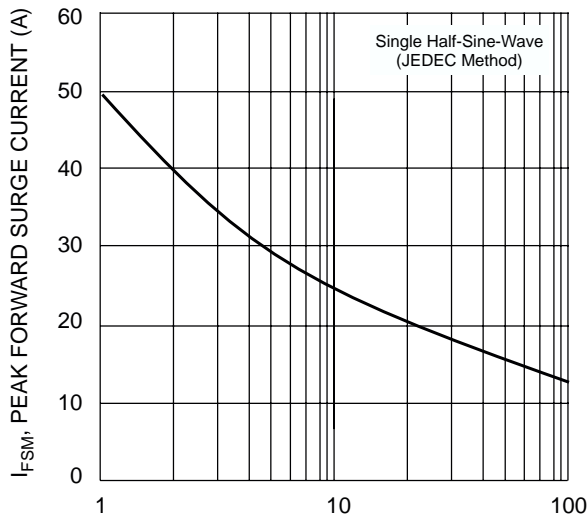


Fig. 3 Surge Current Derating Curve

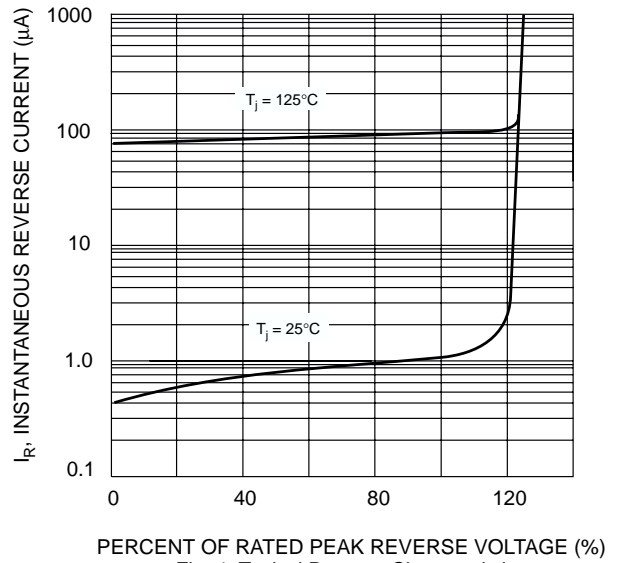
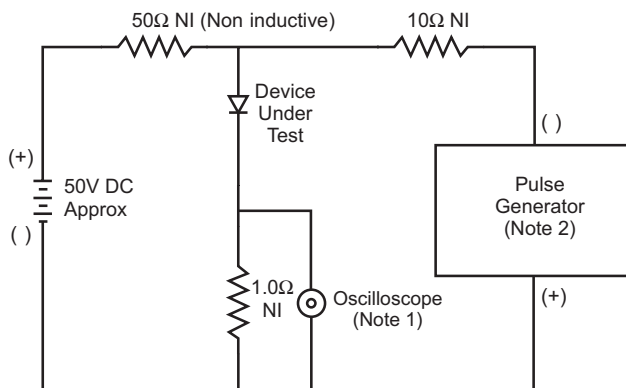


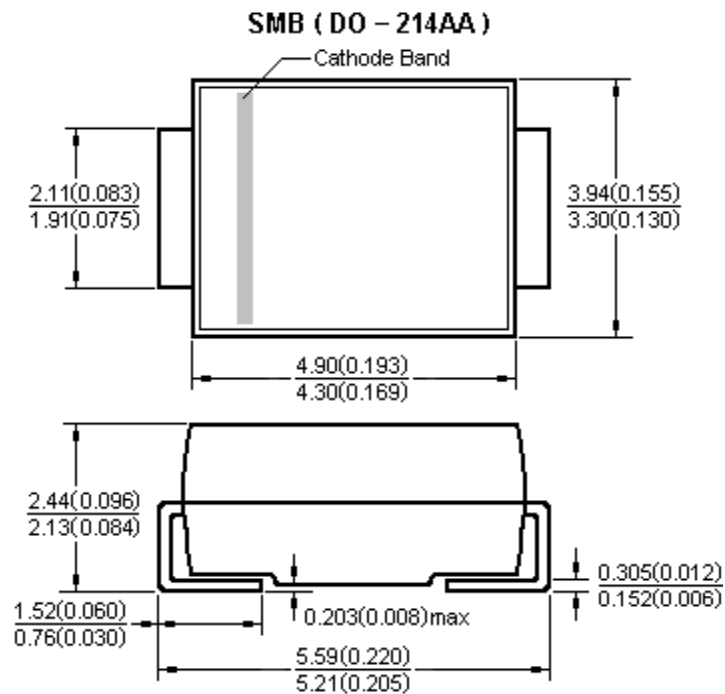
Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Package Outline



Dimensions in millimeters and (inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage. or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

$I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.

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