

## ES2A - ES2D

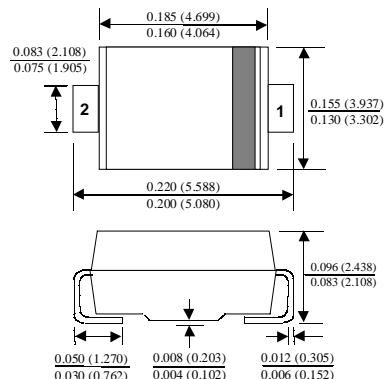
### Features

- For surface mount applications.
- Glass passivated junction.
- Low profile package.
- Easy pick and place.
- Built-in strain relief.
- Superfast recovery times for high efficiency.



**SMB/DO-214AA**

COLOR BAND DENOTES CATHODE



## 2.0 Ampere Superfast Rectifiers

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$I_o$	Average Rectified Current .375 " lead length @ $T_A = 110^\circ\text{C}$	2.0	A
$i_{f(\text{surge})}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	50	A
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	1.66 13.3	W mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient**	75	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead**	20	$^\circ\text{C}/\text{W}$
$T_{\text{stg}}$	Storage Temperature Range	-50 to +150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-50 to +150	$^\circ\text{C}$

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

\*\*Device mounted on FR-4 PCB 0.013 mm.

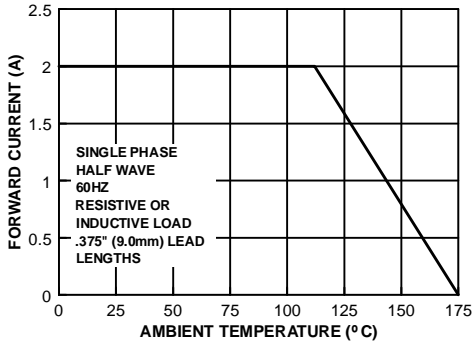
### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

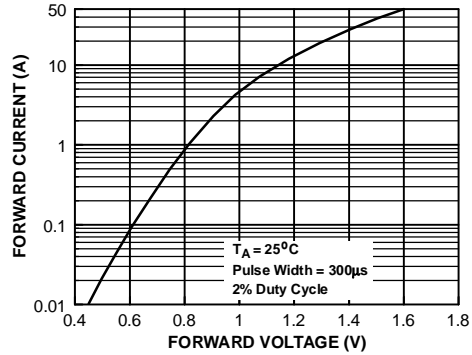
Parameter	Device				Units
	2A	2B	2C	2D	
Peak Repetitive Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
DC Reverse Voltage (Rated $V_R$ )	50	100	150	200	V
Maximum Reverse Current @ rated $V_R$					
$T_A = 25^\circ\text{C}$					10 $\mu\text{A}$
$T_A = 100^\circ\text{C}$					350 $\mu\text{A}$
Maximum Reverse Recovery Time $I_F = 0.5 \text{ A}$ , $I_R = 1.0 \text{ A}$ , $I_{RR} = 0.25 \text{ A}$					20 nS
Maximum Forward Voltage @ 2.0 A					0.90 V
Typical Junction Capacitance $V_R = 4.0 \text{ V}$ , $f = 1.0 \text{ MHz}$					18 pF

# Typical Characteristics

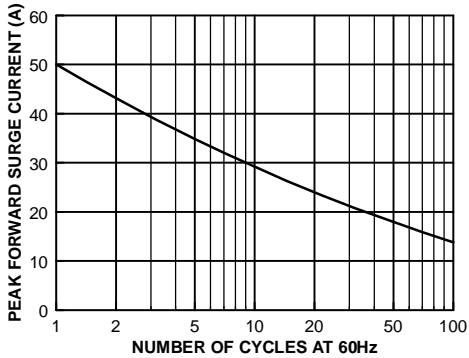
**Forward Current Derating Curve**



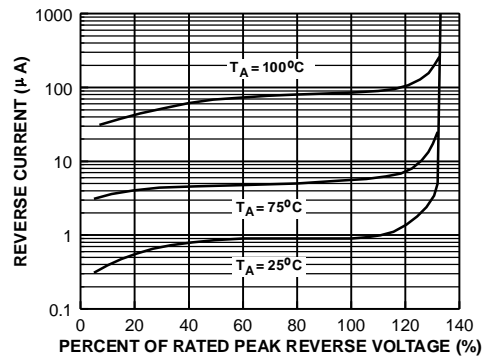
**Forward Characteristics**



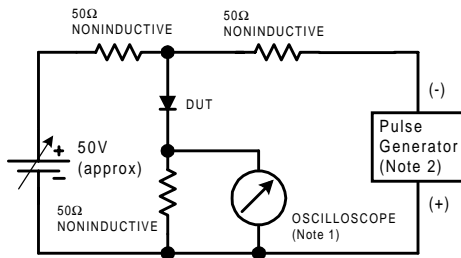
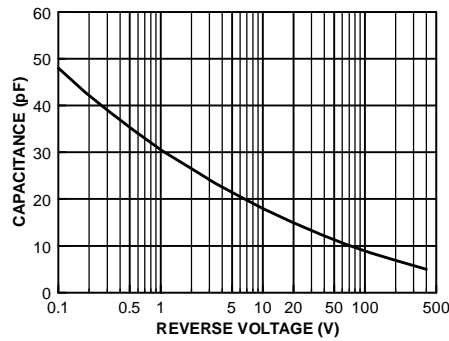
**Non-Repetitive Surge Current**



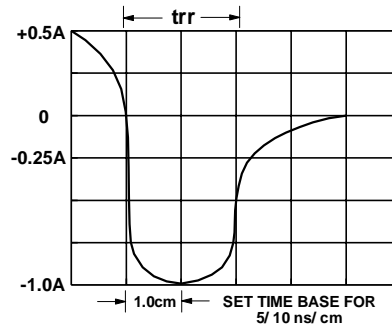
**Reverse Characteristics**



**Junction Capacitance**



- NOTES:  
 1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.  
 2. Rise time = 10 ns max; Source impedance = 50 ohms.



**Reverse Recovery Time Characteristic and Test Circuit Diagram**

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