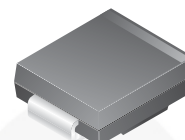


# S3A - S3M

## General Purpose Rectifiers

### Features

- Low Profile Package.
- Glass Passivated Junction.



**SMC/DO-214AB**  
COLOR BAND DENOTES CATHODE

### Ordering Informations

Part Number	Top Mark	Package	Packing Method
S3A	S3A	DO-214AB (SMC)	Tape and Reel
S3B	S3B	DO-214AB (SMC)	Tape and Reel
S3D	S3D	DO-214AB (SMC)	Tape and Reel
S3G	S3G	DO-214AB (SMC)	Tape and Reel
S3J	S3J	DO-214AB (SMC)	Tape and Reel
S3K	S3K	DO-214AB (SMC)	Tape and Reel
S3M	S3M	DO-214AB (SMC)	Tape and Reel

### Absolute Maximum Ratings<sup>(1)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value							Unit
		3A	3B	3D	3G	3J	3K	3M	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current $T_L = 105^\circ\text{C}$	3.0							A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	100							A
$T_{STG}$	Storage Temperature Range	-55 to +150							$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-55 to +150							$^\circ\text{C}$

#### Note:

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

**Thermal Characteristics<sup>(2)</sup>**

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	2.6	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	100	°C/W
$\Psi_{JL}$	Junction to Lead Thermal Characteristics (With Referenced to Anode Pin)	11	°C/W

**Note:**

2. Device mounted on FR-4 PCB 0.013mm.

Land pattern size: Refer to the package drawing.

Trace size: Force line = 50 mil & Sense line = 4 mil.

**Electrical Characteristics**

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Value							Units
			3A	3B	3D	3G	3J	3K	3M	
$V_F$	Forward Voltage at 3.0 A		1.2							V
$t_{rr}$	Reverse Recovery Time	$I_F = 0.5\text{ A},$ $I_R = 1.0\text{ A},$ $I_{rr} = 0.25\text{ A}$	2.5							$\mu\text{s}$
$I_R$	Reverse Current at rated $V_R$	$T_A = 25^\circ\text{C}$	5.0							$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	250							$\mu\text{A}$
$C_T$	Total Capacitance	$V_R = 4.0\text{ V},$ $f = 1.0\text{ MHz}$	60							pF

## Typical Performance Characteristics

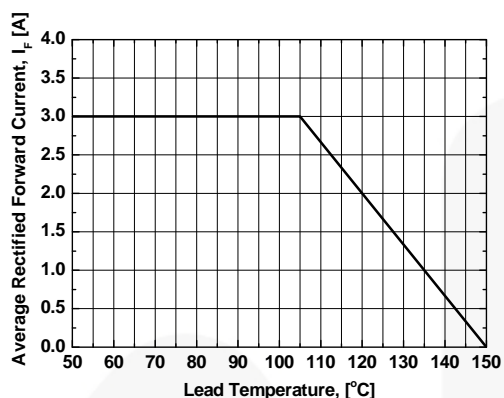


Figure 1. Forward Current Derating Curve

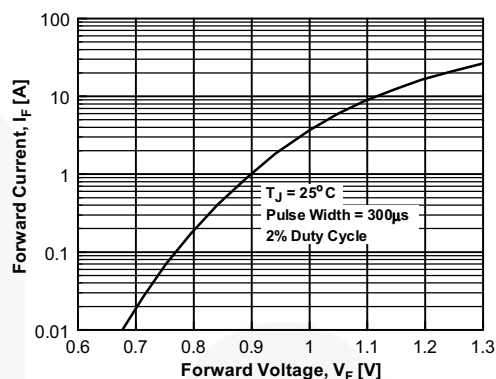


Figure 2. Forward Voltage Characteristics

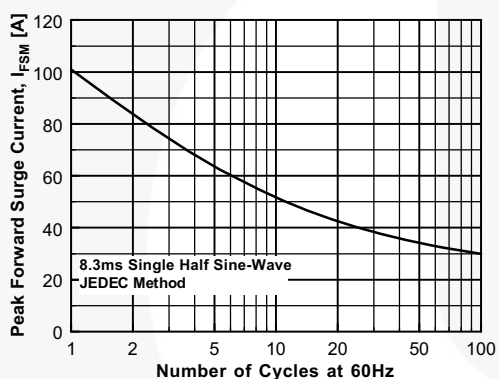


Figure 3. Non-Repetitive Surge Current

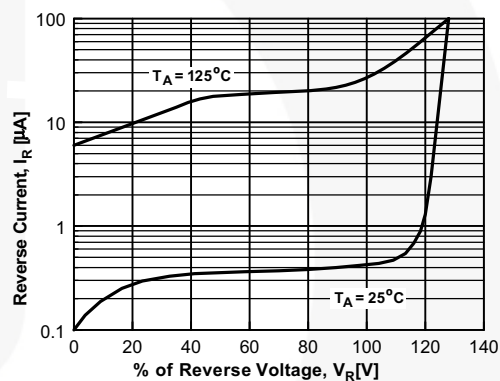


Figure 4. Reverse Current vs Reverse Voltage

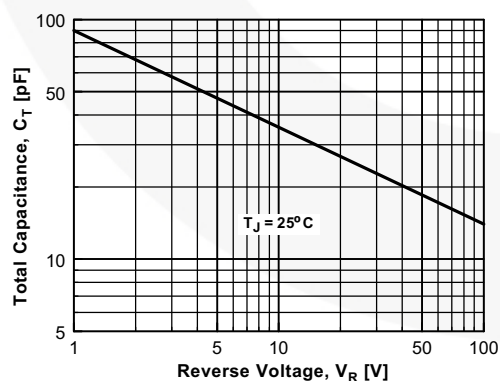


Figure 5. Total Capacitance

## Physical Dimension

## SMC/DO-214AB

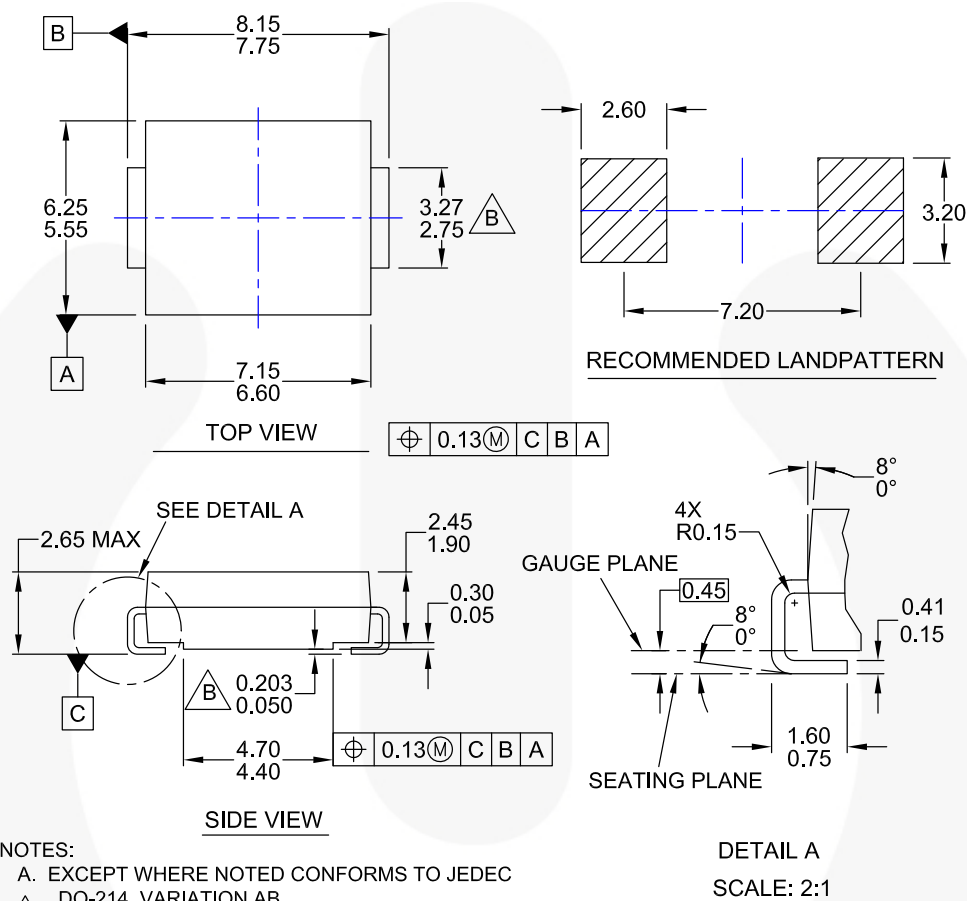


Figure 6. 2-Lead, SMC, JEDEC DO-214, Variation AB


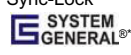



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