

# SE1A THRU SE1M

## SURFACE MOUNT HIGH EFFICIENT RECTIFIER

Reverse Voltage - 50 to 1000 V

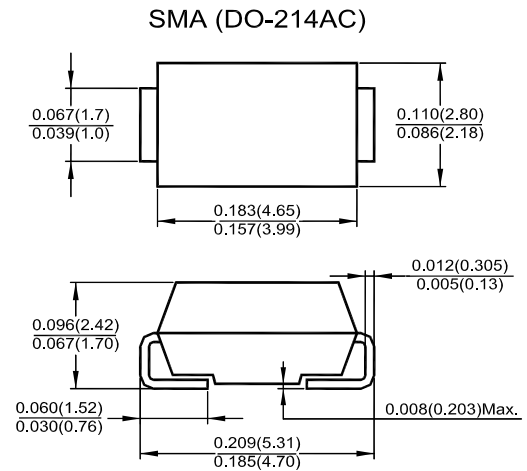
Forward Current - 1 A

### Features

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency

### Mechanical Data

- **Case:** SMA (DO-214AC) molded plastic
- **Epoxy:** UL 94V-0 rate flame retardant
- **Lead:** Lead formed for surface mount
- **Polarity:** color band denotes cathode end
- **Mounting position:** Any



Dimensions in inches and (millimeters)

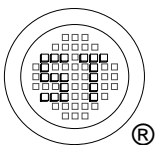
### Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	SE1A	SE1B	SE1D	SE1E	SE1G	SE1J	SE1K	SE1M	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Current $T_a = 55\text{ }^\circ\text{C}$	$I_{F(AV)}$	1								A
Maximum Peak Forward Surge Current, 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30								A
Maximum Forward Voltage at $I_F = 1\text{ A}$	$V_F$	1.1			1.7		2.2			V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	5				50				$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	50			75				ns	
Typical Junction Capacitance <sup>2)</sup>	$C_J$	50								pF
Junction and Storage Temperature Range	$T_J, T_S$	- 65 to + 150								$^\circ\text{C}$

<sup>1)</sup> Reverse recovery test conditions:  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$

<sup>2)</sup> Measured at 1 MHz and applied reverse voltage of 4 V



**SEMTECH ELECTRONICS LTD.**

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Certificate No. 05103



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Certificate No. 0506098

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

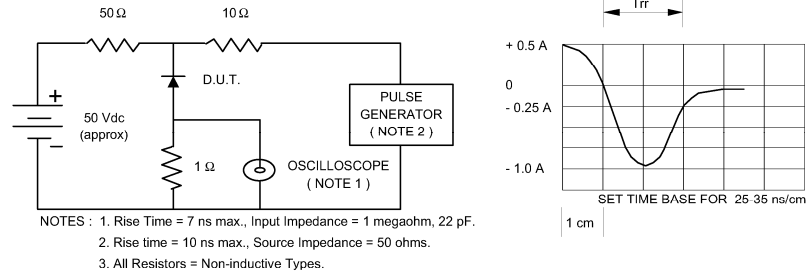


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

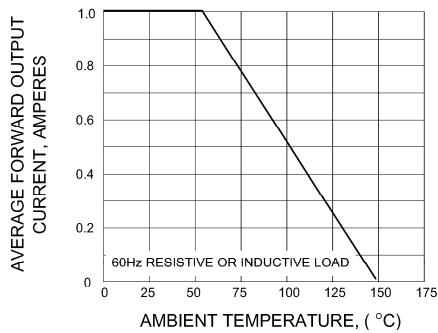


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

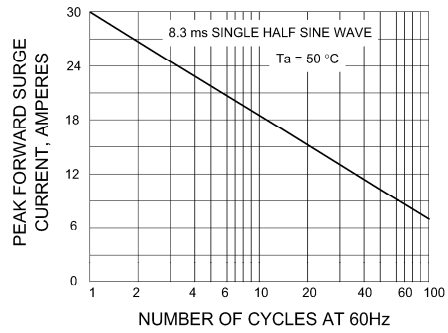


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

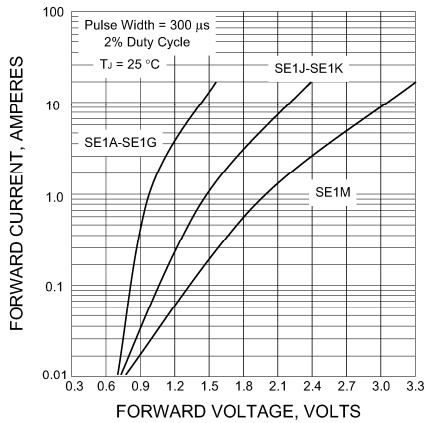
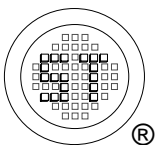
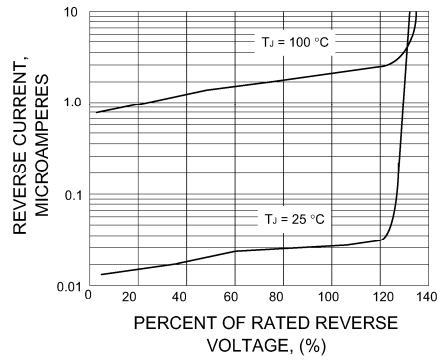


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



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