

# S5A THRU S5M

## Surface Mount General Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 5 A

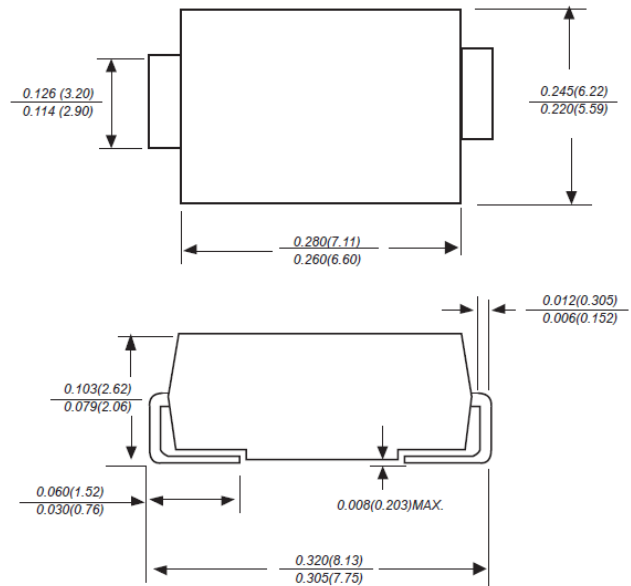
### SMC (DO-214AB)

#### Features

- The plastic package carries Underwriters Laboratory flammability classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability

#### Mechanical Data

- **Case:** JEDEC DO-214AB molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any



Dimensions in inches and (millimeters)

#### Maximum Ratings and Electrical Characteristics

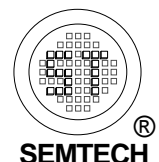
Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	S5A	S5B	S5D	S5G	S5J	S5K	S5M	Units
	Marking	S5A	S5B	S5D	S5G	S5J	S5K	S5M	-
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at $T_L = 110\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	150							A
Maximum Forward Voltage at $I_F = 5\text{ A}$	$V_F$	1							V
Maximum DC Reverse Current at $T_a = 25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage at $T_a = 100\text{ }^{\circ}\text{C}$	$I_R$	5 100							$\mu\text{A}$
Typical Junction Capacitance <sup>1)</sup>	$C_j$	120							pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	80							$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 65 to + 150							$^{\circ}\text{C}$

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

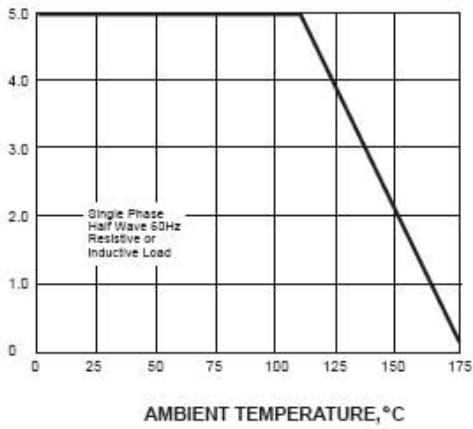
<sup>2)</sup> P.C.B mounted with 0.4 X 0.4" (10 X 10 mm) copper pad areas



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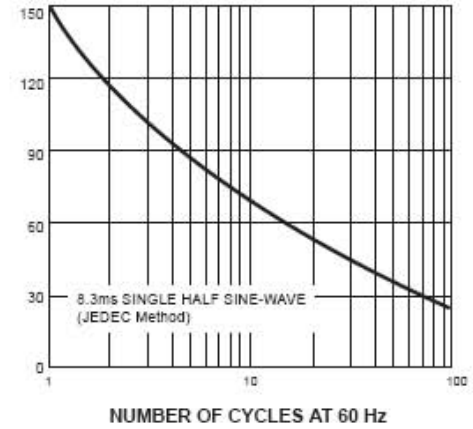
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



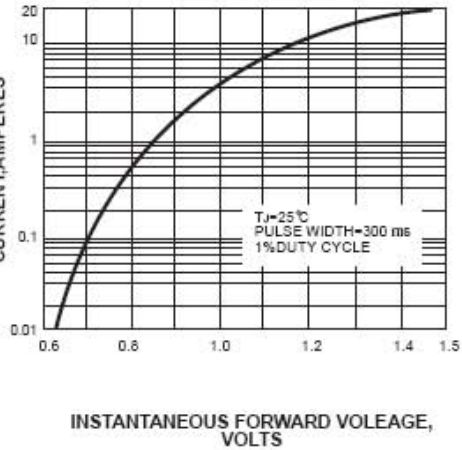
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



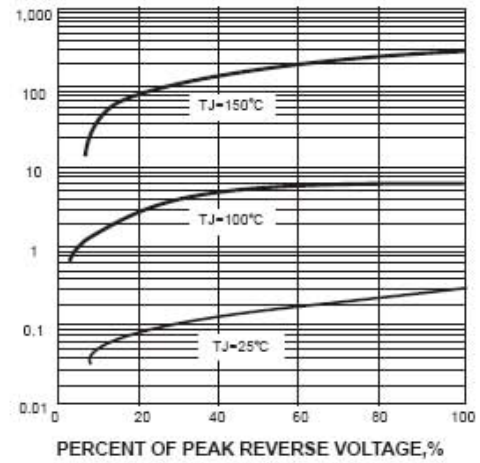
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



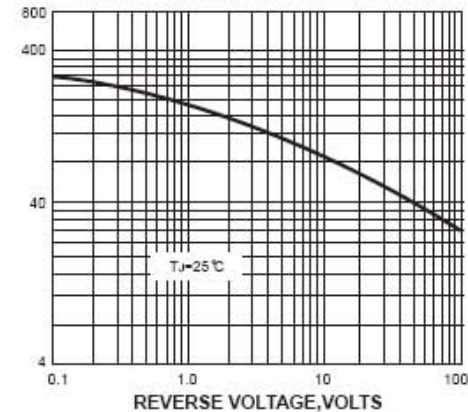
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



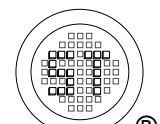
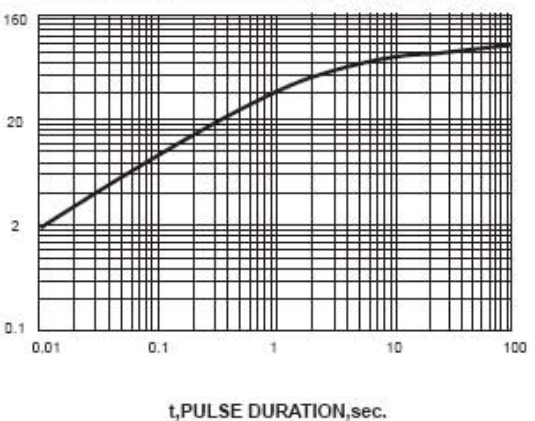
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



SEMTECH<sup>®</sup>

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