



# SURFACE MOUNT SILICON RECTIFIER

## M1 ~ M7

### Surface Mount Silicon Rectifier

#### Features

- Low Leakage current
- Ideal for surface mounted applications
- Open Junction chip
- High temperature soldering guaranteed 265°C /5 seconds  
260°C/ 10 seconds
- RoHS and REACH compliance



**RoHS**  
COMPLIANT

SMA (DO-214AC)

#### Mechanical Data

<b>Case:</b>	Transfer molded plastic
<b>Epoxy:</b>	Meets UL 94V-0 flammability rating
<b>Terminals:</b>	Solder plated, solderable per MIL-STD 750, Method 2026
<b>Polarity:</b>	Cathode indicated by color band
<b>Mounting position:</b>	Any
<b>Weight:</b>	0.078 gram

#### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	M1	M2	M4	M5	M6	M7	Unit	Conditions
<b>V<sub>RRM</sub></b>	Max Recurrent Peak Reverse Voltage	100	200	400	600	800	1000	V	
<b>V<sub>RMS</sub></b>	Max RMS Voltage	70	140	280	420	560	700	V	
<b>V<sub>DC</sub></b>	Max DC Blocking Voltage	100	200	400	600	800	1000	V	
<b>I<sub>o</sub></b>	Max Average Forward Rectified Current at Ambient Temperature	1.0						A	
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current	30						A	8.3ms single half sine-wave (JEDEC)
<b>I<sub>2T</sub></b>	Typical Current Square Time	3.7						μA	
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating and Storage Temperature Range	-55 to +150						°C	



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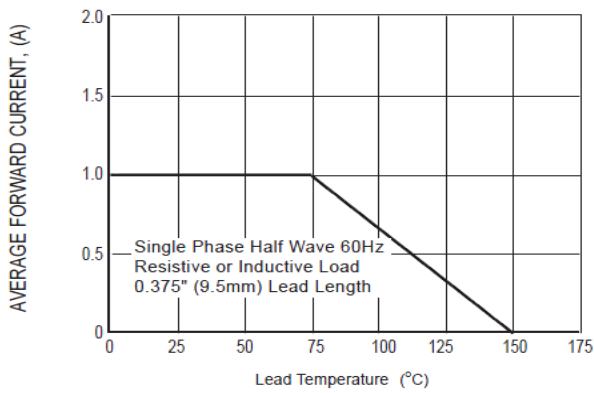
### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	M1	M2	M4	M5	M6	M7	Unit	Conditions
$V_F$	Max Instantaneous Forward Voltage	1.1						V	$I_{F(AV)}=1.0A$
$I_R$	Max DC Reverse Current at Rated DC Blocking Voltage	30						$\mu A$	$T_A=75^{\circ}C$
		5.0							$T_A=25^{\circ}C$
		100							$T_A=125^{\circ}C$
$C_J$	Typical Junction Capacitance	15						pF	At 1MHz, reversed voltage of 4V
$R_{\theta-JA}$	Typical Thermal Resistance	80						$^{\circ}C/W$	Note 2
$R_{\theta-JL}$		30							

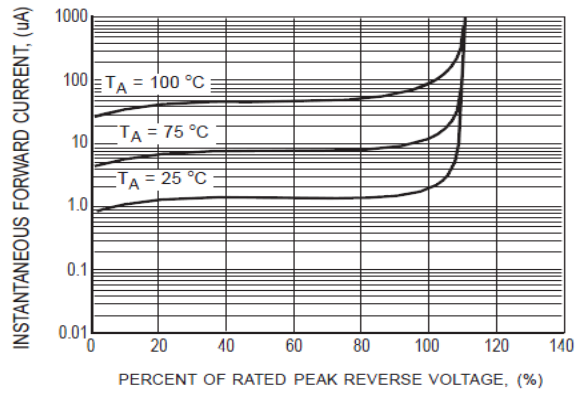
**Note:**

1. Single phase, half wave, 60Hz, resistive or inductive load. Derate current by 20% for capacitive load
2. Thermal Resistance, PCB mounted

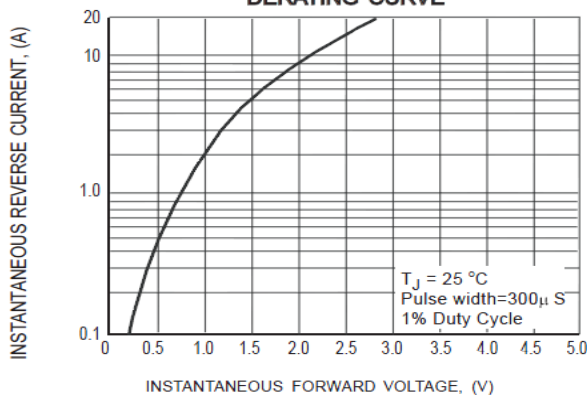
### Typical Characteristics Curves



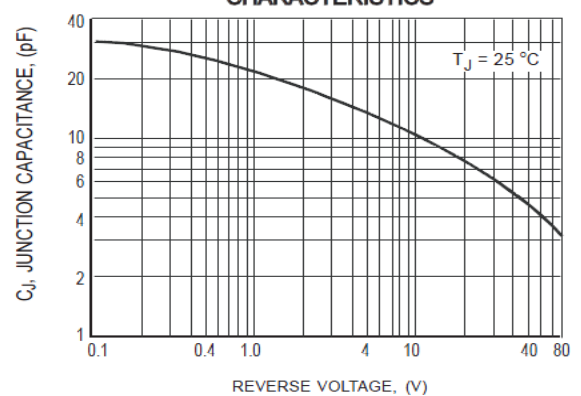
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



**FIG.2 TYPICAL REVERSE CHARACTERISTICS**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



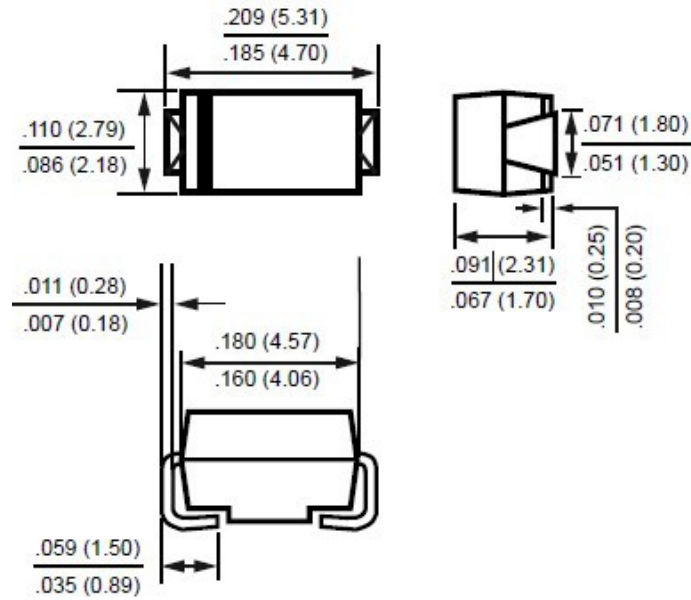
**FIG.4 TYPICAL JUNCTION CAPACITANCE**



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Dimensions in inch (mm)



SMA (DO-214AC)