

## Surface Mount Fast Switching Rectifier

### Features

- Low profile surface mounted package
- Fast recovery time for high efficiency
- Glass passivated junction
- Plastic package has underwriters laboratory flammability classification 94 V-0
- High temperature soldering: 250 °C / 10 seconds at terminals
- RoHS compliant



SMA

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

Symbol	Description	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit	Conditions
<b>VRRM</b>	Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
<b>VRMS</b>	Maximum RMS Voltage	35	70	140	280	420	560	700	V	
<b>VDC</b>	Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V	
<b>IAV</b>	Maximum Average Forward Rectified Current	1.0							A	TA=50°C
<b>IFSM</b>	Peak Forward Surge Current	30							A	8.3ms single half sine-wave superimposed on rated load (JEDEC method)

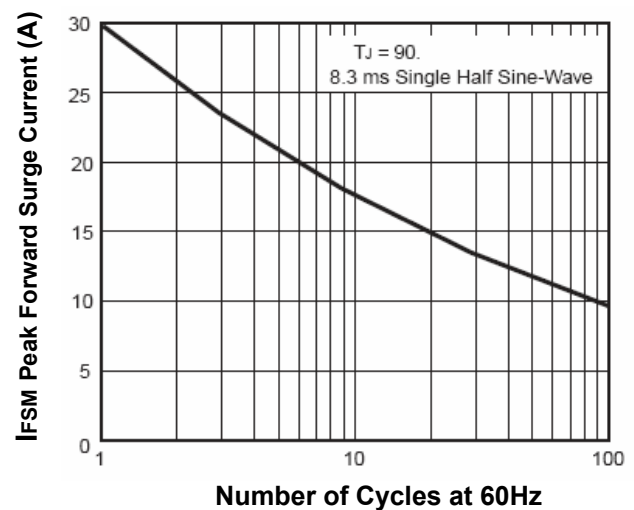
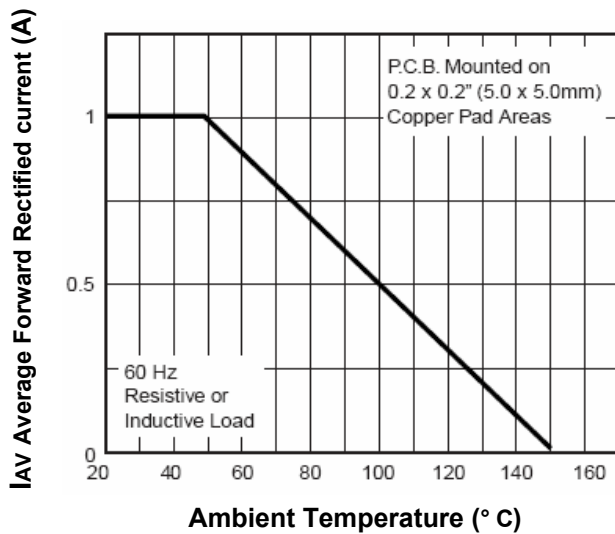
**Note:** Single phase half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

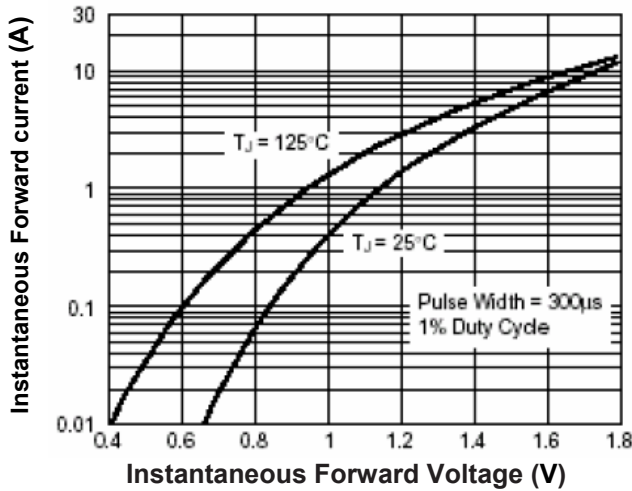
## Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted)

Symbol	Description	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit	Conditions
<b>V<sub>F</sub></b>	Maximum Instantaneous Forward Voltage	1.3							V	I <sub>F</sub> at 1.0 A
<b>I<sub>R</sub></b>	Maximum DC Reverse Current at Rated DC Blocking Voltage	5							μA	TA = 25 °C
		100								TA = 125 °C
<b>t<sub>rr</sub></b>	Typical Reverse Recovery Time	150			250	500		nS	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	
<b>C<sub>J</sub></b>	Typical Junction Capacitance	10				7		pf	Measured at 1.0 MHz and Applied V <sub>r</sub> = 4.0 volts.	
<b>R<sub>θ-JL</sub></b>	Maximum Thermal Resistance	32							° C/W	Mounted on 0.2" x 0.2" (5mmx5mm) copper pad area
<b>R<sub>θ-JA</sub></b>		105								
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-55 to 150							° C	

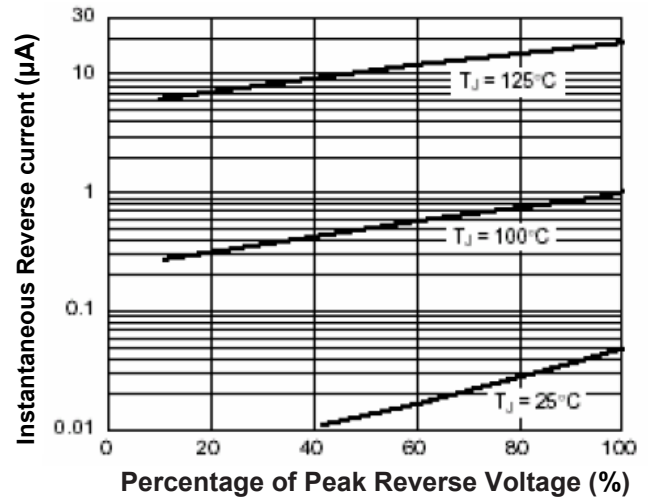
**Note:** Single phase half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

## Typical Characteristics Curves

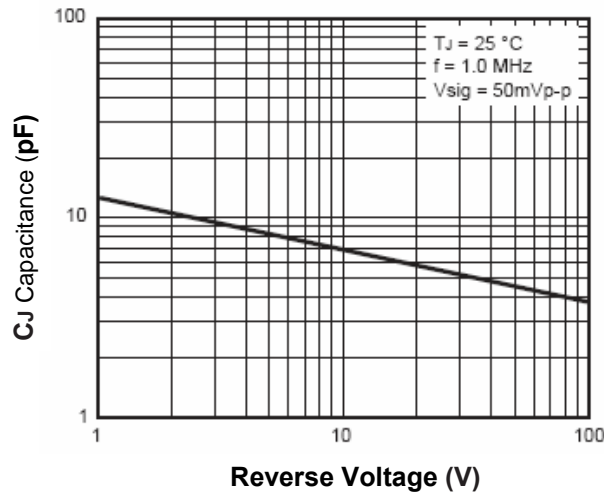




**Fig.3- Typical Instantaneous Forward Characteristics**

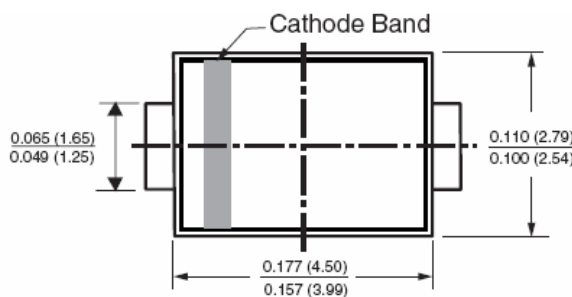


**Fig.4- Typical Reverse Characteristics**

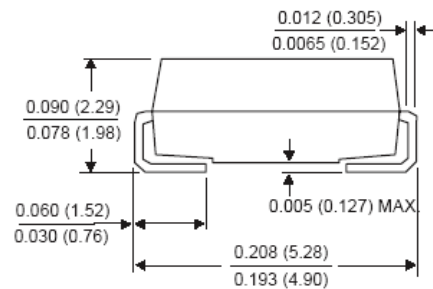


**Fig.5- Junction Capacitance**

**Dimensions in inch (mm)**



**DO214AC (SMA)**



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