

# Surface Mount Fast Recovery Rectifiers

## **Major Ratings and Characteristics**

I <sub>F(AV)</sub>	1.0 A
V <sub>RRM</sub>	50 V to 1000 V
I <sub>FSM</sub>	30 A
t <sub>rr</sub>	150nS, 250nS, 500nS
V <sub>F</sub>	1.3 V
T <sub>j</sub> max.	125 °C

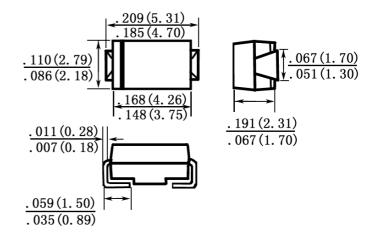
#### **Features**

- Low profile package
- · Ideal for automated placement
- Fast switching for high efficiency
- High forward surage capability
- High temperatrue soldering:
  260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC

#### **Mechanical Date**

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denotes cathode end

DO-214AC(SMA)



**Dimensions in inches and (millimeters)** 

### **Maximum Ratings & Thermal Characteristics & Electrical Characteristics**

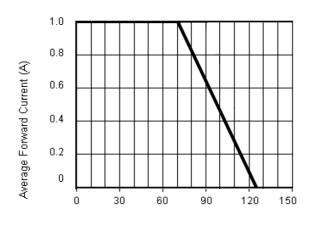
(TA = 25 °C unless otherwise noted)

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	Symbol	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	UNIT	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	٧	
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 rectified current	I <sub>F(AV)</sub>	1							Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30						Α		
Maximum instantaneous forwad voltage at 1.0A	$V_{F}$	1.3							V	
Maximum DC reverse current T <sub>A</sub> = 25 °C	L	5.0							μΑ	
at Rated DC blocking voltage $T_A = 125^{\circ}C$	I <sub>R</sub>	50							μΑ	
Maximum reverse recovery time at $I_F = 0.5 \text{ A}$ , $I_R = 1.0 \text{ A}$ , $I_{rr} = 0.25 \text{ A}$	t <sub>rr</sub>	150 250 500					00	nS		
Typical junction capacitance at 4.0 V ,1MHz	CJ	11 8					pF			
Thermal resistance from junction to ambient	$R_{\theta JA}$	75						°C/W		
Operating junction and storage temperature range	$T_J, T_STG$	-55 to +125					$^{\circ}$			



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## Characteristic Curves (T<sub>A</sub>=25 ℃ unless otherwise noted)



T<sub>A</sub>--Ambient Temperature (℃)

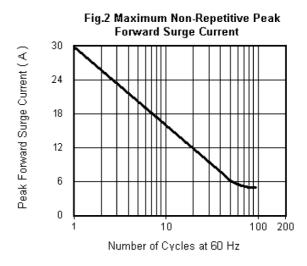


Fig.3 Typical Instantaneous Forward Characteristics

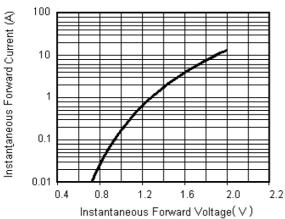


Fig.4 Typical Reverse Leakage Characteristics

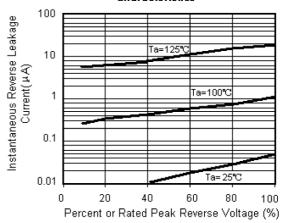


Fig.5 Typical Junction Capacitance

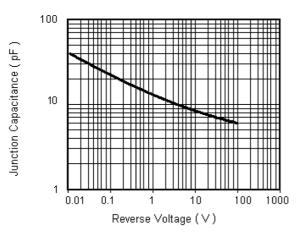
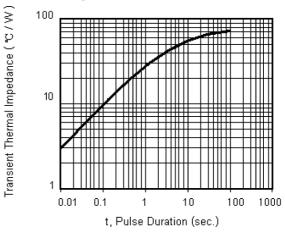


Fig.6 Transient Thermal Impedance



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