

January 2011

# RS1A - RS1M Fast Rectifiers

# **Features**

- Glass passivated junction.
- For surface mounted applications.
- Built in strain relief, ideal for automated placement.
- UL certified with UL certificate # E326243.



SMA/DO-214AC COLOR BAND DENOTES CATHODE

# **Absolute Maximum Ratings\*** T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter		Units						
		1A	1B	1D	1G	1J	1K	1M	Units
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
I <sub>F(AV)</sub>	Average Rectified Forward Current @ T <sub>A</sub> = 100°C  1.0				Α				
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave 30			Α					
T <sub>STG</sub>	Storage Temperature Range		-55 to +150						°C
T <sub>J</sub>	Operating Junction Temperature -55 to +150				°C				

<sup>\*</sup> These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

# **Thermal Characteristics**

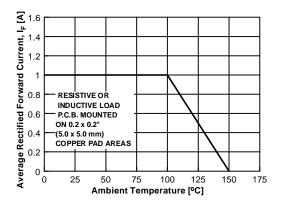
Symbol	Parameter	Value	Units
P <sub>D</sub>	Power Dissipation	1.19	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient*	105	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead*	32	°C/W

<sup>\*</sup> Device mounted on FR-4 PCB 0.013 mm.

# **Electrical Characteristics** $T_A = 25$ °C unless otherwise noted

Symbol	Parameter		Value							
Symbol	r al allietei	1A	1B	1D	1G	1J	1K	1M	Units	
V <sub>F</sub>	Forward Voltage @ 1.0A		1.3						V	
t <sub>rr</sub>	Reverse Recovery Time I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	150 250 500			00	ns				
I <sub>R</sub>	Reverse Current @ rated $V_R$ $T_A=25^{\circ}C$ $T_A=125^{\circ}C$	=25°C 5.0 =125°C 50			μ <b>Α</b> μ <b>Α</b>					
C <sub>T</sub>	Total Capacitance V <sub>R</sub> =4.0V, f=1.0MHz	10						pF		

# **Typical Performance Characteristics**



**Figure 1. Forward Current Derating Curve** 

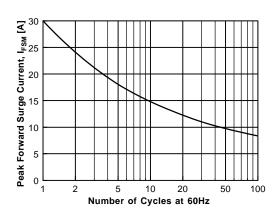


Figure 2. Non-Repetitive Surge Current

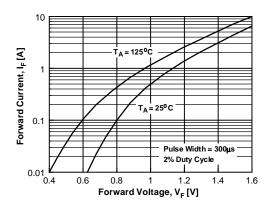


Figure 3. Forward Voltage Characteristics

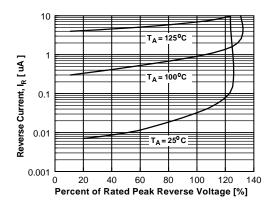


Figure 4. Reverse Current vs Reverse Voltage

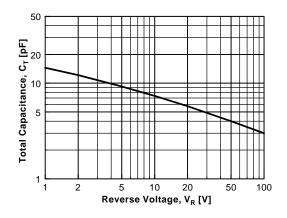


Figure 5. Total Capacitance





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Definition of Terms									
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