FAIRCHILD SEMICONDUCTOR®

September 2009

RS1A - RS1M
Fast Rectifiers

Features

- Glass passivated junction.
- For surface mounted applications.
- Built in strain relief, ideal for automated placement.

SMA/DO-214AC
COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

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

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	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

*Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Value							Units
		1A	1B	1D	1G	1J	1K	1M	
V_F	Forward Voltage @ 1.0A	1.3							V
t_{rr}	Reverse Recovery Time I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	150				250	500		ns
I_R	Reverse Current @ rated V_R T_A=25°C T_A=125°C	5.0 50							µA µA
C_T	Total Capacitance V_R=4.0V, f=1.0MHz	10							pF

Typical Performance Characteristics

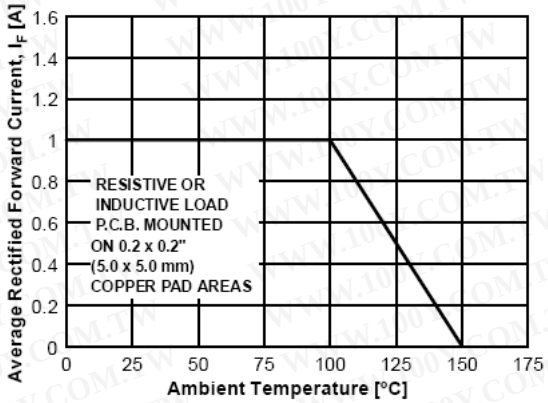

Figure 1. Forward Current Derating Curve

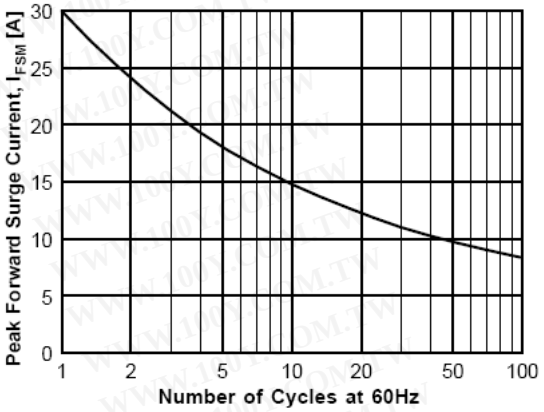

Figure 2. Non-Repetitive Surge Current

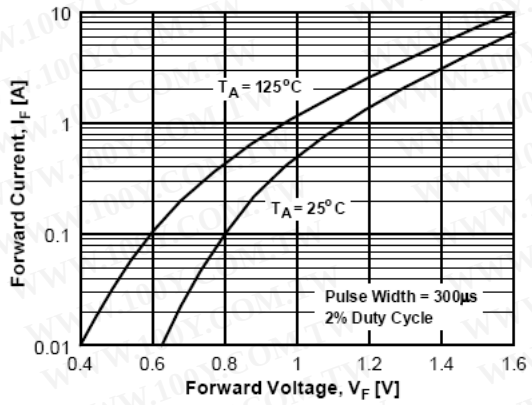

Figure 3. Forward Voltage Characteristics

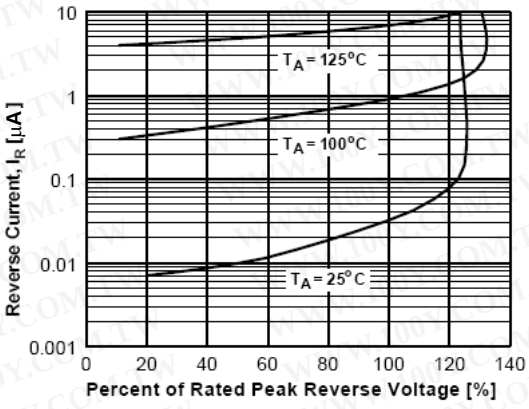

Figure 4. Reverse Current vs Reverse Voltage

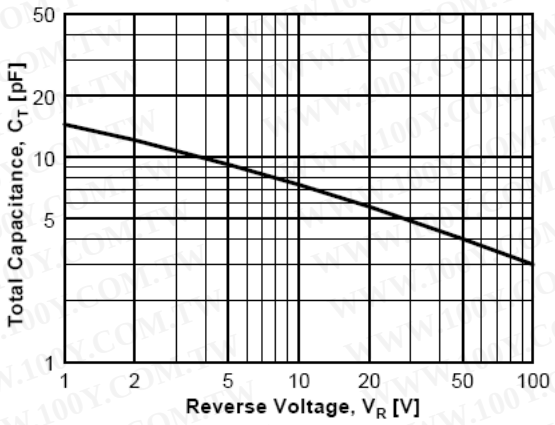

Figure 5. Total Capacitance

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