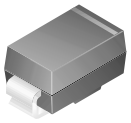
FAIRCHILD SEMICONDUCTOR®

October 2013

RS1A - RS1M
Fast Rectifiers

Features

- Glass-Passivated Junction
- For Surface Mounted Applications
- Built-in Strain Relief, Ideal for Automated Placement
- UL Certified: Certificate # E326243



SMA/DO-214AC
COLOR BAND DENOTES CATHODE

Ordering Information

Part Number	Marking	Package	Packing Method
RS1A	RS1A	DO-214AC	Tape and Reel
RS1B	RS1B		
RS1D	RS1D		
RS1G	RS1G		
RS1J	RS1J		
RS1K	RS1K		
RS1M	RS1M		

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at 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 at T_A = 100°C	1.0							A
I_{FSM}	Non-Repetitive Peak Forward Surge Current: 8.3 ms Single Half-Sine Wave	30							A
T_{STG}	Storage Temperature Range	-55 to +150							°C
T_J	Operating Junction Temperature	-55 to +150							°C

Thermal Characteristics[1]

Symbol	Parameter	Value	Units
P_D	Power Dissipation	1.19	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient[1]	105	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead[1]	32	°C/W

Note:

1. Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

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

Typical Performance Characteristics

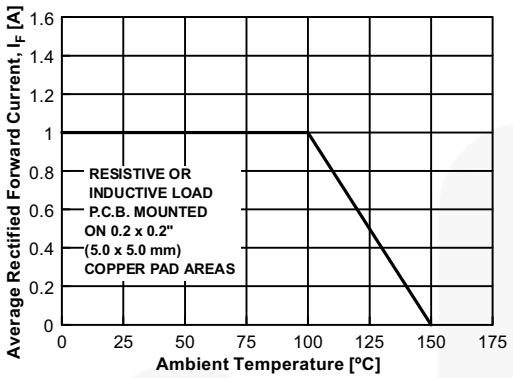


Figure 1. Forward Current Derating Curve

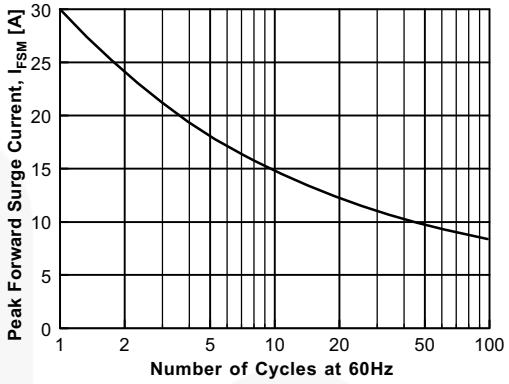


Figure 2. Non-Repetitive Surge Current

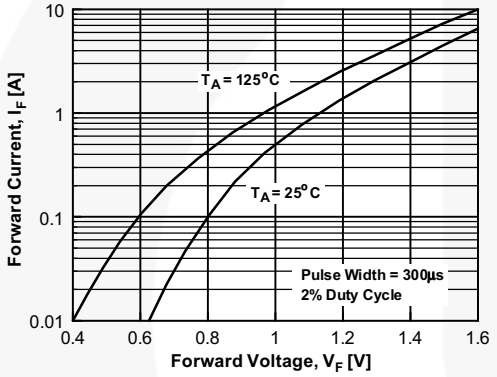


Figure 3. Forward Voltage Characteristics

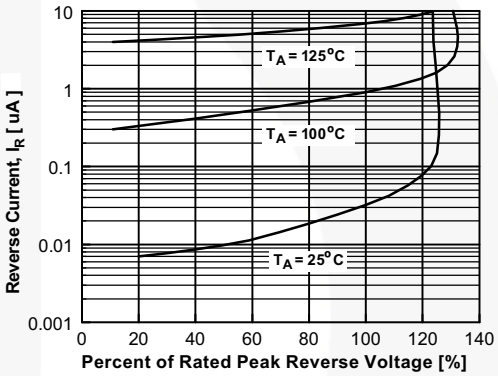


Figure 4. Reverse Current vs. Reverse Voltage

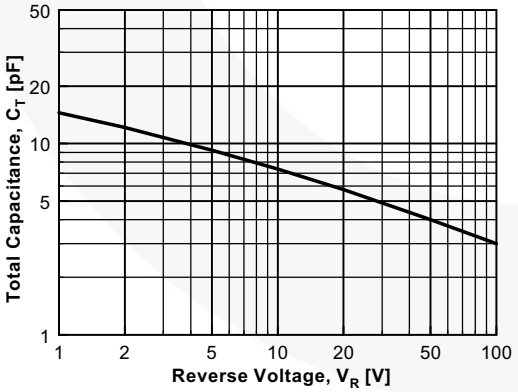
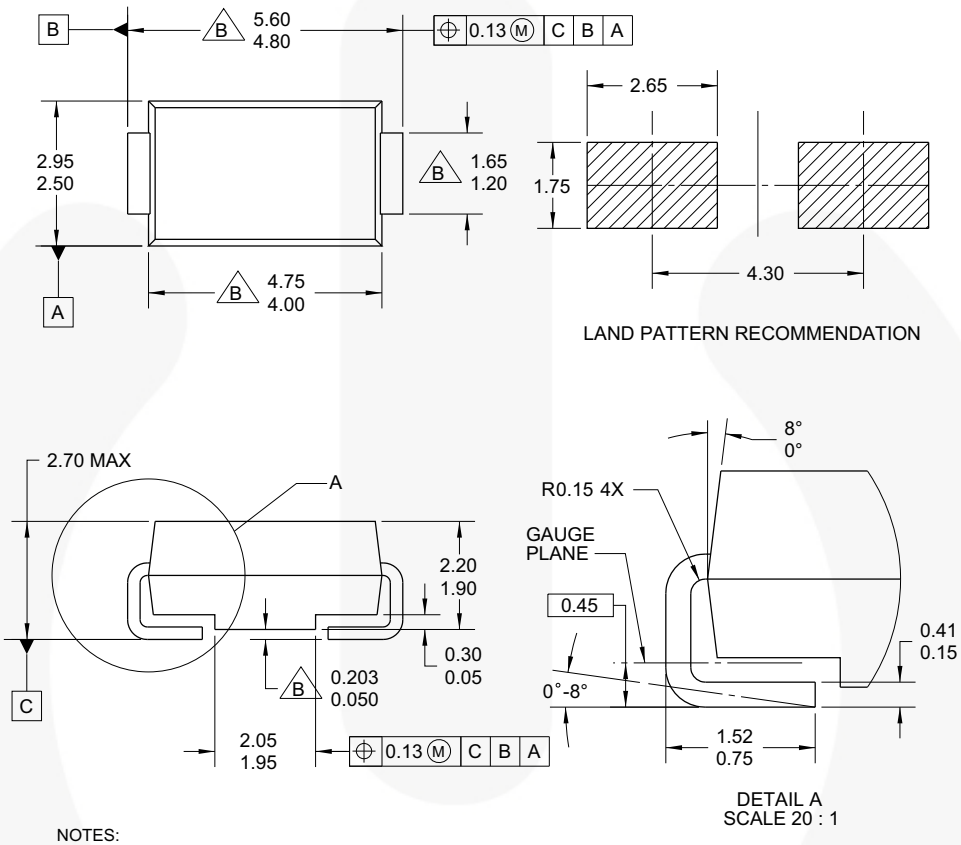


Figure 5. Total Capacitance

Physical Dimension

DO-214AC



NOTES:

A. EXCEPT WHERE NOTED CONFORMS TO JEDEC DO214 VARIATION AC.
B. DOES NOT COMPLY JEDEC STD. VALUE.
C. ALL DIMENSIONS ARE IN MILLIMETERS.
D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
F. LAND PATTERN STD. DIOM5025X231M.
G. DRAWING FILE NAME: DO214ACREV1

Figure 6. 2-LEAD, SMA, JEDEC DO-214, VARIATION AC (ACTIVE)

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http://www.fairchildsemi.com/dwg/DO/DO214AC.pdf.

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