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FAIRCHILD SEMICONDUCTOR®

ES1A - ES1D

Features

- For surface mount applications.
- Glass passivated junction.
- Low profile package.
- Easy pick and place.
- Built-in strain relief.
- Superfast recovery times for high efficiency.



SMA/DO-214AC
COLOR BAND DENOTES CATHODE

Fast Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value				Units
		1A	1B	1C	1D	
V_{RRM}	Maximum Repetitive Reverse Voltage	50	100	150	200	V
$I_{F(AV)}$	Average Rectified Forward Current, @ T_A=120°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	-50 to +150				°C
T_J	Operating Junction Temperature	-50 to +150				°C

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

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	1.47	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient*	85	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead*	35	°C/W

*Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics

T_A = 25°C unless otherwise noted

Symbol	Parameter		Device				Units
			1A	1B	1C	1D	
V_F	Forward Voltage @ 1.0 A		0.92				V
t_{rr}	Reverse Recovery Time I_F = 0.5 A, I_R = 1.0 A, I_{RR} = 0.25 A		15				ns
I_R	Reverse Current @ rated V_R	T_A = 25°C	5.0				µA
		T_A = 100°C	100				µA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz		7.0				pF

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Typical Characteristics

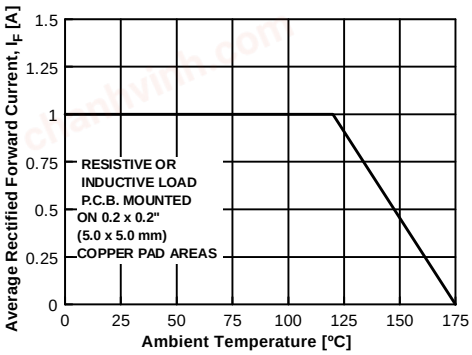


Figure 1. Forward Current Derating Curve

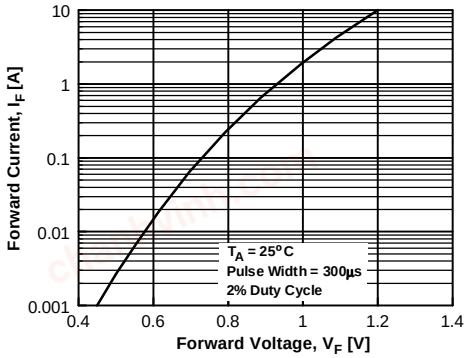


Figure 2. Forward Voltage Characteristics

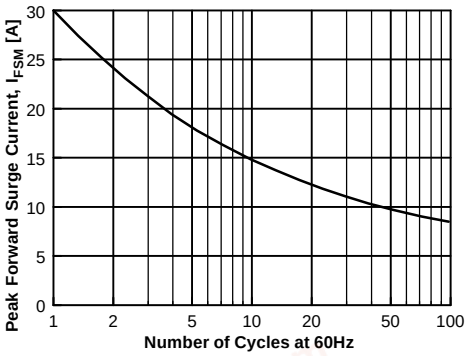


Figure 3. Non-Repetitive Surge Current

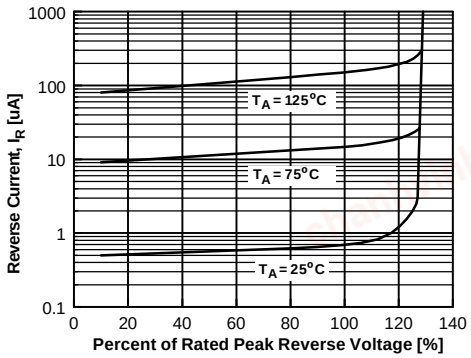


Figure 4. Reverse Current vs Reverse Voltage

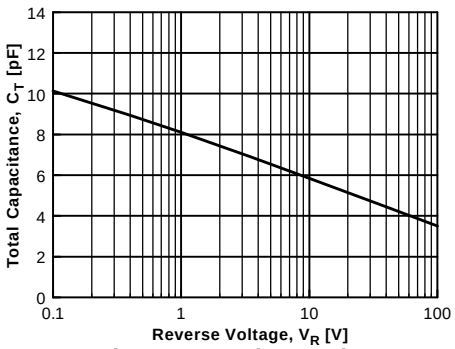
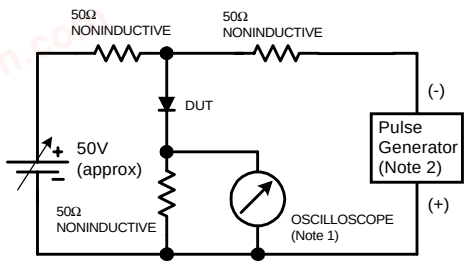
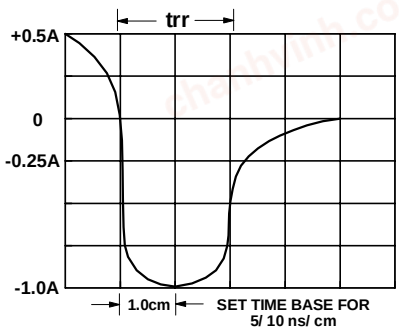


Figure 5. Total Capacitance



NOTES:
1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



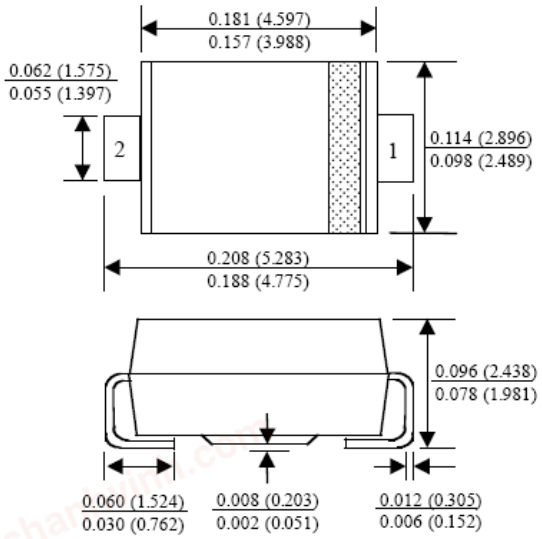
Reverse Recovery Time Characterstic and Test Circuit Diagram

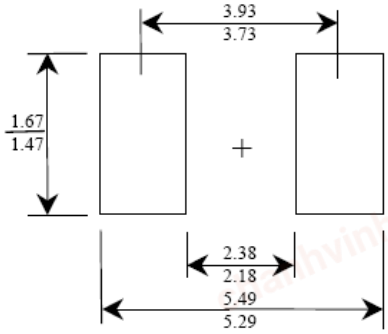
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Package Dimensions

SMA / DO - 214AC





Minimum Recommended
Land Pattern

Dimensions in Millimeters

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