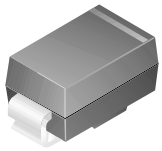
FAIRCHILD SEMICONDUCTOR®

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

Typical Characteristics

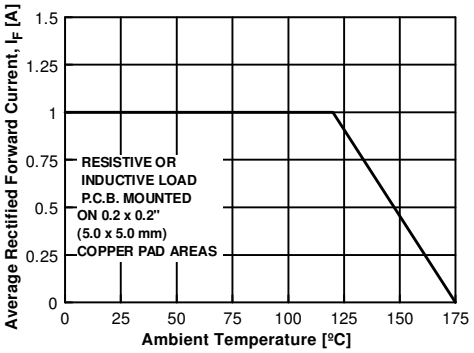


Figure 1. Forward Current Derating Curve

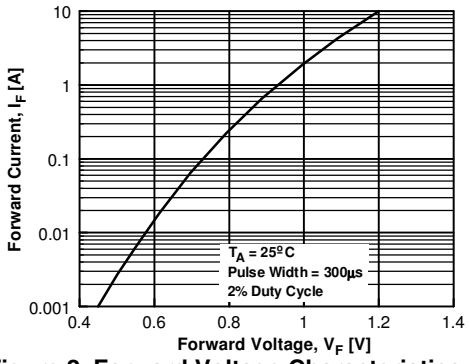


Figure 2. Forward Voltage Characteristics

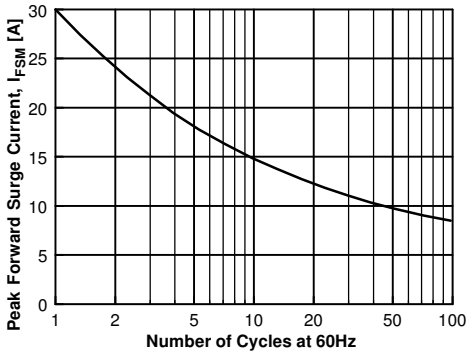


Figure 3. Non-Repetitive Surge Current

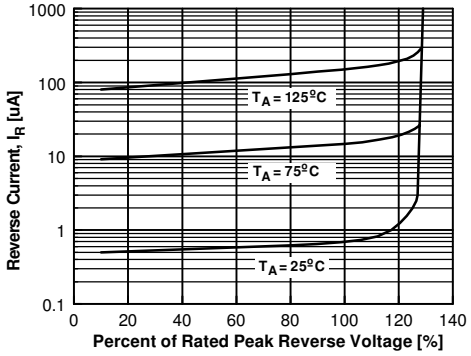


Figure 4. Reverse Current vs Reverse Voltage

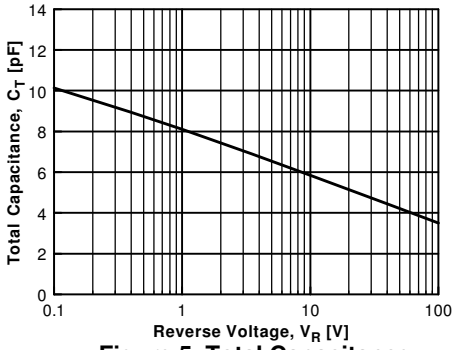
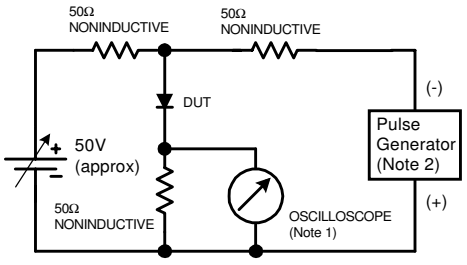
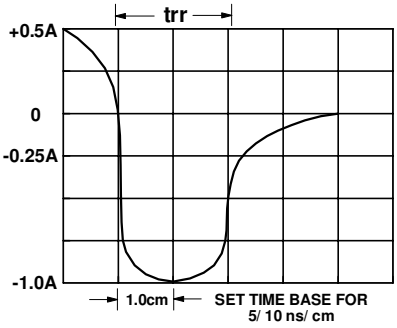


Figure 5. Total Capacitance



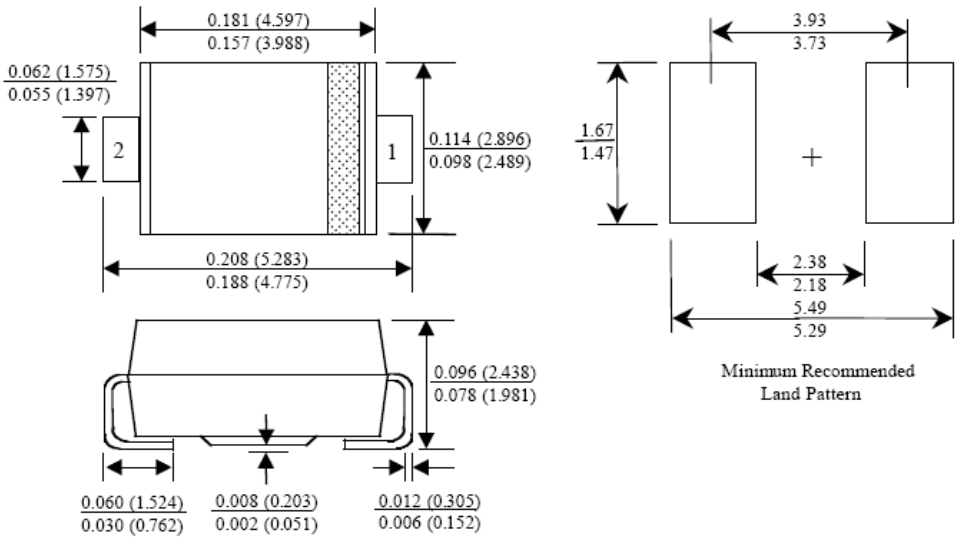
NOTES:
1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



Reverse Recovery Time Characterstic and Test Circuit Diagram

Package Dimensions

SMA / DO - 214AC



Dimensions in Millimeters

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DenseTrench™	GTO™	Power247™	SuperSOT™-6	
DOME™	HiSeC™	PowerTrench®	SuperSOT™-8	
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E^2CMOS™	LittleFET™	QS™	TinyLogic™	
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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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