



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*

 $T_A = 25^\circ\text{C}$ 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, @ $T_A = 120^\circ\text{C}$			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		$^\circ\text{C}$
T_J	Operating Junction Temperature			-50 to +150		$^\circ\text{C}$

* 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	$^\circ\text{C/W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead*	35	$^\circ\text{C/W}$

* Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics

 $T_A = 25^\circ\text{C}$ 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 $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{RR} = 0.25 \text{ A}$			15		ns
I_R	Reverse Current @ rated V_R	$T_A = 25^\circ\text{C}$		5.0		μA
		$T_A = 100^\circ\text{C}$		100		μA
C_T	Total Capacitance $V_R = 4.0 \text{ V}$, $f = 1.0 \text{ MHz}$			7.0		pF

Typical Characteristics

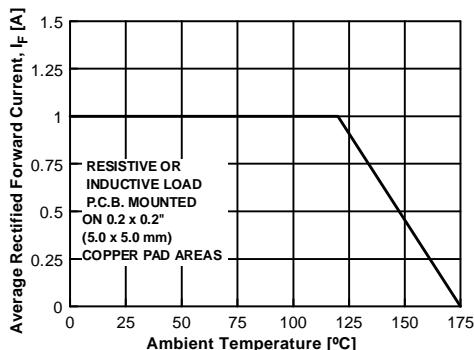


Figure 1. Forward Current Derating Curve

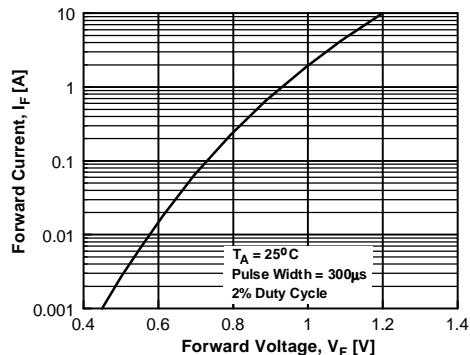


Figure 2. Forward Voltage Characteristics

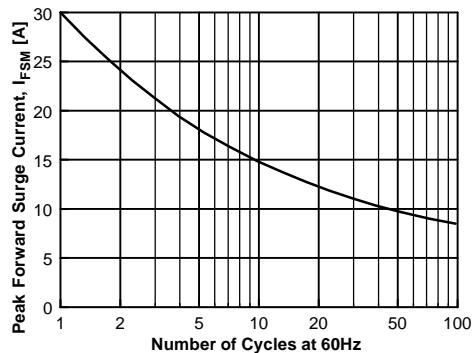


Figure 3. Non-Repetitive Surge Current

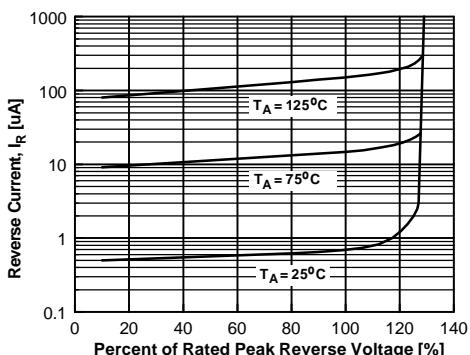


Figure 4. Reverse Current vs Reverse Voltage

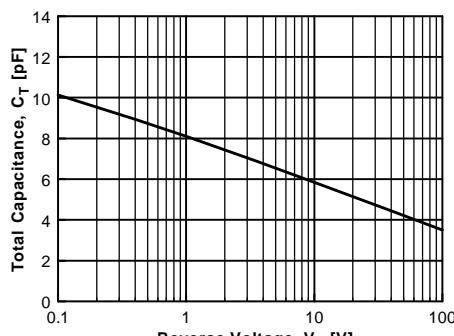
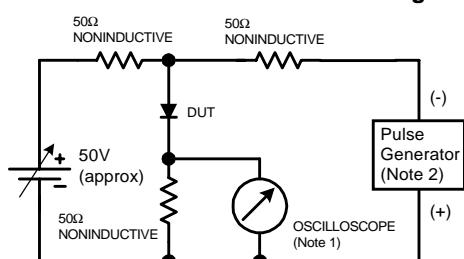
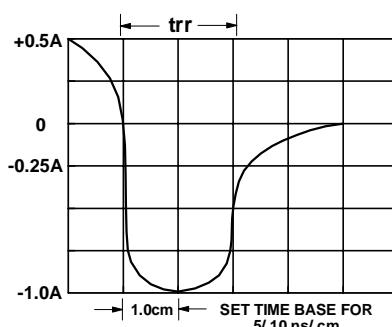


Figure 5. Total Capacitance



NOTES:

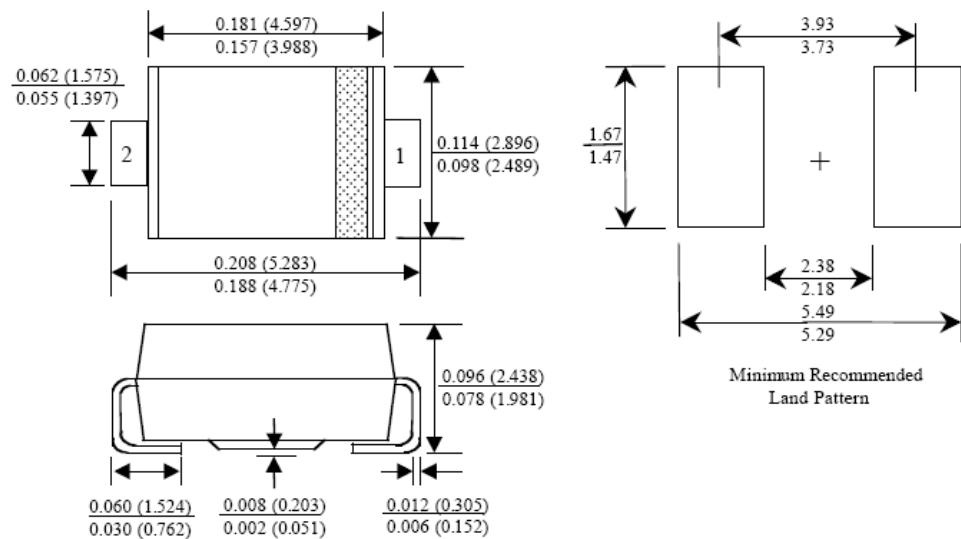
1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pF.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



Reverse Recovery Time Characteristic and Test Circuit Diagram

Package Dimensions

SMA / DO - 214AC



Dimensions in Millimeters

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