

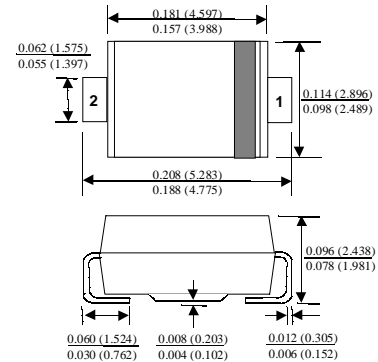
## ES1A - ES1D

### 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



## 1.0 Ampere Superfast Rectifiers

### Absolute Maximum Ratings\* T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I <sub>O</sub>	Average Rectified Current @ T <sub>A</sub> = 120°C	1.0	A
i <sub>f(surge)</sub>	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	30	A
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	1.47 11.76	W mW/°C
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient**	85	°C/W
R <sub>θJL</sub>	Thermal Resistance, Junction to Lead**	35	°C/W
T <sub>stg</sub>	Storage Temperature Range	-50 to +150	°C
T <sub>J</sub>	Operating Junction Temperature	-50 to +150	°C

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

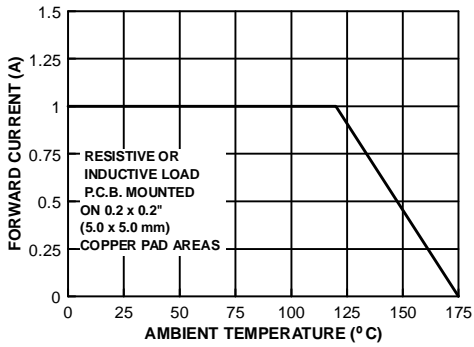
\*\*Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise noted

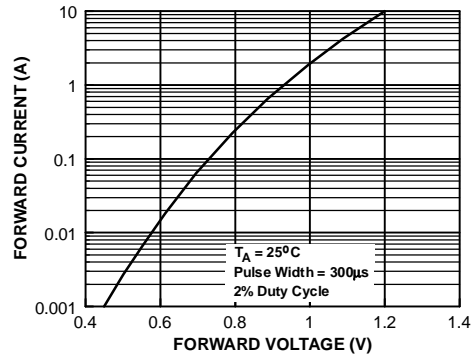
Parameter	Device				Units
	1A	1B	1C	1D	
Peak Repetitive Reverse Voltage	50	100	150	200	V
Maximum RMS Voltage	35	70	105	140	V
DC Reverse Voltage (Rated V <sub>R</sub> )	50	100	150	200	V
Maximum Reverse Current @ rated V <sub>R</sub> T <sub>A</sub> = 25°C T <sub>A</sub> = 100°C			5.0 100		μA μA
Maximum Reverse Recovery Time I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>RR</sub> = 0.25 A			15		nS
Maximum Forward Voltage @ 1.0 A			0.92		V
Typical Junction Capacitance V <sub>R</sub> = 4.0 V, f = 1.0 MHz			7.0		pF

# Typical Characteristics

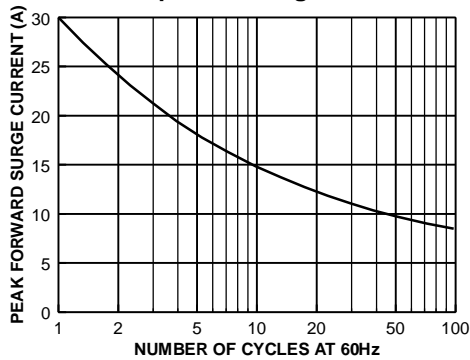
**Forward Current Derating Curve**



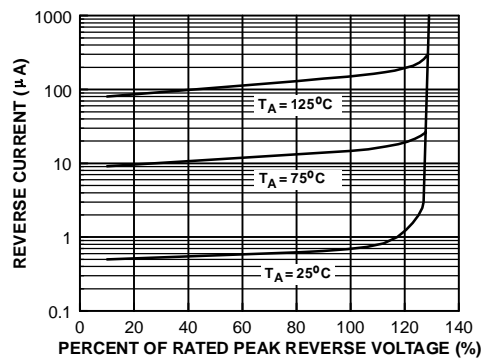
**Forward Characteristics**



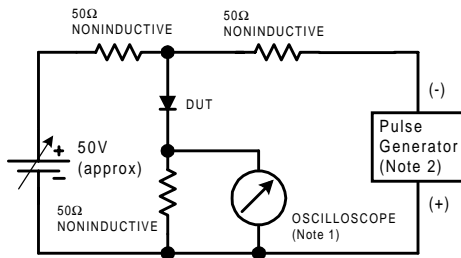
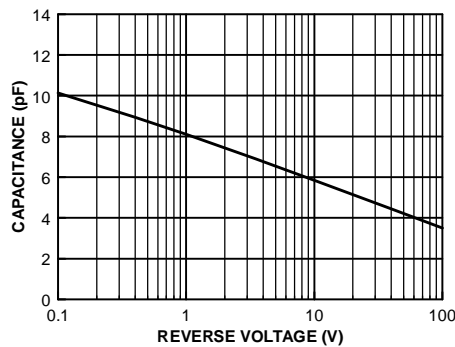
**Non-Repetitive Surge Current**



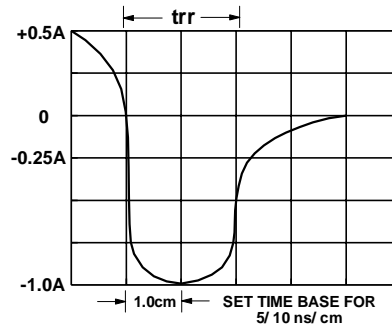
**Reverse Characteristics**



**Junction 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**

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FACT Quiet Series™	Quiet Series™
FAST®	SuperSOT™-3
FASTr™	SuperSOT™-6
GTO™	SuperSOT™-8
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