

Surface Mount Super Fast Glass Passivated Rectifiers

Reverse Voltage - 50 to 600 Volts
Forward Current - 1.0 Amperes

Features

- Fast switching for high efficiency
- Low cost
- Low reverse leakage current
- High current capability
- Low forward voltage drop
- Meet UL flammability classification 94V-0
- AEC-Q101 qualified

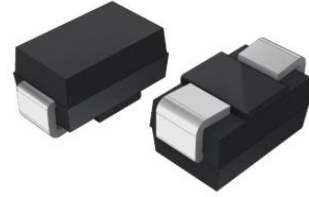
Mechanical Data

- Case: JEDEC SMA Molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

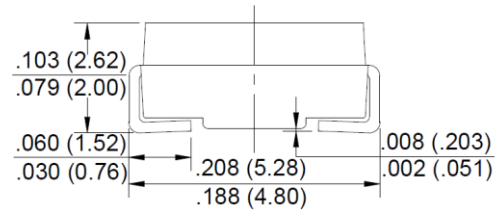
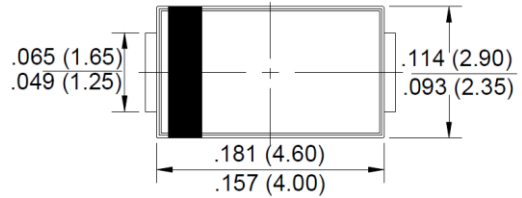
Applications

- For use in SMPS, high frequency inverters, PWM and polarity protection applications

SMA



RoHS
COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	ES1A	ES1B	ES1D	ES1G	ES1J	Unit	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	V	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	V	
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	V	
Maximum Average Forward Rectified Current @ T _A =55°C	I <sub(av)< sub=""></sub(av)<>	1.0						A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30						A
Peak Forward Voltage at 1.0A DC (Note1)	V _F		0.95		1.3	1.70	V	
Maximum DC Reverse Current @ T _J =25°C at Rated DC Blocking Voltage @ T _J =100°C	I _R			5.0			μA	
				100				
Maximum Reverse Recovery Time (Note 2)	T _{RR}	35						nS
Typical Junction Capacitance (Note3)	C _J		30			25	pF	
Typical Thermal Resistance Junction to Ambient	R _{θJA}	40						°C/W
Operating Junction Temperature Range	T _J	-55 to +150						°C
Storage Temperature Range	T _{STG}	-55 to +150						°C

Notes: 1. 300uS pulse width, 2%duty cycle.

2. Measured with I_F=0.5A, I_R=1A, I_{RR}=0.25A .

3. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

4. The typical data above is for reference only

Rating and Characteristic Curves

ES1A THRU ES1J



Fig. 1 - Forward Current Derating Curve

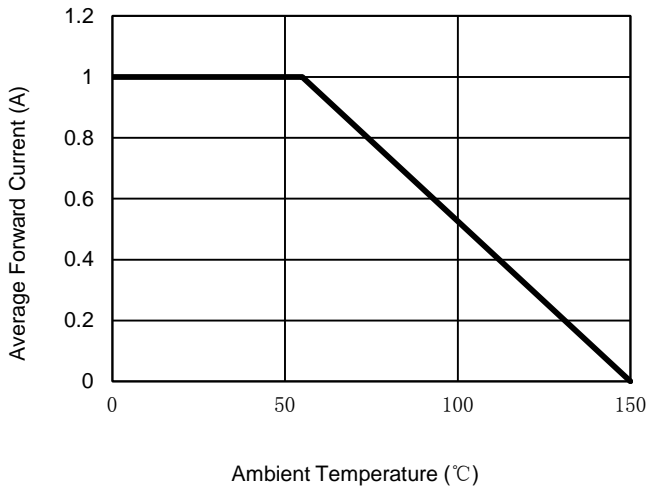


Fig. 2 - Maximum Non-Repetitive Surge Current

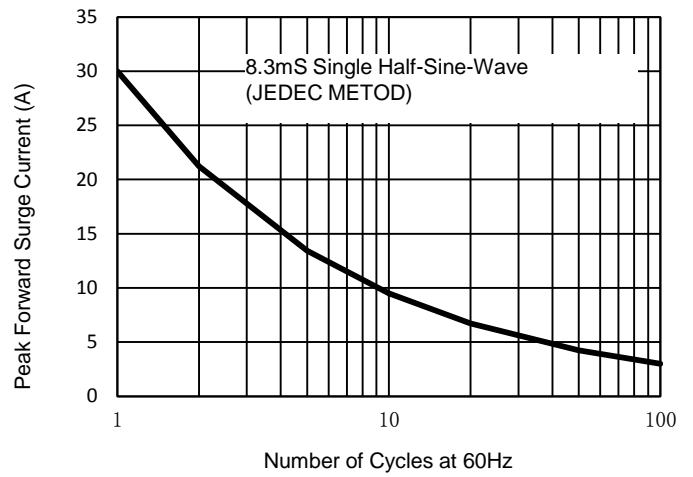


Fig. 3 - Typical Junction Capacitance

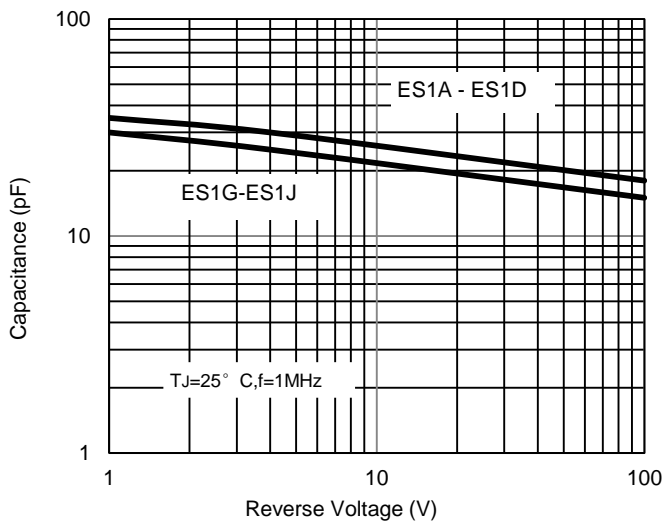


Fig. 4 - Typical Forward Characteristics

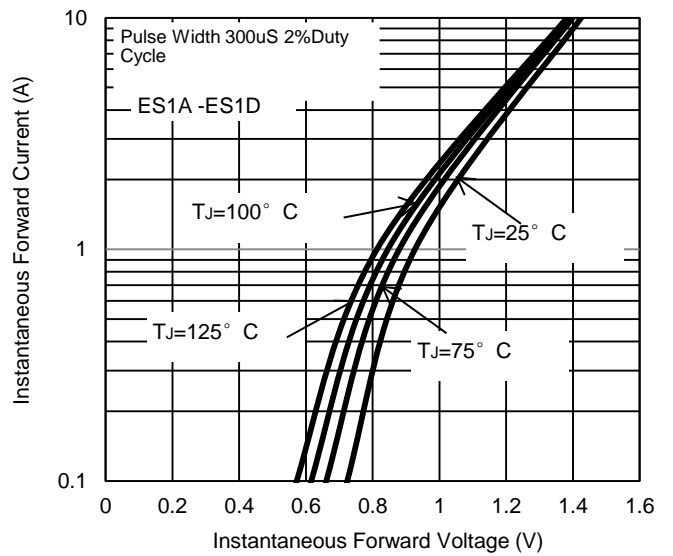


Fig. 5 - Typical Forward Characteristics

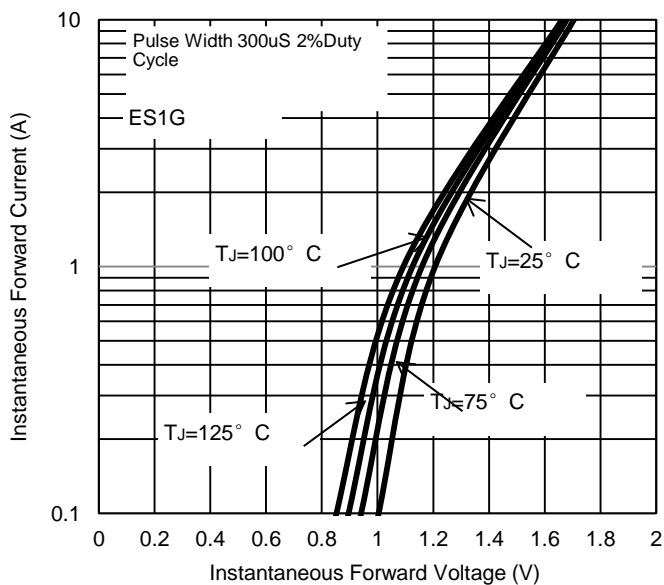
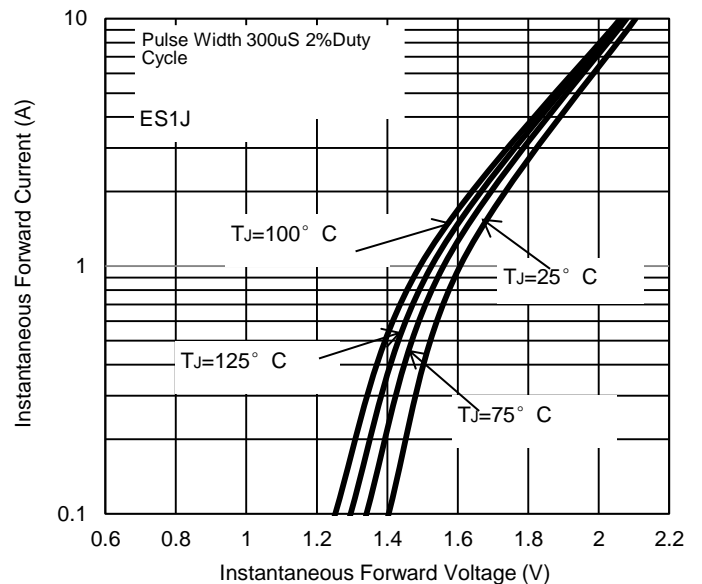


Fig. 6 - Typical Forward Characteristics



The curve above is for reference only.



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