ES1A THRU ES1J

Surface Mount Super Fast Glass Passivated Rectifiters

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

Mechanical Data

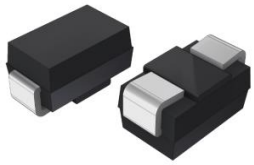
- Case: JEDEC SMA Molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

Note: Products with logo HY® or hy® are made by HY Electronic (Cayman) Limited.

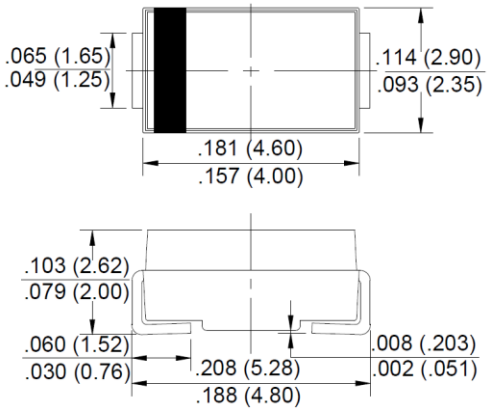
Applications

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

SMA



Pb RoHS COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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℃	$I_{(AV)}$	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℃ at Rated DC Blocking Voltage @T_J=100℃	I_R	5.0 100					μA
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	$R_{\theta JA}$	40					℃/W
Operating Junction Temperature Range	T_J	-55 to +150					℃
Storage Temperature Range	T_{STG}	-55 to +150					℃

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

2. Measured with IF=0.5A,IR=1A,IRR=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

Fig. 1 - Forward Current Derating Curve

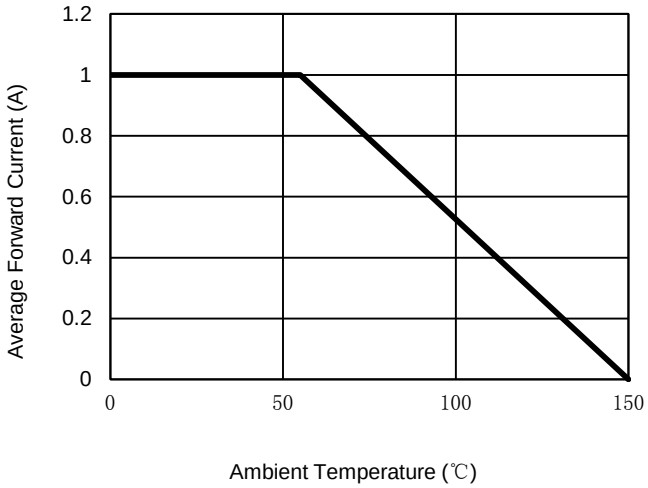


Fig. 2 - Maximum Non-Repetitive Surge Current

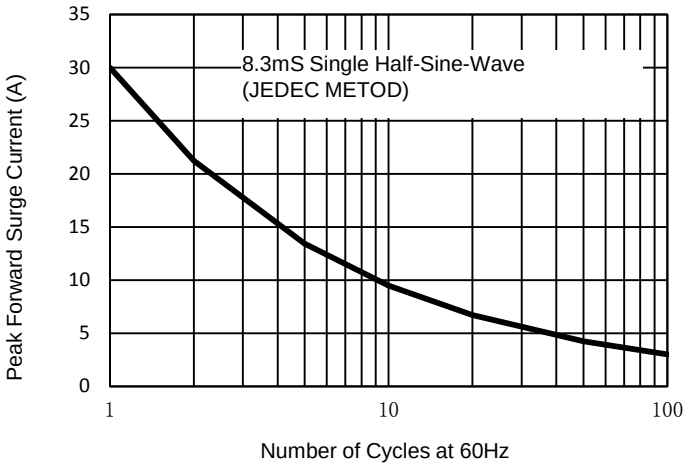


Fig. 3 - Typical Junction Capacitance

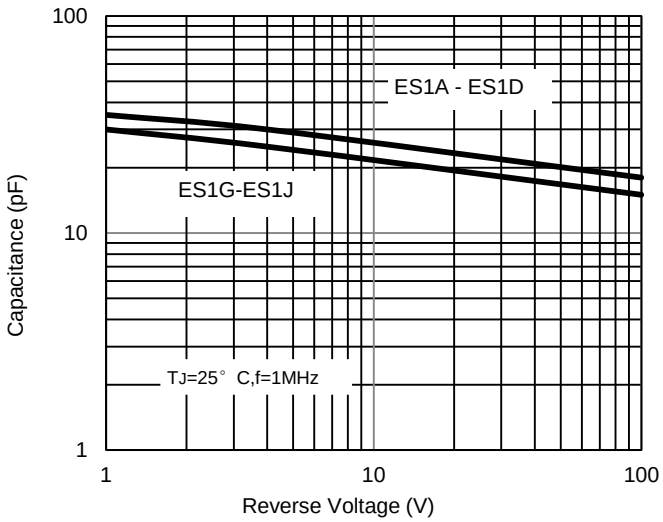


Fig. 4 - Typical Forward Characteristics

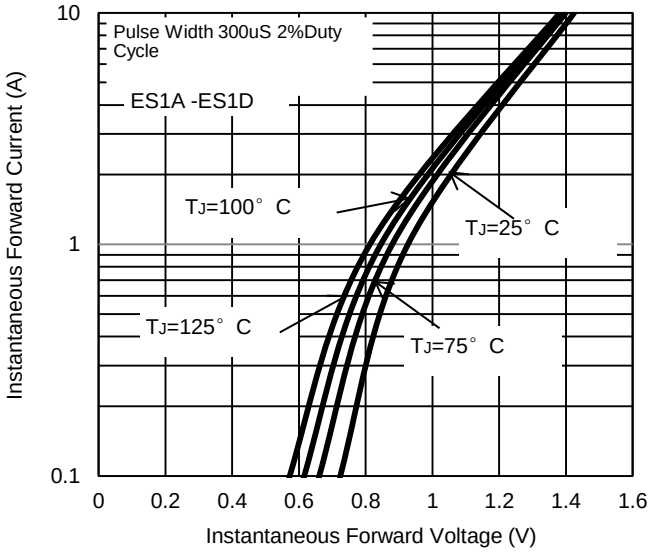


Fig. 5 - Typical Forward Characteristics

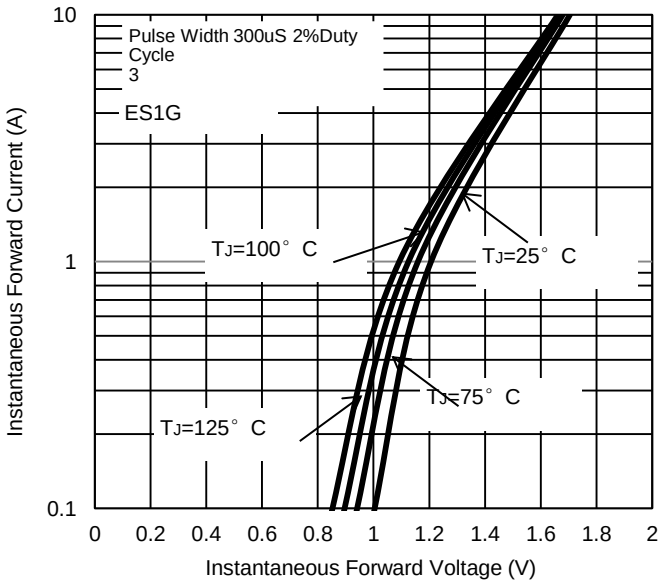
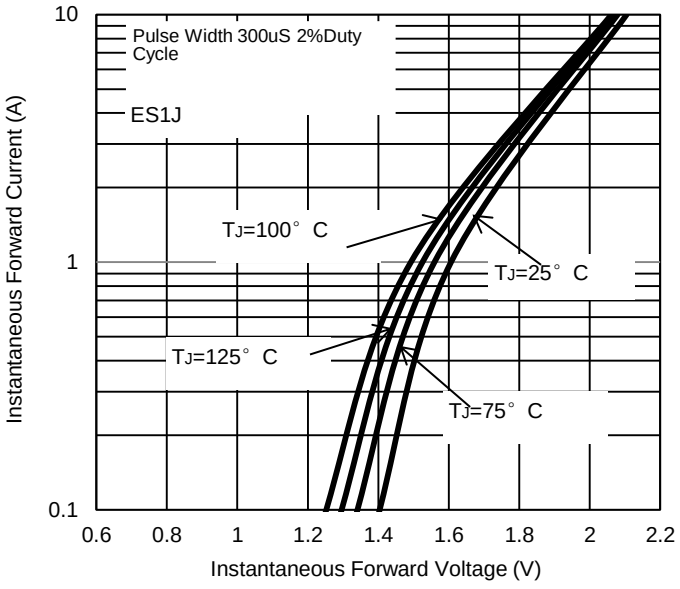


Fig. 6 - Typical Forward Characteristics



The curve above is for reference only.

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