



## 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

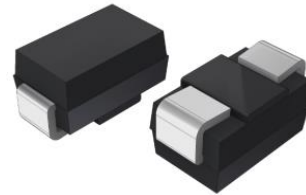
### Mechanical Data

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

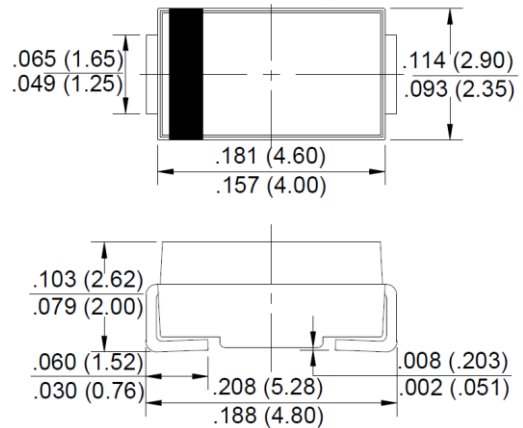
### Applications

- 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 @ $T_A=55^\circ\text{C}$	$I_{(AV)}$	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 @ $T_J=25^\circ\text{C}$	$I_R$	5.0					$\mu\text{A}$
at Rated DC Blocking Voltage @ $T_J=100^\circ\text{C}$		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	$R_{\theta JA}$	40					$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55 to +150					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150					$^\circ\text{C}$

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

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

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

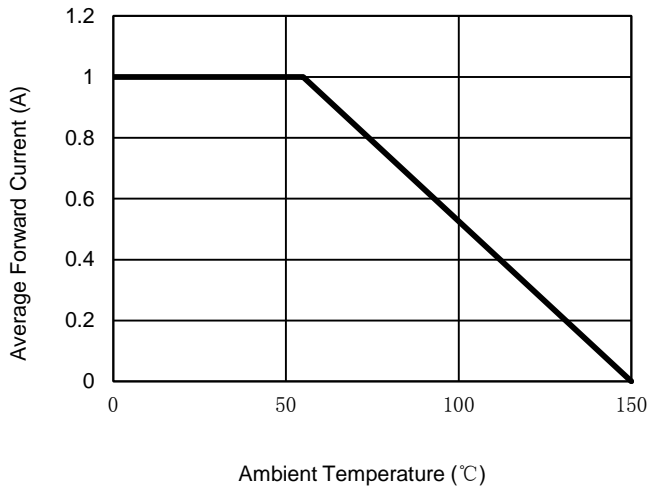


Fig. 2 - Maximum Non-Repetitive Surge Current

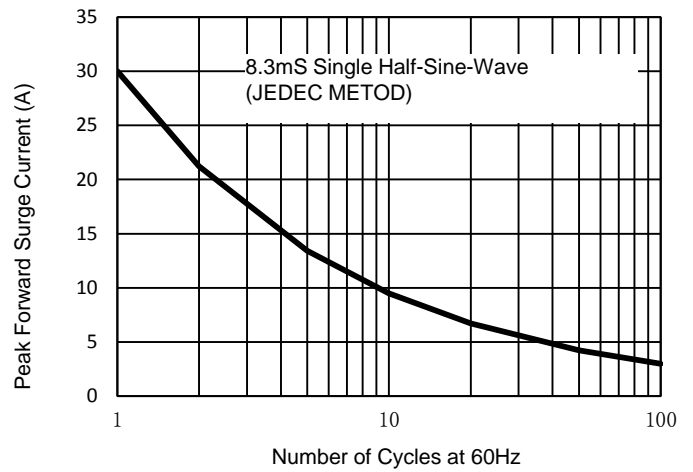


Fig. 3 - Typical Junction Capacitance

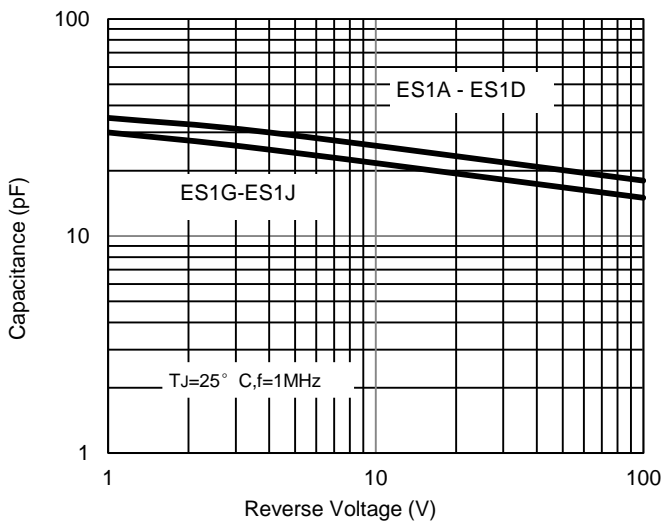


Fig. 4 - Typical Forward Characteristics

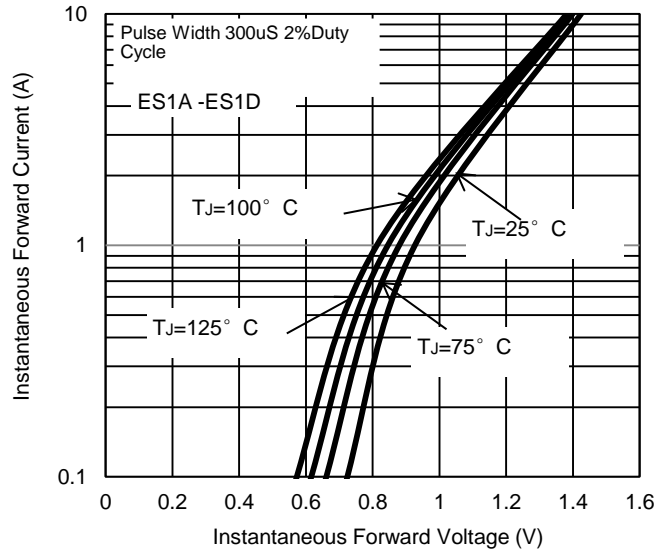


Fig. 5 - Typical Forward Characteristics

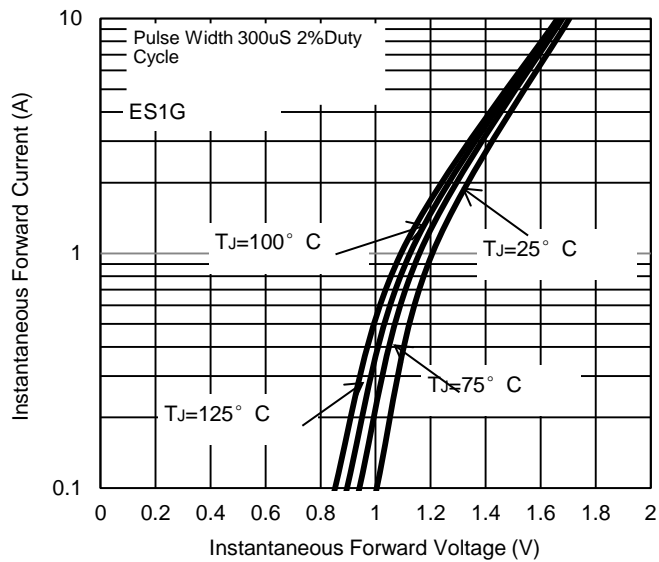
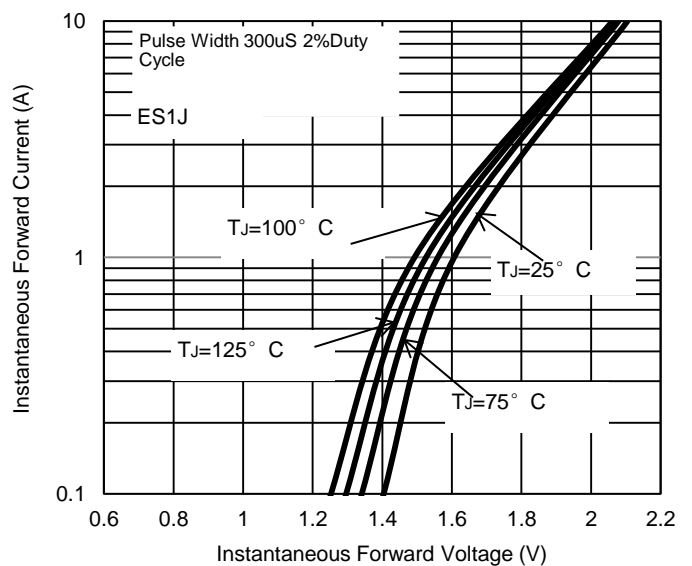


Fig. 6 - Typical Forward Characteristics



The curve above is for reference only.



### Disclaimer

ALL specifications and data are subject to be changed without notice to improve reliability function or design or other reasons.

HY makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, HY disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on HY's knowledge of typical requirements that are often placed on HY products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify HY's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, HY products are not designed for use in medical, life-saving, or life-sustaining applications or for any other applications in which the failure of the HY product could result in personal injury or death. Customers using or selling HY products not expressly indicated for use in such applications do so at their own risk. Please contact authorized HY personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of HY. Product names and markings noted herein may be trademarks of their respective owners.