

# ES1AF THRU ES1JF

## Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 600 V

Forward Current - 1 A

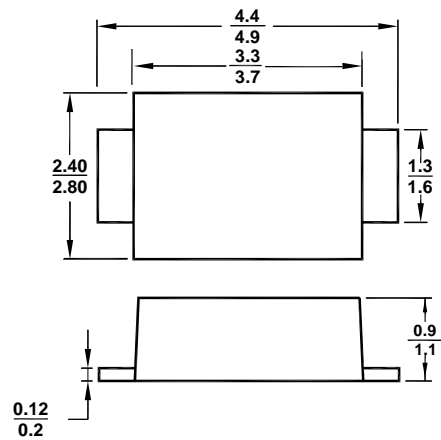
### Features

- Glass Passivated Chip Junction
- For surface mounted applications
- Low profile package
- Superfast reverse recovery time

### Mechanical Data

- **Case:** SMAF
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

### SMAF



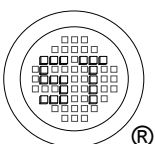
All Dimensions in mm

### Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	Units
	Marking	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	-
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							A
Maximum Forward Voltage at 1 A	$V_F$	1		1.25			1.65		V
Maximum Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Typical Junction Capacitance at $V_R = 4\text{ V}$ , $f = 1\text{ MHz}$	$C_J$	10							pF
Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	35							ns
Typical Thermal Resistance <sup>1)</sup>	$R_{\theta JL}$	115							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150							$^\circ\text{C}$

<sup>1)</sup> P.C.B. mounted with 0.2 X 0.2" ( 5 X 5 mm) copper pad areas.



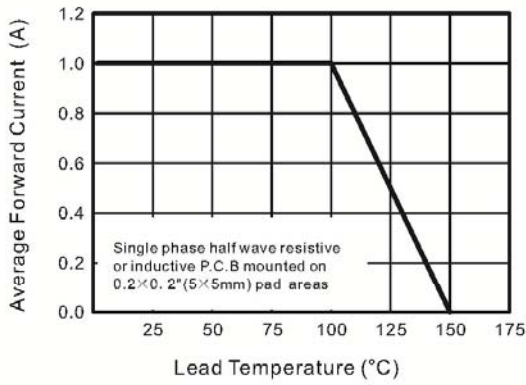
**SEMTECH ELECTRONICS LTD.**



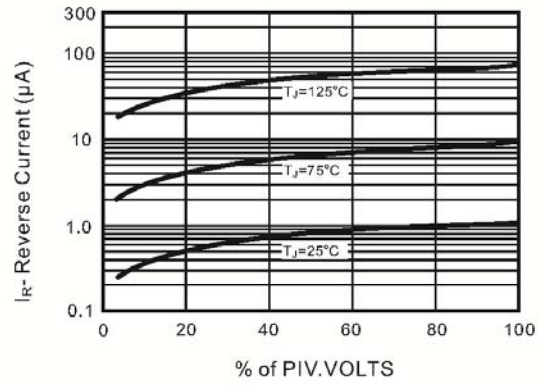
Dated : 28/06/2016 JD Rev:03

# ES1AF THRU ES1JF

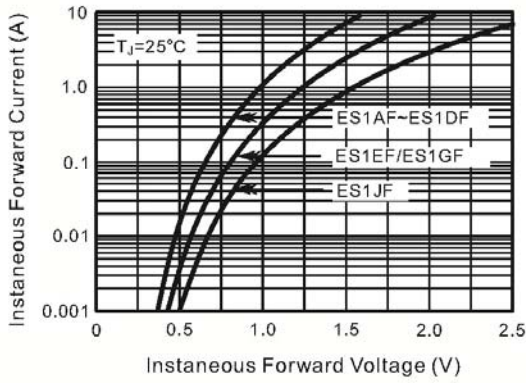
Maximum Average Forward Current Rating



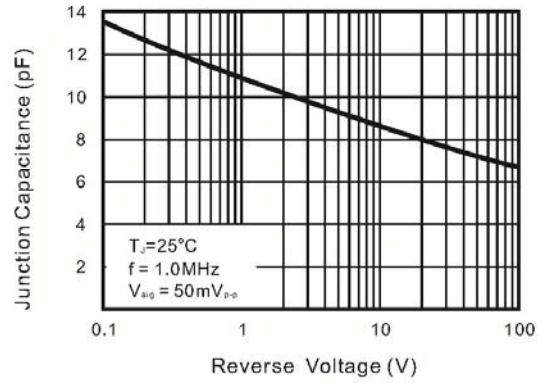
Typical Reverse Characteristics



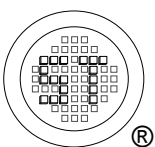
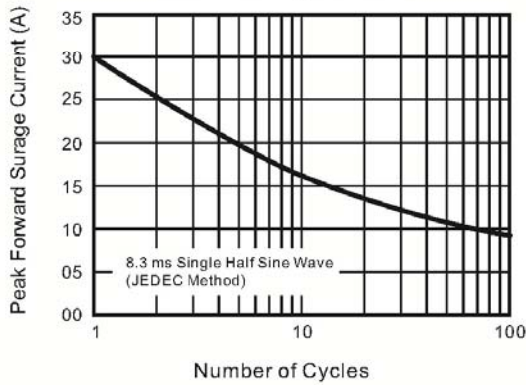
Typical Forward Characteristics



Typical Junction Capacitance



Maximum Non-Repetitive Peak Forward Surge Current



**SEMTECH ELECTRONICS LTD.**



ISO/TS 16949 : 2009 Certificate No. 160713000  
 ISO14001 : 2004 Certificate No. 7116  
 ISO 9001 : 2008 Certificate No. 50710410  
 BS-OHSAS 18001 : 2007 Certificate No. 7116  
 IECQ QC 080000 Certificate No. PSC-18P4-148-1