

CURRENT 1.0 Ampere
 VOLTAGE RANG 50 to 600 Volts

ES1ABF THRU ES1JBF

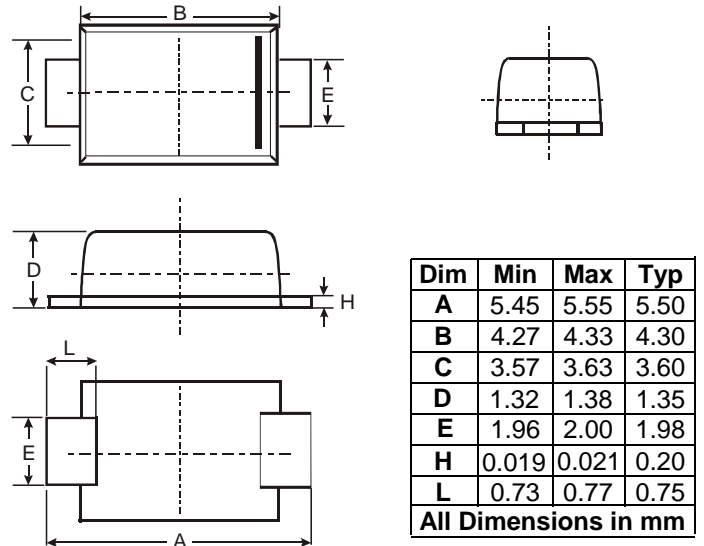
Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

Mechanical Data

- Case: SMBF, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.09 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**

SMBF



Maximum Ratings and Electrical Characteristics

@T_A=25°C unless otherwise specified

Characteristic	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	Unit
Peak Repetitive Reverse Voltage	V _{RRM}								
Working Peak Reverse Voltage	V _{RWM}	50	100	150	200	300	400	600	V
DC Blocking Voltage	V _R								
RMS Reverse Voltage	V _{R(RMS)}	35	70	105	140	210	280	420	V
Average Rectified Output Current @T _L = 120°C	I _O	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30							A
Forward Voltage @I _F = 1.0A	V _{FM}	0.95			1.25		1.7		V
Peak Reverse Current @T _A = 25°C	I _{RM}	5.0							μA
At Rated DC Blocking Voltage @T _A = 100°C		500							
Reverse Recovery Time (Note 1)	t _{rr}	35							nS
Typical Junction Capacitance (Note 2)	C _j	10							pF
Typical Thermal Resistance (Note 3)	R _{θJL}	35							°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150							°C

Note: 1. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
 3. Mounted on P.C. Board with 8.0mm² land area.

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RATING AND CHARACTERISTIC CURVES ES1A Thru ES1J

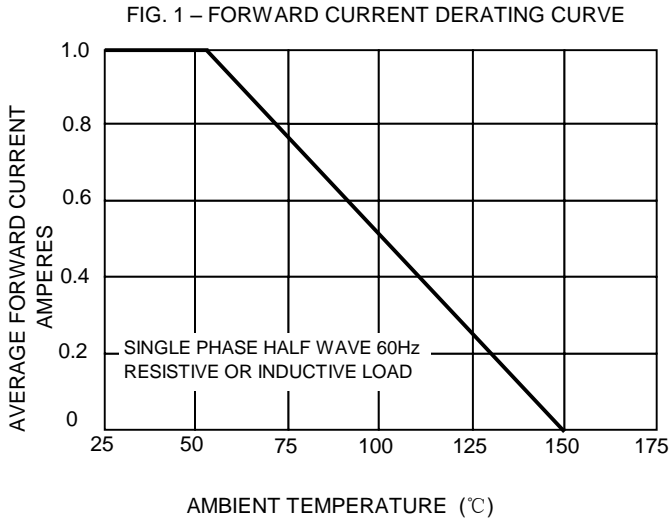


Fig. 1 Forward Current Derating Curve

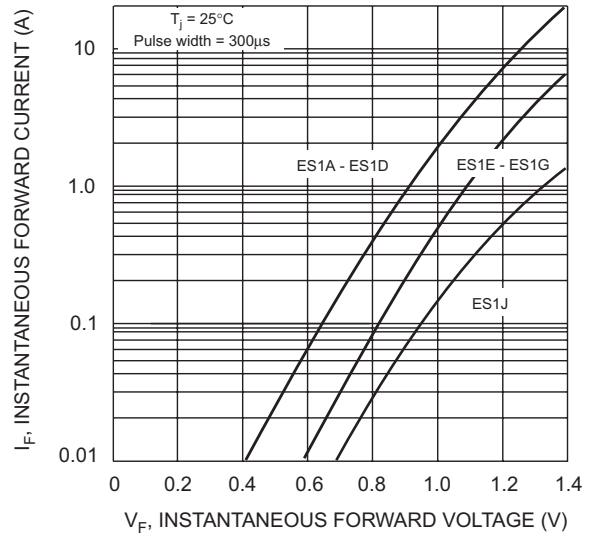


Fig. 2 Typical Forward Characteristics

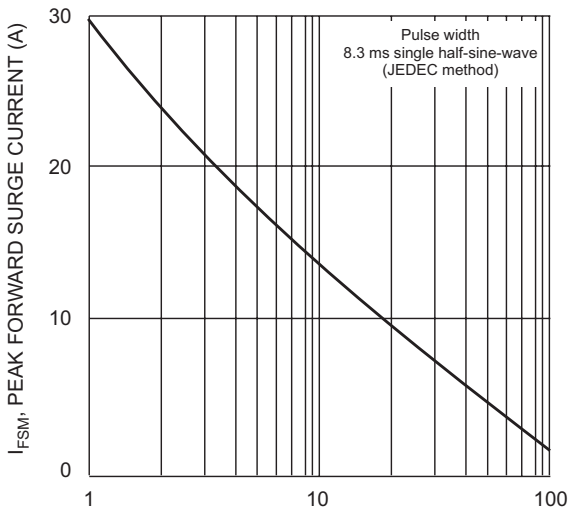


Fig. 3 Peak Forward Surge Current

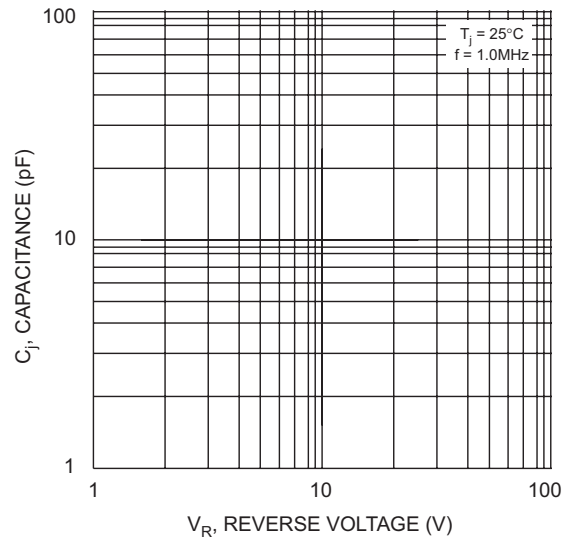
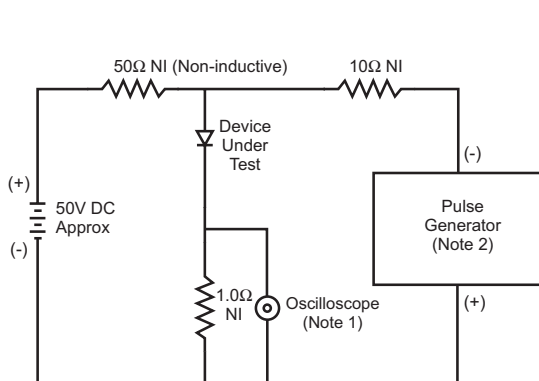
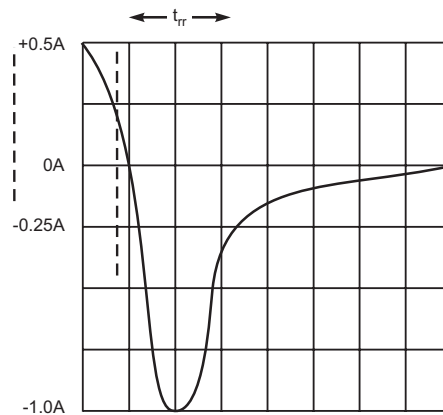


Fig. 4 Typical Junction Capacitance



Notes:
 1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit