CURRENT 1.0 Ampere
VOLTAGE RANG 50 to 600 Volts

ES1ABF THRU ES1JBF

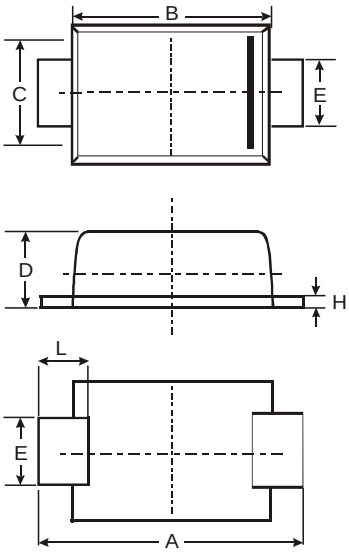
Features

- 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**

S M B F



Dim	Min	Max	Typ
A	5.45	5.55	5.50
B	4.27	4.33	4.30
C	3.57	3.63	3.60
D	1.32	1.38	1.35
E	1.96	2.00	1.98
H	0.019	0.021	0.20
L	0.73	0.77	0.75
All Dimensions in mm			

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	600	V
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 At Rated DC Blocking Voltage @T_A = 100°C	I_{RM}	5.0 500							μA
Reverse Recovery Time (Note 1)	t_{rr}	35							nS
Typical Junction Capacitance (Note 2)	C_j	10							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	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 8.0mm^2 land area.

CURRENT 1.0 Ampere
VOLTAGE RANG 50 to 600 Volts

ES1ABF THRU ES1JBF

RATING AND CHRACTERISTIC CURVES ES1A Thru ES1J

FIG. 1 – FORWARD CURRENT DERATING CURVE

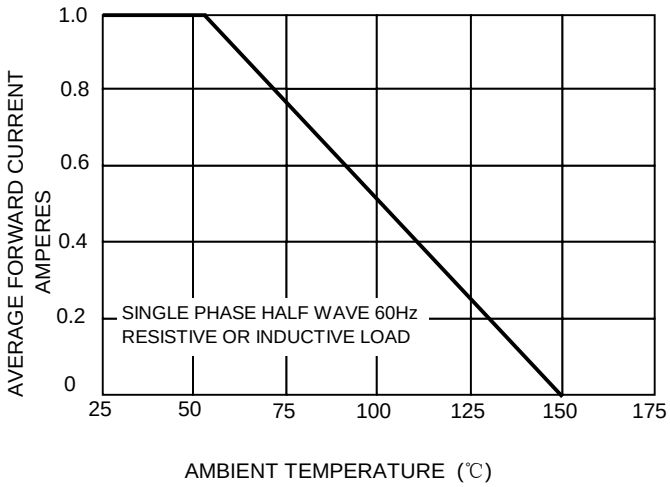


Fig. 1 Forward Current Derating Curve

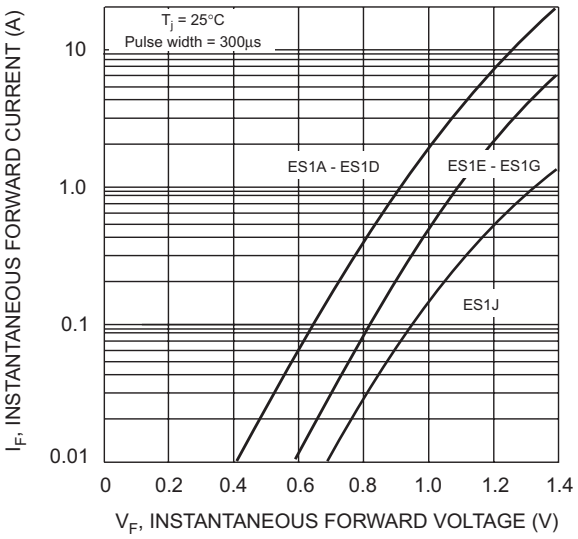


Fig. 2 Typical Forward Characteristics

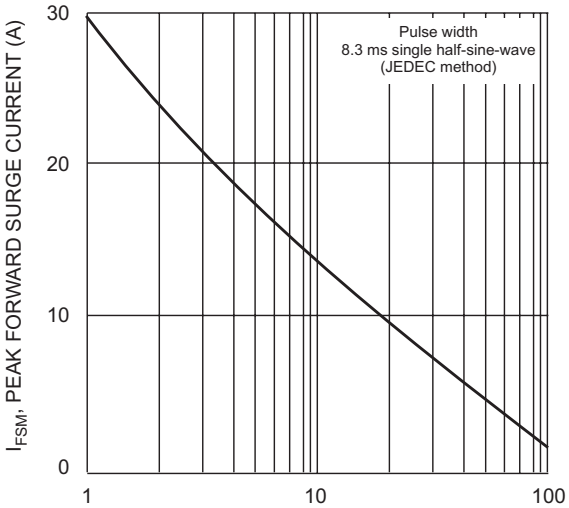


Fig. 3 Pea Forward Surge Current

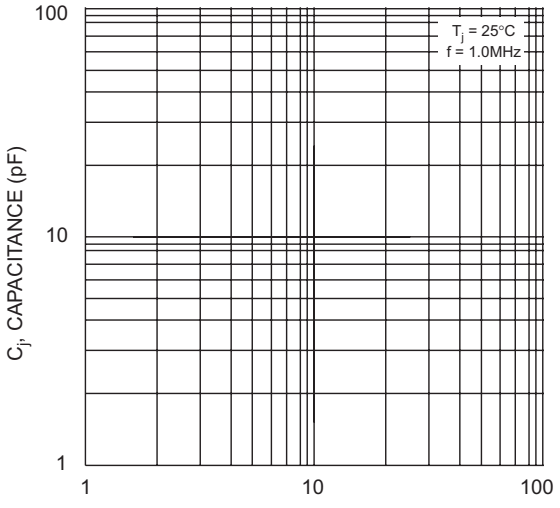
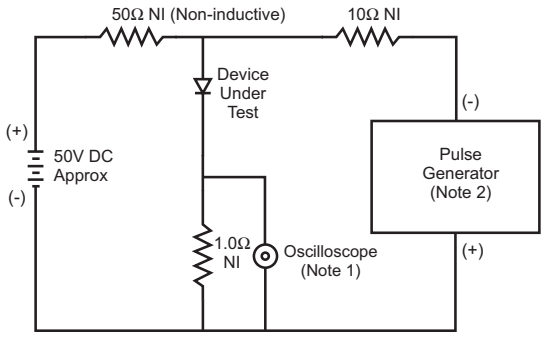


Fig. 4 Typical Junction Capacitance



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

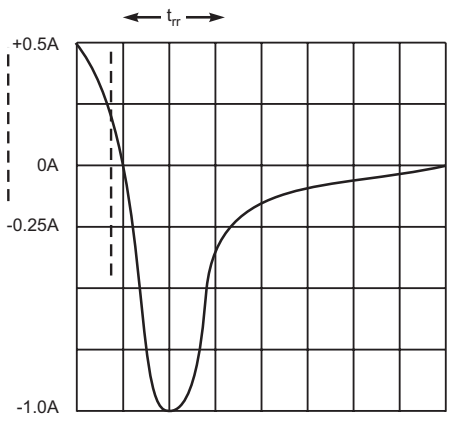


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit