

ES3ABF THRU ES3JBF

Surface Mount Superfast Recovery Rectifiers

Reverse Voltage - 50 to 600 V

Forward Current - 3 A

Features

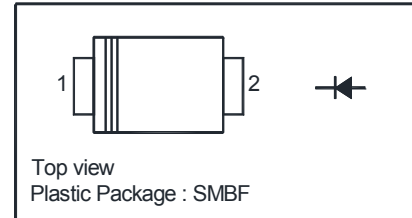
- Glass passivated chip junction
- For surface mounted applications
- Low profile package
- Superfast reverse recovery time

Mechanical Data

- **Case:** SMBF
- **Terminals:** Solderable per MIL-STD-750, Method 2026

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



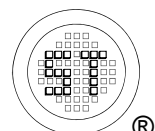
Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	ES3ABF	ES3BBF	ES3CBF	ES3DBF	ES3EBF	ES3GBF	ES3JBF	Units
	Marking	E3AB	E3BB	E3CB	E3DB	E3EB	E3GB	E3JB	-
Maximum Repetitive 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 at $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100							A
Maximum Forward Voltage at 3 A	V_F	1				1.25		1.68	V
Maximum Reverse Current at Rated DC Blocking Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	I_R	5 100							μA
Typical Junction Capacitance	C_j	35							pF
Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $t_{rr} = 0.25\text{ A}$	t_{rr}	35							ns
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	45 15							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							$^\circ\text{C}$

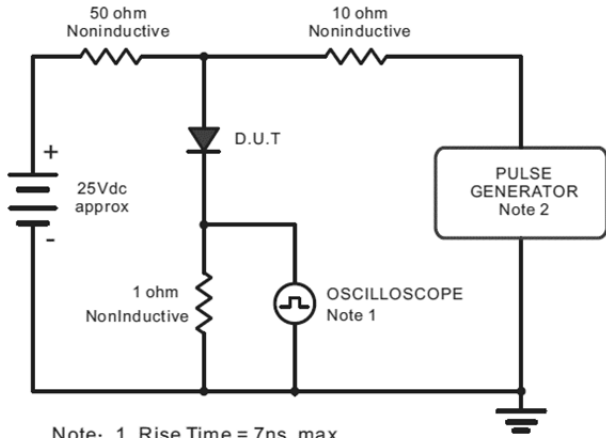
¹⁾ P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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Electrical Characteristic Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rises Time = 10ns, max.
Source Impedance = 50 ohms.

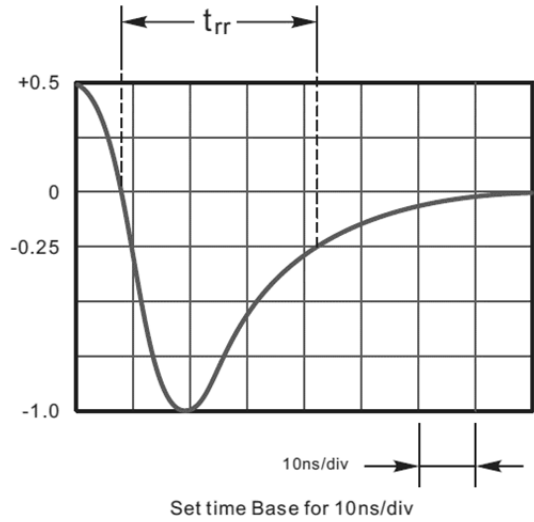


Fig.2 Maximum Average Forward Current Rating

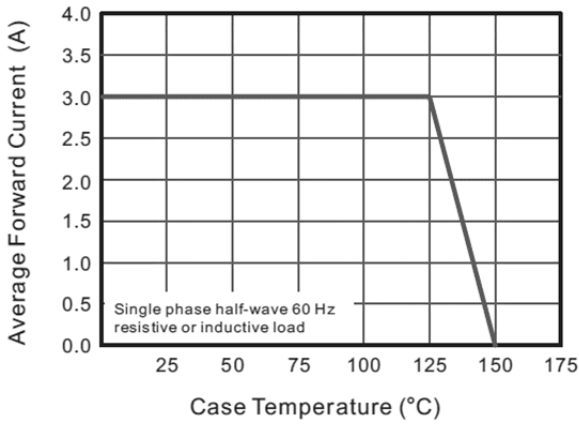


Fig.3 Typical Reverse Characteristics

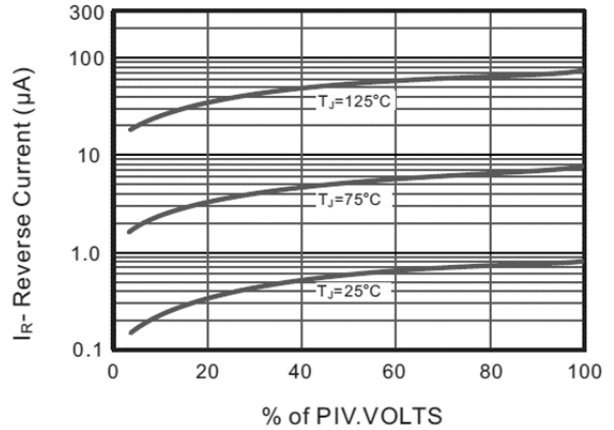


Fig.4 Typical Forward Characteristics

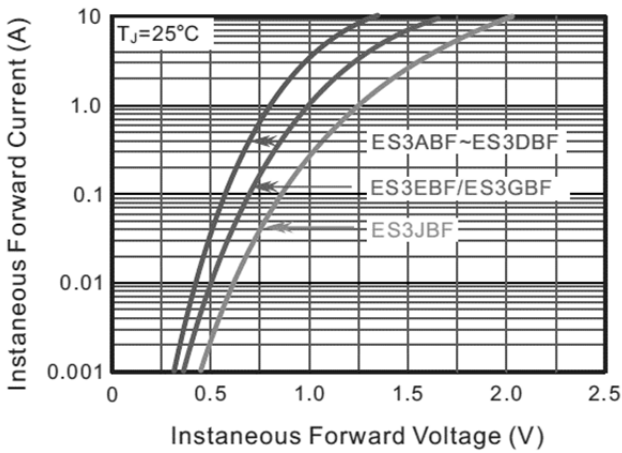
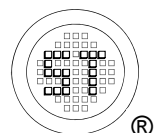
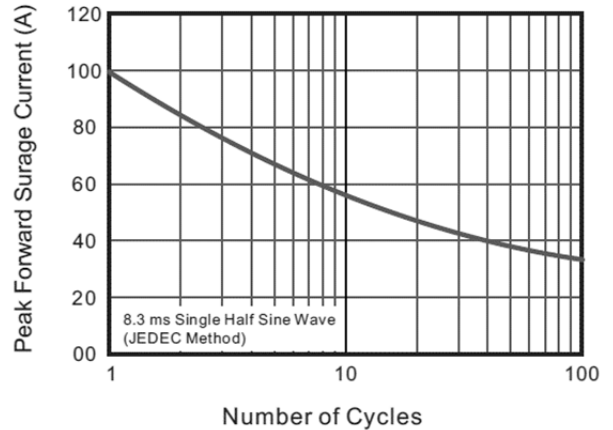


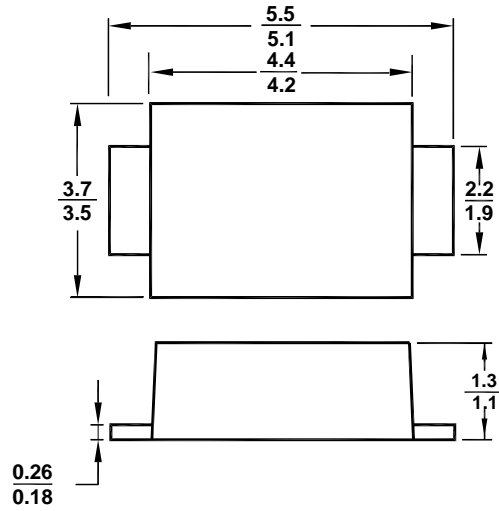
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



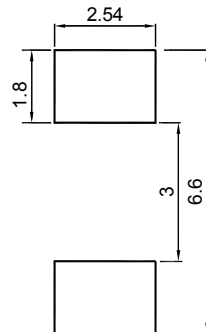
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Package Outline Dimensions (Units: mm)

SMBF



Recommended Soldering Footprint



Marking information

" **** " = Part No.

" III " = Cathode line

Font type: Arial

