

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 600 V

Forward Current - 3 A

FEATURES

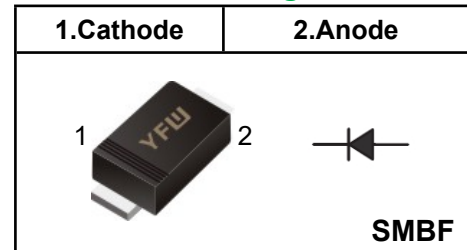
- ♦Glass Passivated Chip Junction
- ♦For surface mounted applications
- ♦Low profile package
- ♦Superfast reverse recovery time
- ♦Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ♦Case: SMBF
- ♦Terminals: Solderable per MIL-STD-750, Method 2026
- ♦Approx. Weight: 57mg / 0.002oz



Pinning



Marking Code

ES3ABF	E3AB
ES3BBF	E3BB
ES3DBF	E3DB
ES3GBF	E3GB
ES3JBF	E3JB

Absolute Maximum Ratings and characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

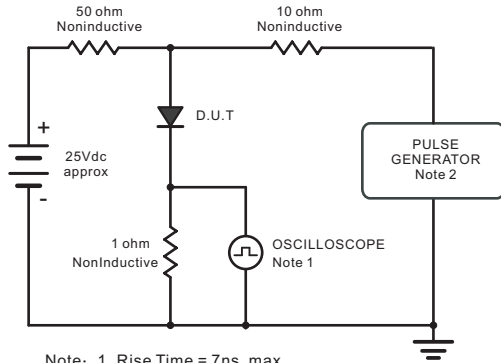
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	ES3ABF	ES3BBF	ES3DBF	ES3GBF	ES3JBF	Units
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 at T _c = 125 °C	I_{F(AV)}	3					A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	100					A
Maximum Instantaneous Forward Voltage at 3 A	V_F	0.95			1.25	1.65	V
Maximum DC Reverse Current T _a = 25 °C at Rated DC Blocking Voltage T _a =125 °C	I_R	5 100					μA
Typical Junction Capacitance at V _R =4V,f=1MHZ	C_J	35					pF
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	35					nS
Typical Thermal Resistance ⁽²⁾	R_{θJA}/ R_{θJC}	45/15					°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150					°C

(1) Measured with $I_F=0.5\text{A}, I_R=1\text{A}, I_n=0.25\text{A}$

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

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

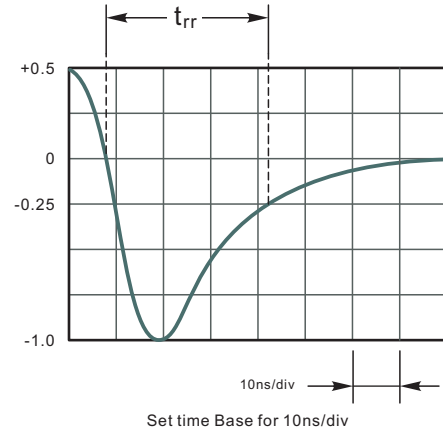


Fig.2 Maximum Average Forward Current Rating

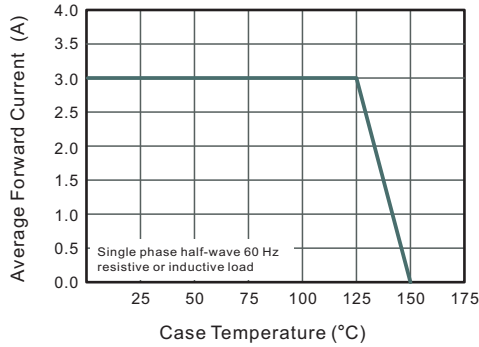


Fig.3 Typical Reverse Characteristics

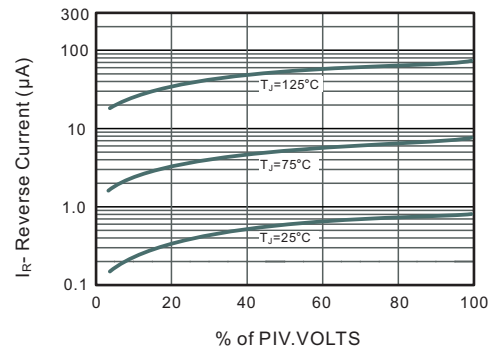


Fig.4 Typical Forward Characteristics

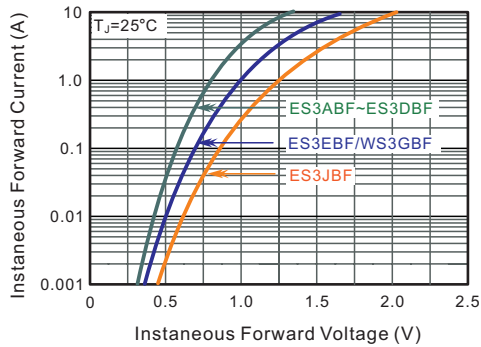


Fig.5 Typical Junction Capacitance

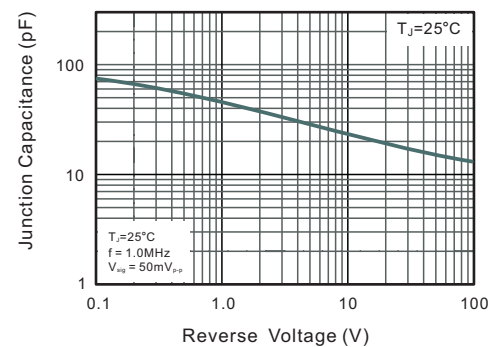
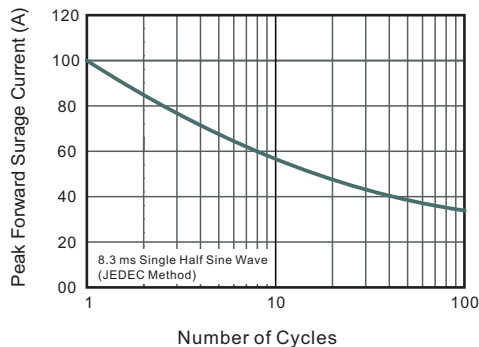


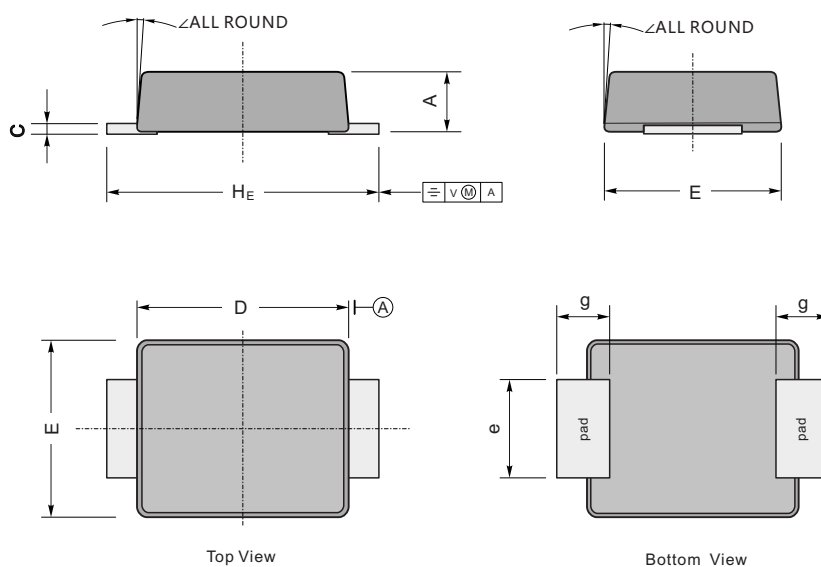
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

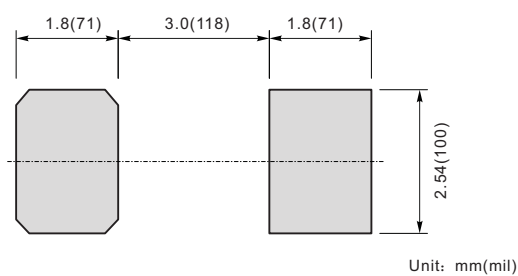
SMBF

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	H _E	e	g	∠
mm	max	1.3	0.26	4.4	3.7	5.5	2.2	1.0	9°
	min	1.1	0.18	4.2	3.5	5.1	1.9		
mil	max	51	10	173	146	216	86	40	
	min	43	7	165	138	200	75		

The recommended mounting pad size



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMBF	Tape/Reel, 13" reel	5000	EIA-481-1