

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 600 V

Forward Current - 3 A

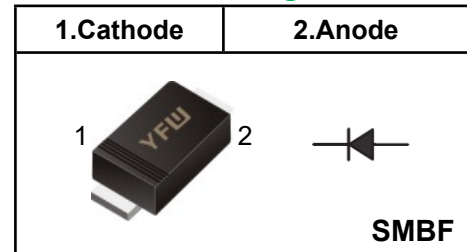
FEATURES

- ◆ 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	YFW E3AB
ES3BBF	YFW E3BB
ES3DBF	YFW E3DB
ES3GBF	YFW E3GB
ES3JBF	YFW E3JB

Absolute Maximum Ratings and characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

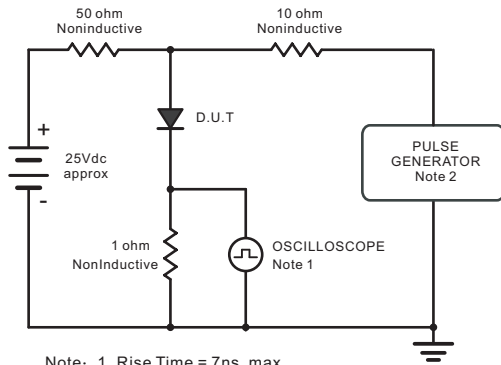
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	I_R	5 100					μA
Typical Junction Capacitance at $V_R = 4\text{V}, f = 1\text{MHz}$	C_j	35					pF
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	35					nS
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA} / R_{\theta JC}$	45/15					$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150					$^\circ\text{C}$

(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.

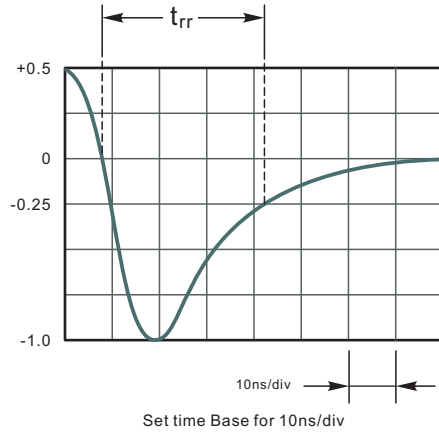


Fig.2 Maximum Average Forward Current Rating

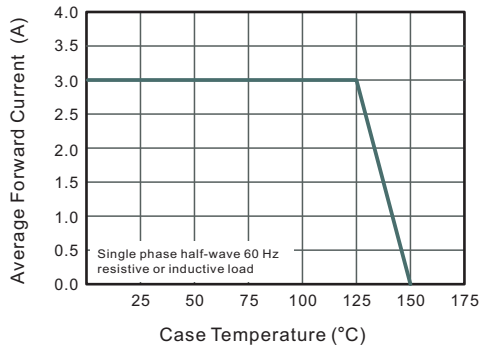


Fig.3 Typical Reverse Characteristics

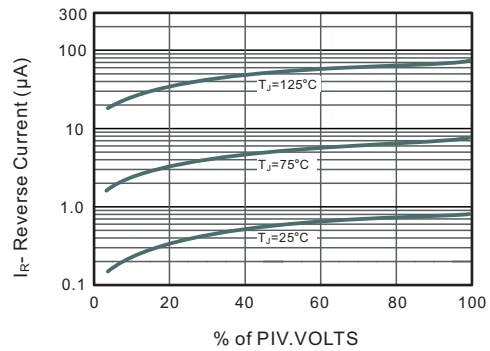


Fig.4 Typical Forward Characteristics

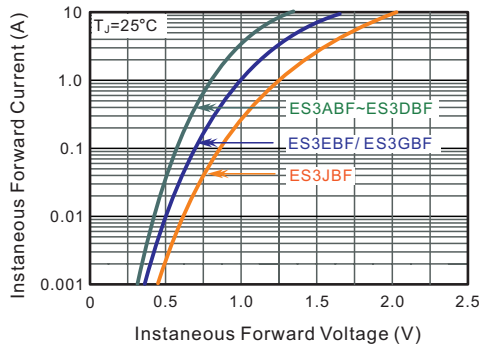


Fig.5 Typical Junction Capacitance

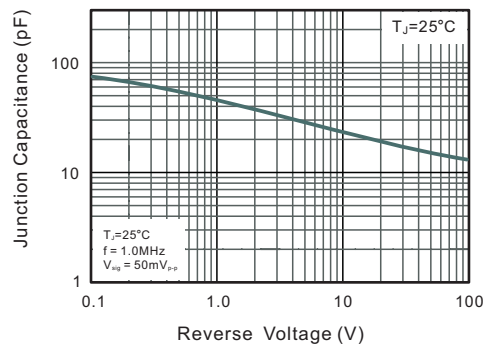
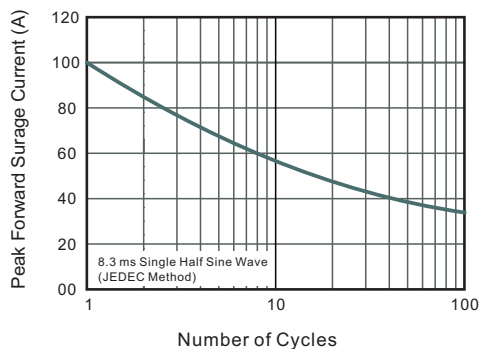
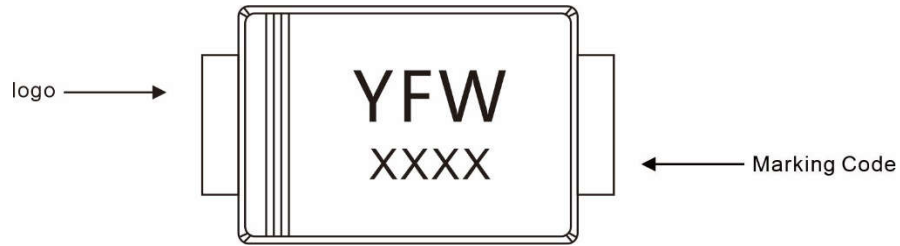


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

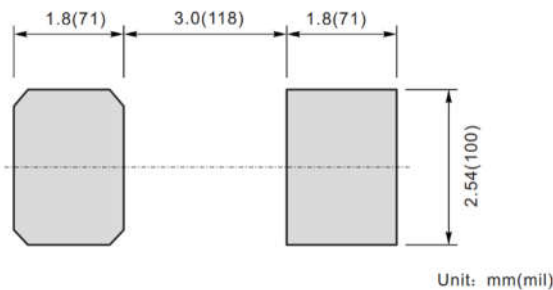
Package	Packing Description	Packing Quantity
SMBF	Tape/Reel, 13" reel	5000PCS/Reel 50000PCS/Carton

Package Dimensions

SMBF

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.1	1.3	43	51
C	0.18	0.26	7	10
D	4.2	4.4	165	173
E	3.5	3.7	138	146
H _E	5.1	5.5	200	216
e	2.2	1.9	75	86
g	1.0		40	
∠	9°			

The recommended mounting pad size



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