

ES3ABF THRU ES3JBF

Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V Forward Current – 3 A

FEATURES

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

MECHANICAL DATA

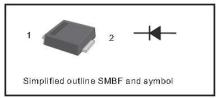
• Case: SMBF

• Terminals: Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 57mg / 0.002oz

PINNING

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, derate current by 20%.

Parameter	Symbols	ES3ABF	ES3BF	ES3CBF	ES3DBF	ES3EBF	ES3GBF	ES3JBF	Units
Maximum Repetitive Peak Reverse Voltage	$V_{\sf RRM}$	50	100	150	200	300	400	600	٧
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	٧
Maximum DC Blocking Voltage	Voc	50	100	150	200	300	400	600	٧
Maximum Average Forward Rectified Current at TL= 100 °C	I _{F(AV)}	3							Α
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	100							Α
Maximum Forward Voltage at 3A	V _F	1 1.25 1.68					1.68	٧	
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I _R	5 100							μA
Typical Junction Capacitance	Cj	45							рF
Maximum Reverse Recovery Time at I _F =0.5A, I _R =1A, I _{rr} =0.25A	t _{rr}	35							ns
Typical Thermal Resistance ²⁾	R _{eja}	55							°C/W
Operating and Storage Temperature Range	T_{j},T_{stg}	-55 ~ + 150							°C

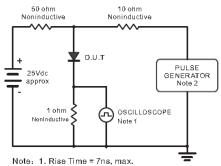
¹⁾ Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A 2) P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.

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Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



- Input Impedance = 1megohm,22pF.
 - 2. Ries Time = 10ns, max. Source Impedance = 50 ohms.

Fig.2 Maximum Average Forward Current Rating

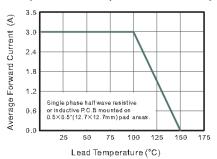


Fig.4 Typical Forward Characteristics

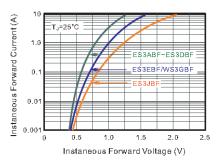
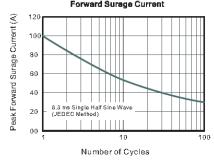


Fig.\$ Maximum Non-Repetitive Peak Forward Surage Current



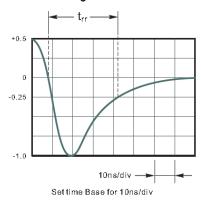


Fig.3 Typical Reverse Characteristics

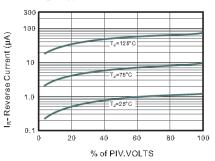
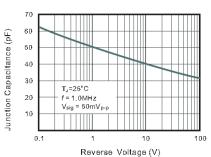


Fig.5 Typical Junction Capacitance



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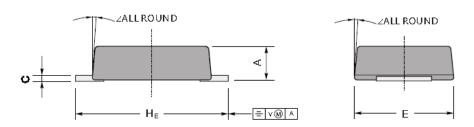


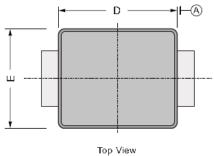
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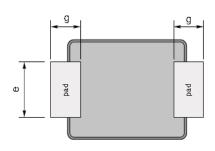
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMBF



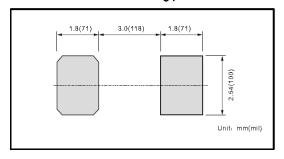




/iew	Bottom	View

UNIT		Α	C	۵	Е	H _E	е	g	2
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	1.0	
mil	max	51	10	173	146	216	86	40	
	min	43	7	165	138	200	75	40	

The recommended mounting pad size



Marking

Type number	Marking code
ES3ABF	E3AB
ES3BBF	E3BB
ES3CBF	E3CB
ES3DBF	E3DB
ES3EBF	E3EB
ES3GBF	E3GB
ES3JBF	E3JB

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