



ES2ABF THRU ES2JBF

Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V Forward Current –2 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

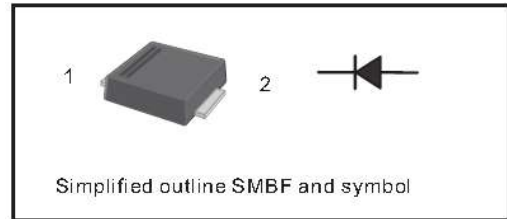
- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

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%.

PINNING

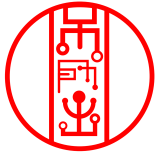
PIN	DESCRIPTION
1	Cathode
2	Anode



Parameter	Symbols	ES2ABF	ES2BBF	ES2CBF	ES2DBF	ES2EBF	ES2GBF	ES2JBF	Units
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 _L = 100 °C	I _{F(AV)}	2							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	50							A
Maximum Forward Voltage at 2A	V _F	1				1.25		1.65	V
Maximum DC Reverse Current at Rated DC Blocking Voltage Ta = 25 °C Ta =125 °C	I _R	5 100							μA
Typical Junction Capacitance at V _R =4V, f=1MHz	C _j	45							pF
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 _{θJA}	65							°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 ~ +150							°C

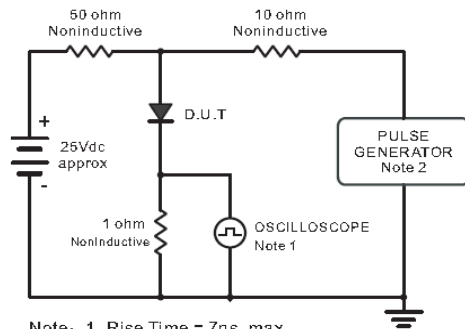
1) Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$

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



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

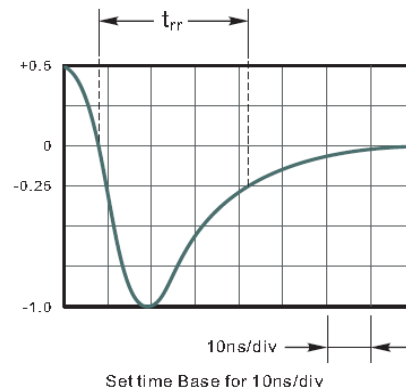


Fig.2 Maximum Average Forward Current Rating

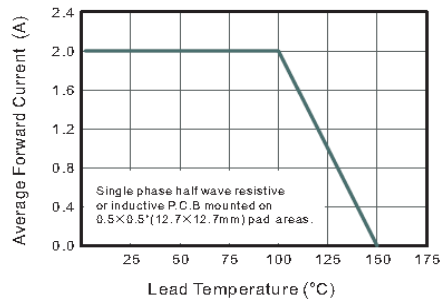


Fig.4 Typical Forward Characteristics

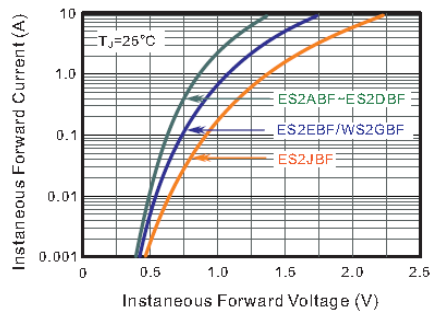


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

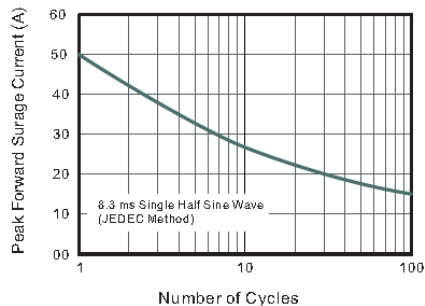


Fig.3 Typical Reverse Characteristics

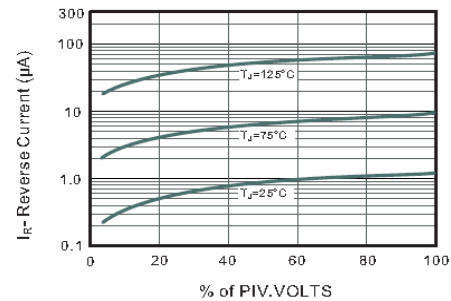
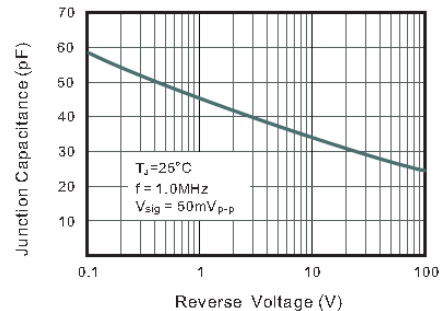
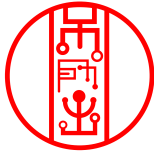


Fig.5 Typical Junction Capacitance



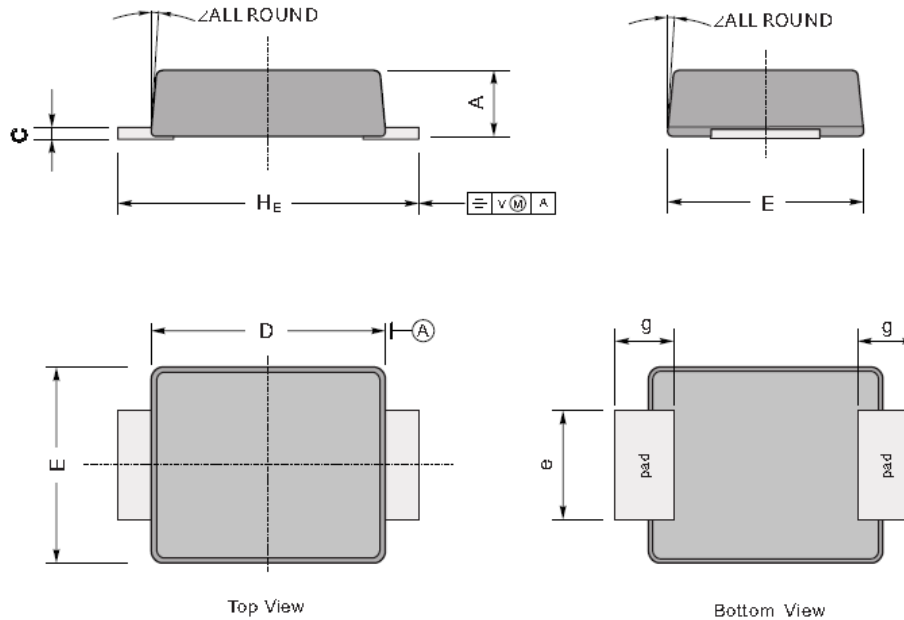


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PACKAGE OUTLINE

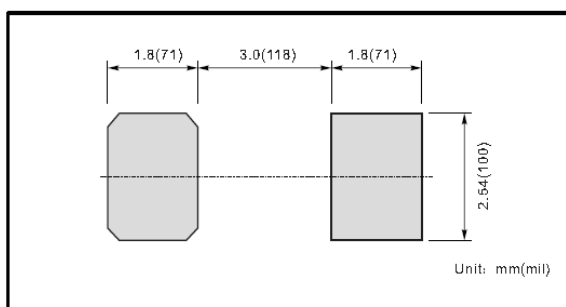
Plastic surface mounted package; 2 leads

SMBF



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



Marking

Type number	Marking code
ES2ABF	E2AB
ES2BBF	E2BB
ES2CBF	E2CB
ES2DBF	E2DB
ES2EBF	E2EB
ES2GBF	E2GB
ES2JBF	E2JB