



ES5ABF THRU ES5JBF

Surface Mount Superfast Recovery Rectifier

Reverse Voltage -50~600V

Forward Current -5A

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

Maximum Ratings And Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

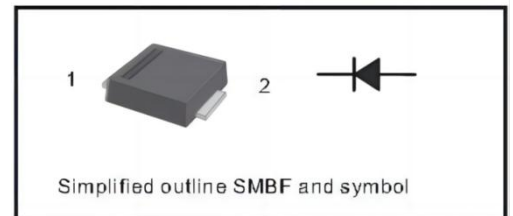
Parameter		Symbol	ES5 ABF	ES5 BBF	ES5 CBF	ES5 DBF	ES5 EBF	ES5 GBF	ES5 JBF	Units
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage		V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage		V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _L =100°C		I _{F(AV)}	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimpose on Rated Load(JEDEC Method)		I _{FSM}	150				135			A
Maximum Forward Voltage at 5A		V _F	1.0				1.25		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta = 25°C	I _R	10							μA
	Ta = 125°C		100							
Typical Junction Capacitance		C _J	95							pF
Maximum Reverse Recovery Time ⁽¹⁾		t _{rr}	35							ns
Typical Thermal Resistance ⁽²⁾		R _{θJA}	45							°C/W
Operating and Storage Temperature Range		T _J ,T _{STG}	-55~+150							°C

Note: (1). Measured with $I_F=0.5A, I_R=1A, I_{rr}=0.25A$

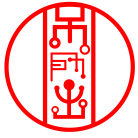
(2). P.C.B. mounted with 0.5 x 0.5cm(12.7 x 12.7mm) copper pad areas

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



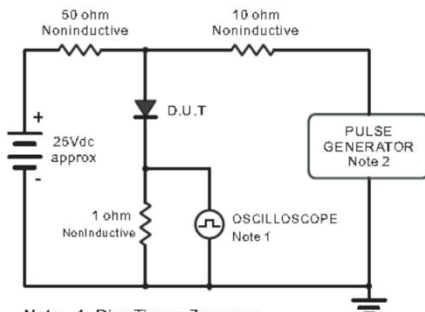
Simplified outline SMD package and symbol



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Typical Characteristics

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.

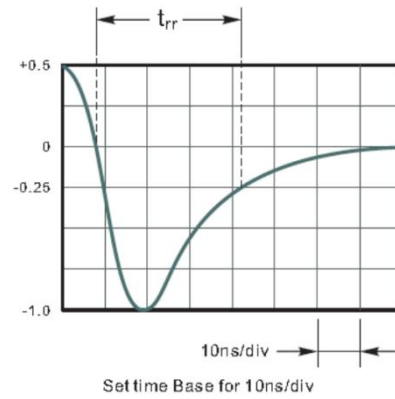


Fig.2 Maximum Average Forward Current Rating

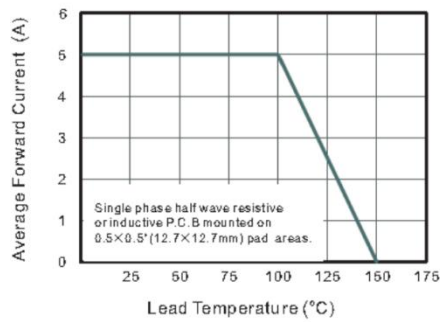


Fig.3 Typical Reverse Characteristics

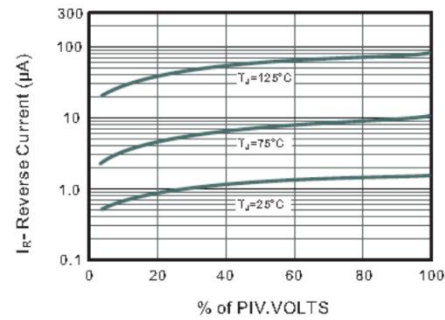


Fig.4 Typical Forward Characteristics

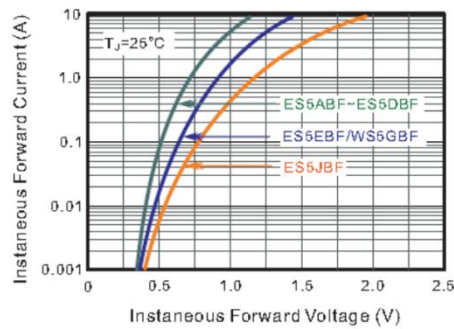


Fig.5 Typical Junction Capacitance

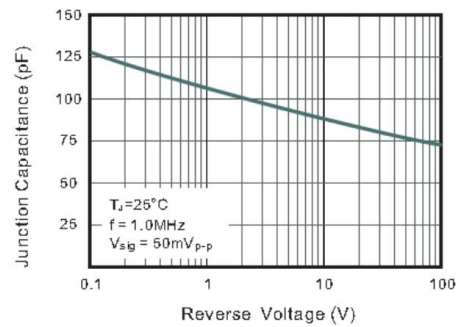
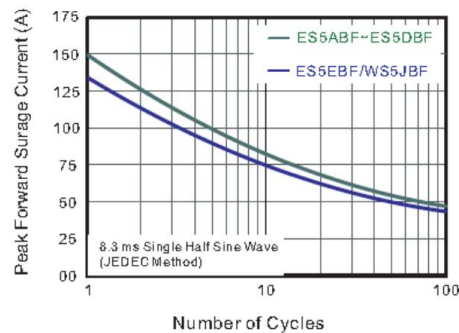


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



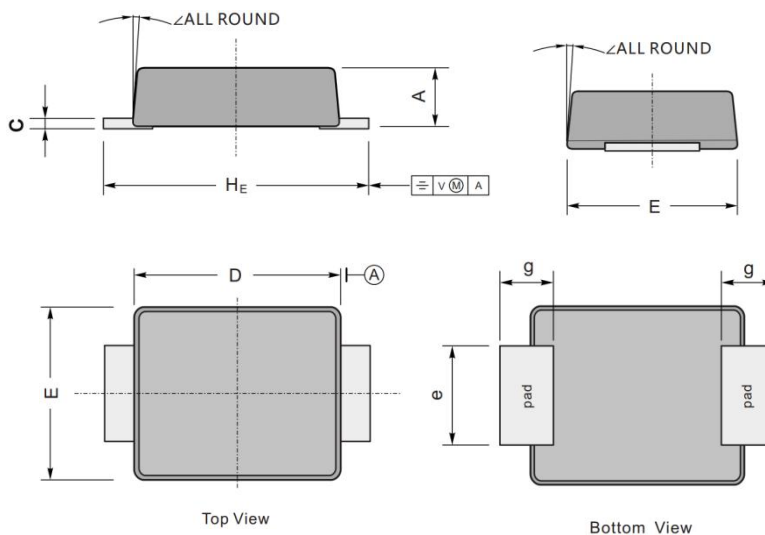


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Package Information

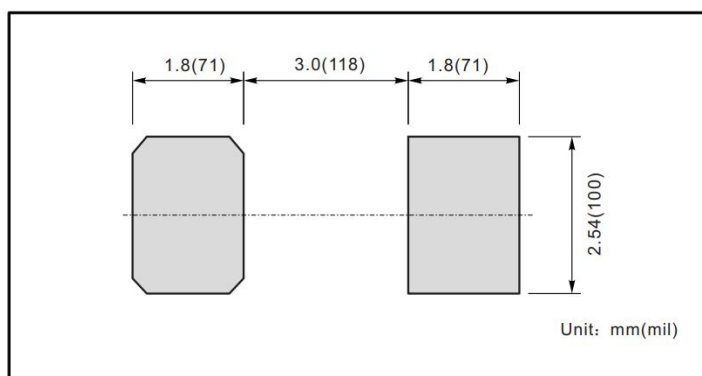
SMBF

Dimensions in mm



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
ES5ABF	ES5A
ES5BBF	ES5B
ES5CBF	ES5C
ES5DBF	ES5D
ES5EBF	ES5E
ES5GBF	ES5G
ES5JBF	ES5J