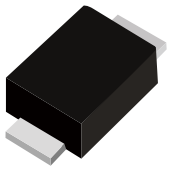
ES5ABF-ES5JBF

Ultra-Fast Recovery Rectifier Diode

FEATURES

- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability



SMBF

Schematic Symbol

MECHANICAL DATA

- Case : Molded plastic body
- Polarity : Polarity symbol marking on body
- Mounting Position : Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES5ABF	ES5BBF	ES5CBF	ES5DBF	ES5FBF	ES5GBF	ES5JBF	Unit
Marking		ES5ABF	ES5BBF	ES5CBF	ES5DBF	ES5FBF	ES5GBF	ES5JBF	
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	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	
Maximum average forward rectified current at T_L=100°C	$I_{F(AV)}$	5.0							A
Surge peak forward current,8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	150.0							
Maximum instantaneous forward voltage at 5.0A	V_F	1.0				1.3		1.7	V
Maximum DC reverse current at rated DC blocking voltage T_A=25°C	I_R	2.0							μA
Maximum DC reverse current at rated DC blocking voltage T_A=125°C	I_R	200							μA
Maxinum reverse recovery time(Note 1)	T_{rr}	35							ns
Typical junction capacitance (Note2)	C_J	76.0							pF
Typical thermal resistance	$R_{\theta JA}$	78.0							°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							°C

Note :

1.Reverse recovery time test condition: I_F=0.5A I_R=1.0A I_{RR}=0.25A

2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

CHARACTERISTIC CURVES

Fig. 1- Derating Curve Output Rectified Current

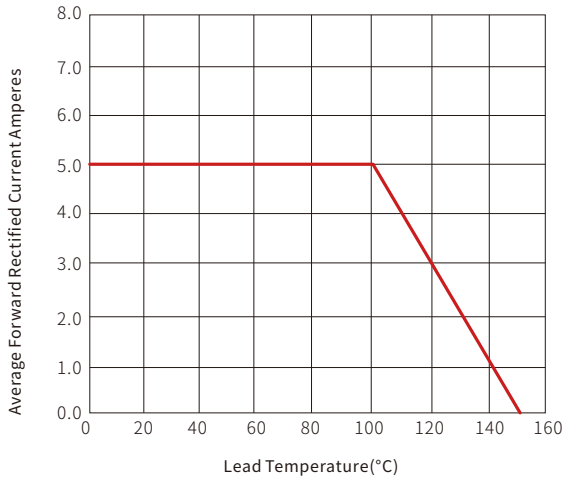


Fig. 2-Maximum Non-Repetitive Peak Forward Surge Current Perleg

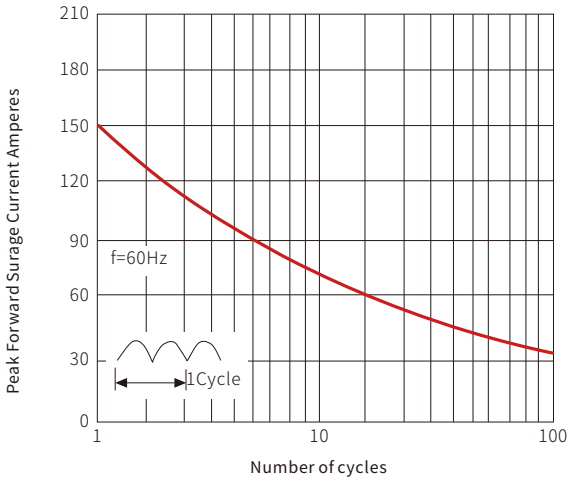


Fig. 3-Typical Forward Voltage Characteristics

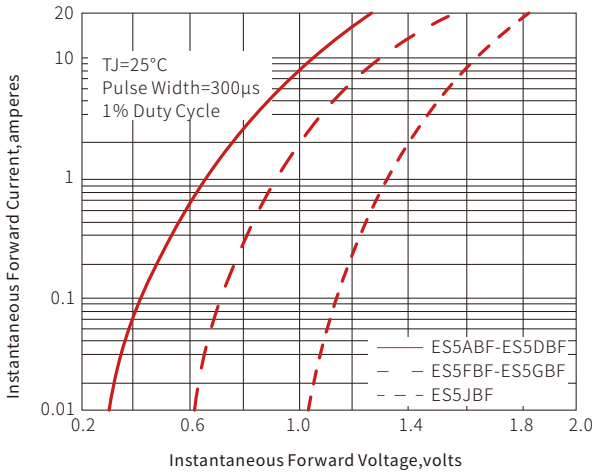
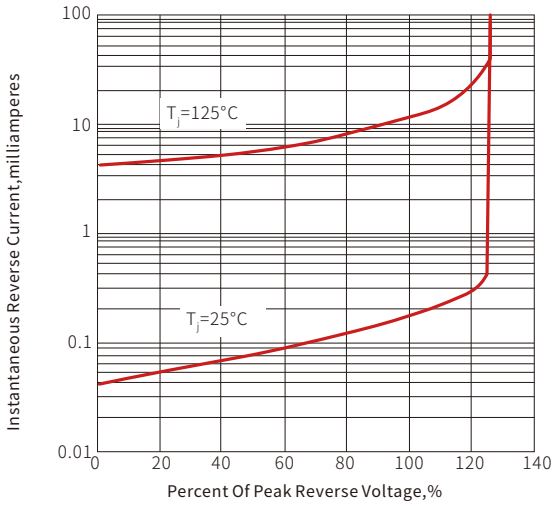
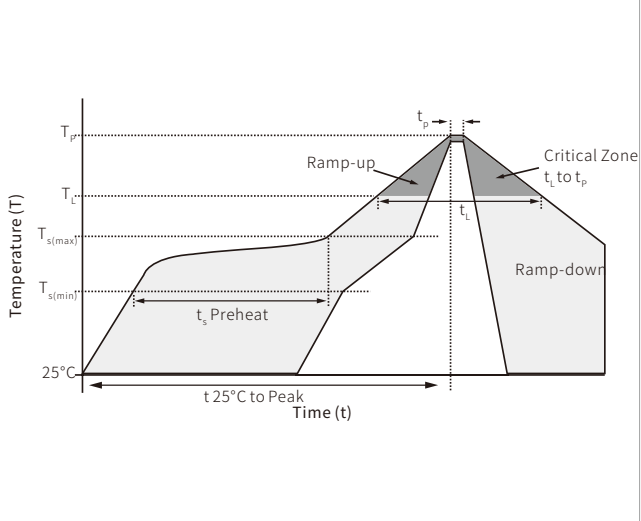


Fig. 4-Typical Reverse Leakage Characteristics

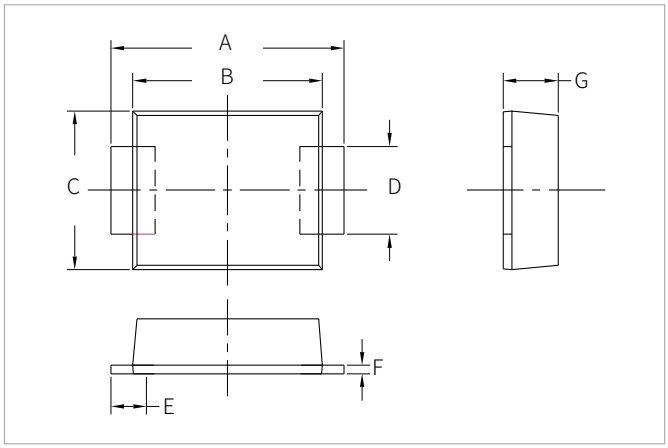


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
	$T_{S(max)}$ to T_L - Ramp-up Rate	3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

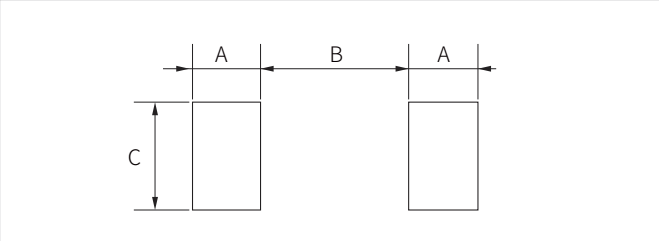


SMBF PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.10	5.50	0.201	0.217
B	4.10	4.50	0.161	0.177
C	3.40	3.80	0.134	0.150
D	1.90	2.10	0.075	0.083
E	0.70	-	0.028	-
F	0.15	0.25	0.006	0.010
G	1.20	2.20	0.047	0.087

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.0	-	0.079	-
B	-	2.5	-	0.098
C	2.2	-	0.087	-

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
ES5ABF-ES5JBF	SMBF	3000PCS	13"

Headquarters
No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline
400-021-5756

Web
Https://www.semiware.com

Sales Center
Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service
Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support
Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions
Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code
Website
Wechat

To find your local partner within Semiware' s global website: www.semiware.com