

Surface Mount Fast Recovery Rectifier

ES1JB

SMB



Cathode  **Anode**

Features

- Low forward voltage drop
- Low leakage current
- High current capability
- Super fast switching speed
- High forward surge capability
- High reliability.

Mechanical Data

- Epoxy: UL 94V-O rate flame retardant
- Lead: lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end

■Maximum Ratings (T_a=25°C Unless otherwise specified)

Parameter	Symbols	ES1JB		Units
Maximum Repetitive Peak Reverse Voltage	VRRM	600		V
Maximum RMS voltage	VRMS	420		V
Maximum DC Blocking Voltage	VDC	600		V
Maximum Average Forward Rectified Current	I(AV)	1.0		A
Reverse Recovery Time. IF=0.5A, IR=1A, IRR=0.25A	Trr	50		ns
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	IFSM	60		A
I ² t rating for fusing (1ms< t < 8.3ms)	I ² t	10.3		A ² S
Instantaneous Forward Voltage per Diode@TA=25 °C	VF	Typ	Max	V
		1.52	1.60	
Maximum DC Reverse Current @TA=25 °C at Rated DC Blocking Voltage @TA=125 °C	IR	5 100		μA
Typical Junction Capacitance (Note1)	Cj	40		pF
Operating and Storage Temperature Range	Tj, Tstg	-55 ~ +150		°C
Typical thermal resistance (Note 2)	RθJ-C	20		°C/W

Note: 1. Measured at 1MHz and applied reverse voltage of 4 VDC.

2. Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

Fig.1 Maximum Average Forward Current Rating

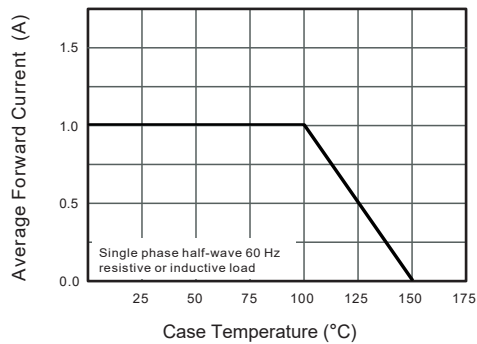


Fig.2 Typical Reverse Characteristics

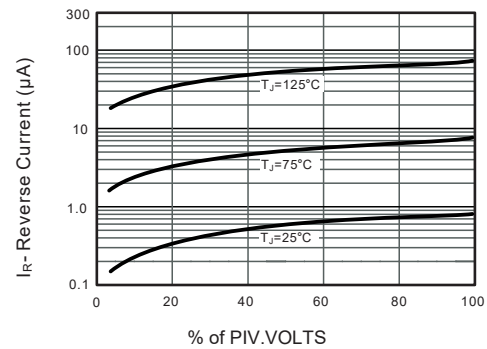


Fig.3 Typical Forward Characteristics

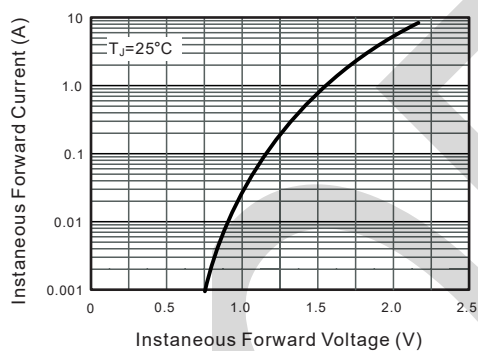


Fig.4 Typical Junction Capacitance

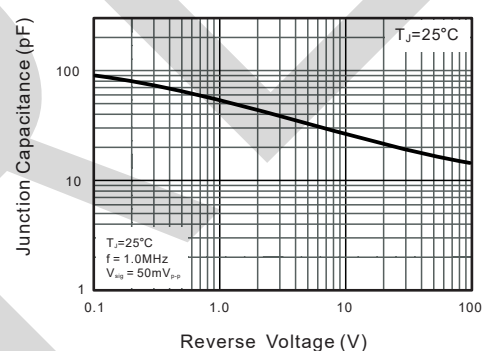
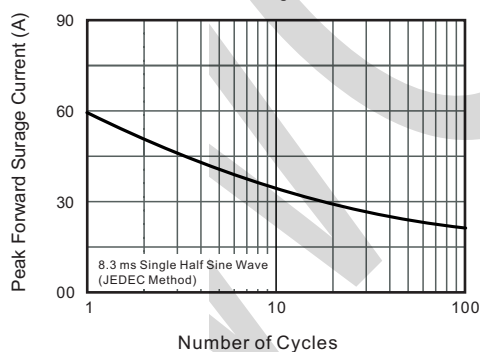
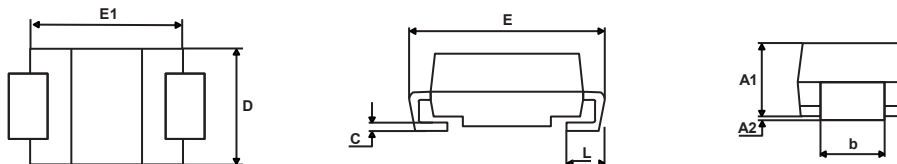


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

SMB dimension definitions



SMB dimension values

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A1	1.90	2.45	0.075	0.096
A2	0.05	0.20	0.002	0.008
b	1.95	2.20	0.077	0.087
c	0.15	0.40	0.006	0.016
D	3.30	3.95	0.130	0.156
E	5.10	5.60	0.201	0.220
E1	4.05	4.60	0.159	0.181
L	0.75	1.50	0.030	0.059

Marking Information



① Product model : ES1J

② PDC information :

Y X WW

WW:Week code(01 to 53)

X:Internal identification code

Y:Year code(ex:0=2020)