

ES3AB THRU ES3JB

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:SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx.Weight: 0.1g / 0.003oz



Simplified outline SMB and symbol

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	ES3AB	ES3BB	ES3CB	ES3DB	ES3EB	ES3GB	ES3JB	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	I _{F(AV)}	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	90							A
Maximum Forward Voltage at 1 A	V _F	1.0				1.25		1.68	V
Maximum DC Reverse Current Ta = 25° C at Rated DC Blocking Voltage Ta =125° C	I _R	5 100							μ A
Typical Junction Capacitance at VR=4V, f=1MHz	Cj	45							pF
Maximum Reverse Recovery Time ⁽¹⁾	t _{rr}	35							ns
Typical Thermal Resistance ⁽²⁾	RθJA	50							°C/W
	RθJC	16							
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 2.0" X 2.0" (5 X 5 cm) copper pad areas

Rating And Characteristic Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

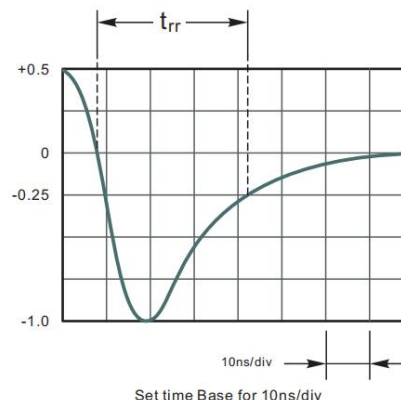
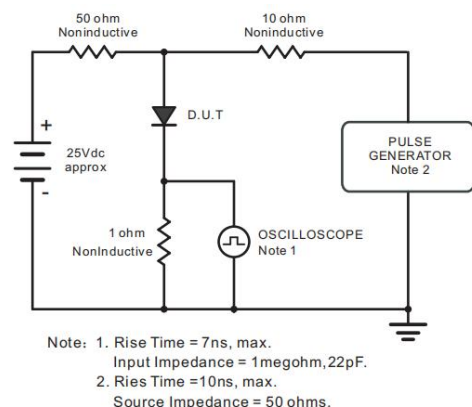


Fig.2 Maximum Average Forward Current Rating

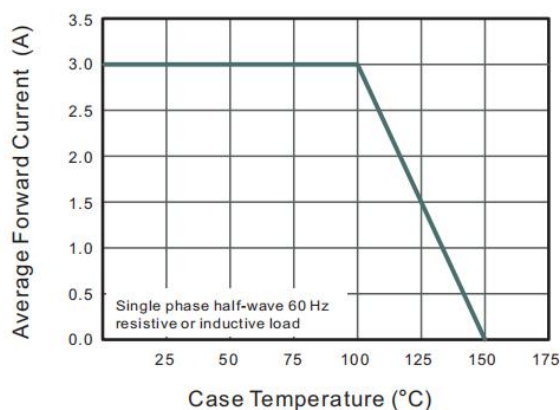


Fig.3 Typical Reverse Characteristics

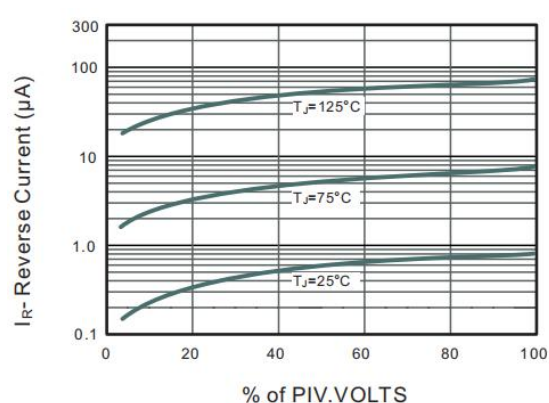


Fig.4 Typical Forward Characteristics

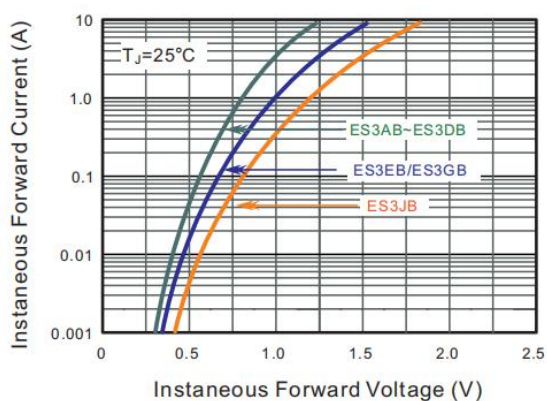


Fig.5 Typical Junction Capacitance

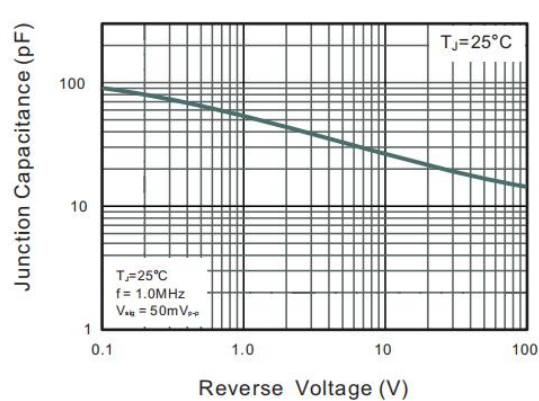
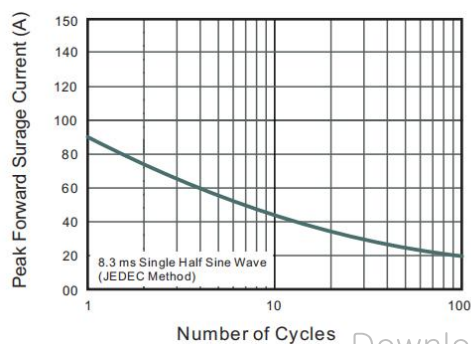


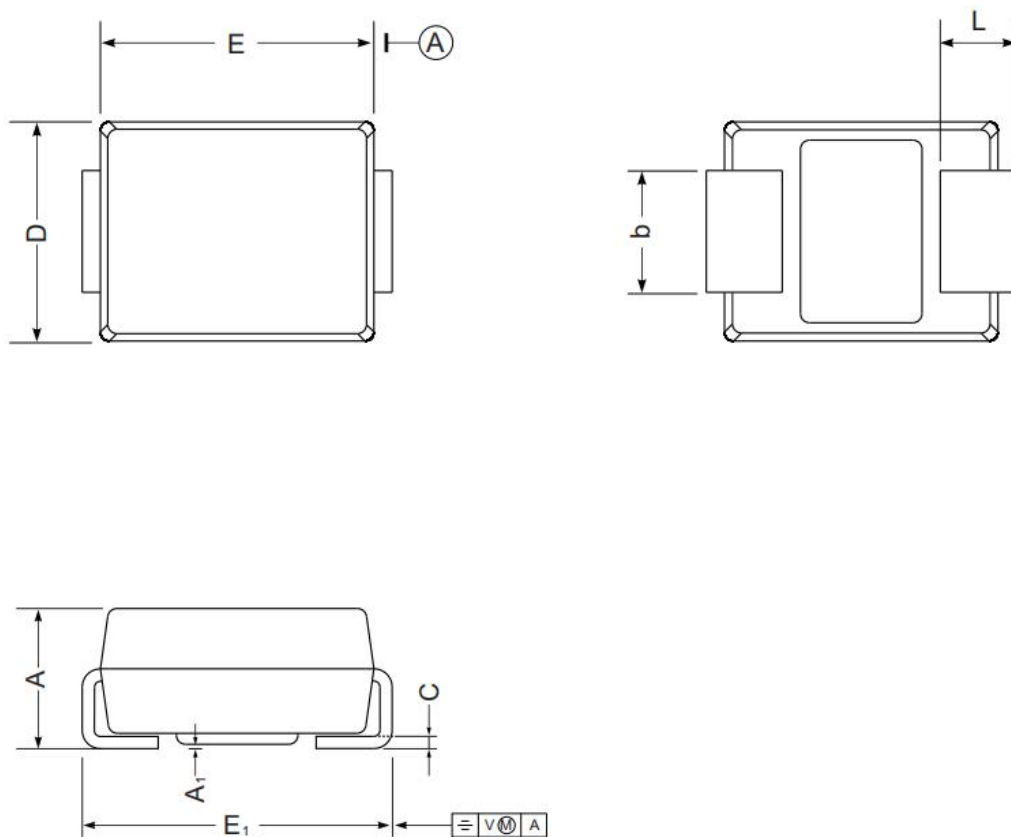
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

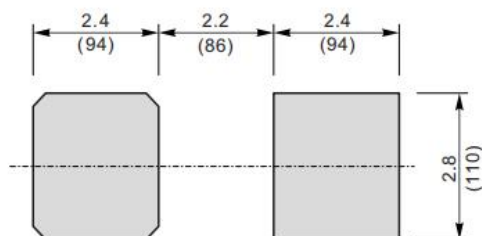
Plastic surface mounted package; 2 leads

SMB



UNIT		A	C	D	E	E ₁	A ₁	L	b
mm	max	2.44	0.305	3.94	4.7	5.59	0.20	1.5	2.2
	min	2.13	0.152	3.3	4.06	5.08	0.05	0.8	1.9
mil	max	96	12	155	185	220	7.9	59	87
	min	84	6	130	160	200	2.0	32	75

The recommended mounting pad size



Unit : $\frac{\text{mm}}{(\text{mil})}$