

Surface Mount Super fast Recovery Rectifier

Parameter	Value	Unit
V_{RRM}	50~600	V
$I_{F(AV)}$	3.0	A
T_{RR}	35	ns



DO-214AA/SMB

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Super fast reverse recovery time

Applications

- For use in high-frequency rectification and free-wheeling applications in switching-mode converters and inverters for consumer electronics, computer systems, and telecommunications.

Absolute Maximum Ratings and Characteristics (Ta=25°C unless otherwise noted)

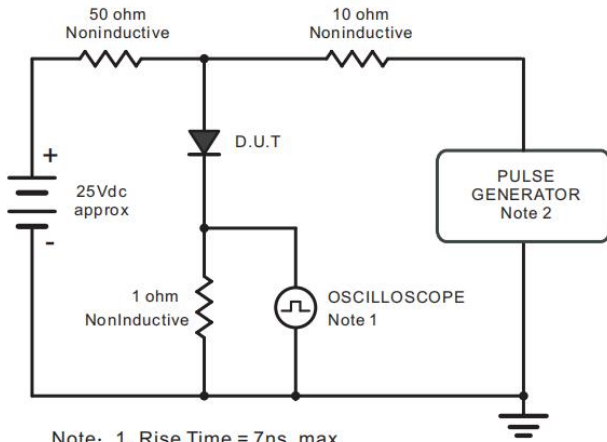
Parameter	Symbol	ES3AB	ES3BB	ES3CB	ES3DB	ES3EB	ES3GB	ES3JB	Units	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V	
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V	
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V	
Maximum Average Forward Rectified Current at $T_c = 100^\circ\text{C}$	$I_{F(AV)}$	3.0							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90							A	
Maximum Forward Voltage at 3A	V_F	1.0				1.25		1.68	V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5				100				μA
Typical Junction Capacitance at $V_R=4\text{V}$, $f=1\text{MHz}$	C_j	45							pF	
Maximum Reverse Recovery Time (1)	t_{rr}	35							ns	
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	50				16				$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$	

Notes:

- (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 5cm) copper pad areas.

Typical characteristics

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.

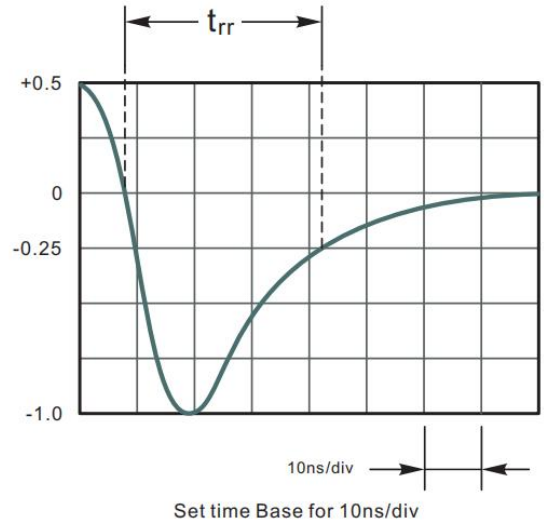


Fig.2 Maximum Average Forward Current Rating

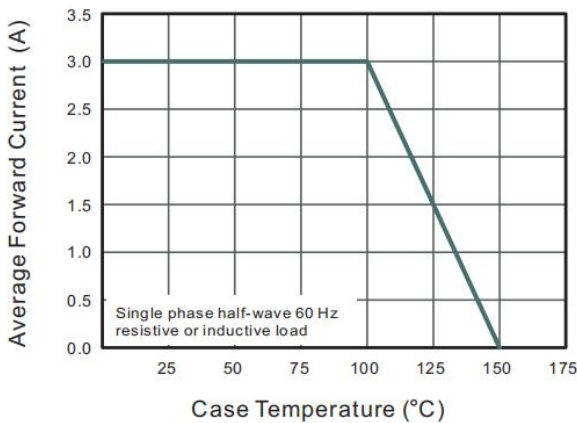


Fig.3 Typical Reverse Characteristics

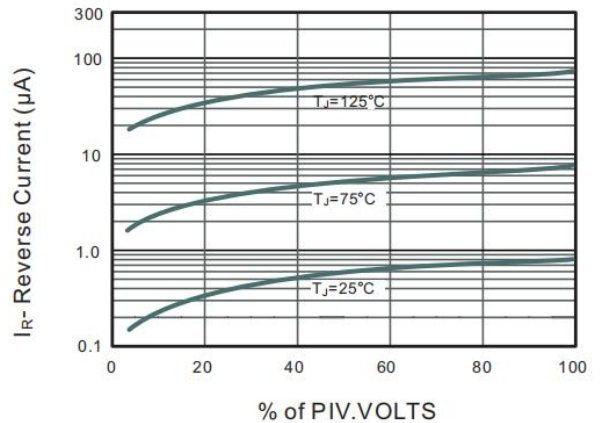


Fig.4 Typical Forward Characteristics

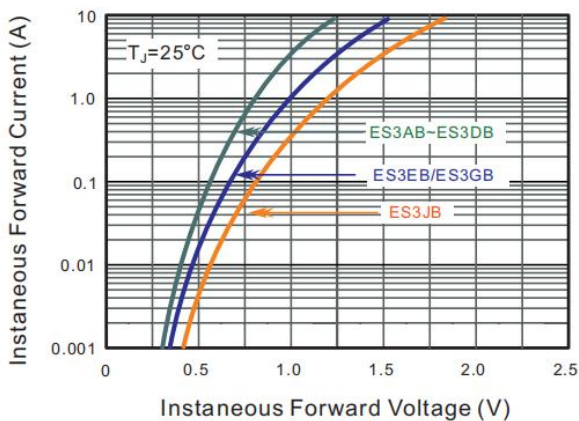


Fig.5 Typical Junction Capacitance

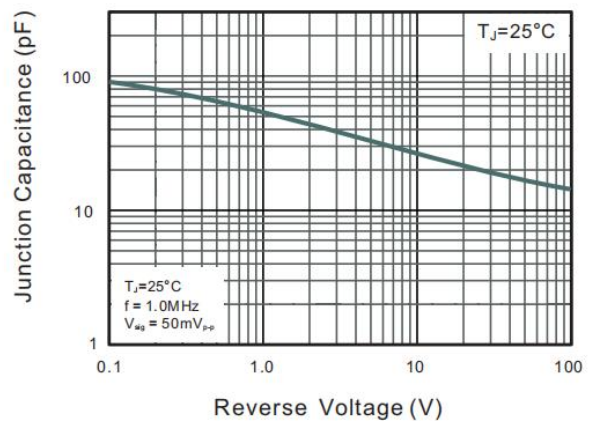
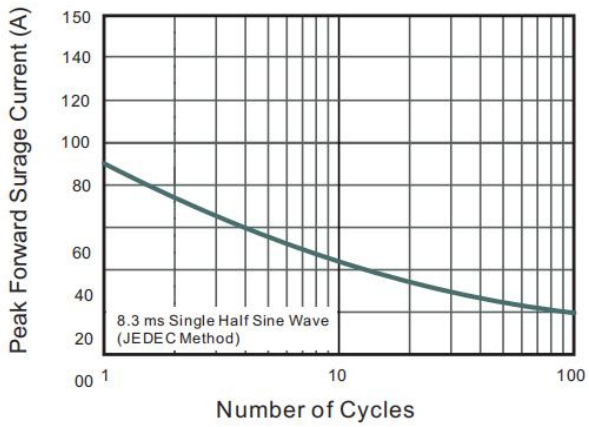


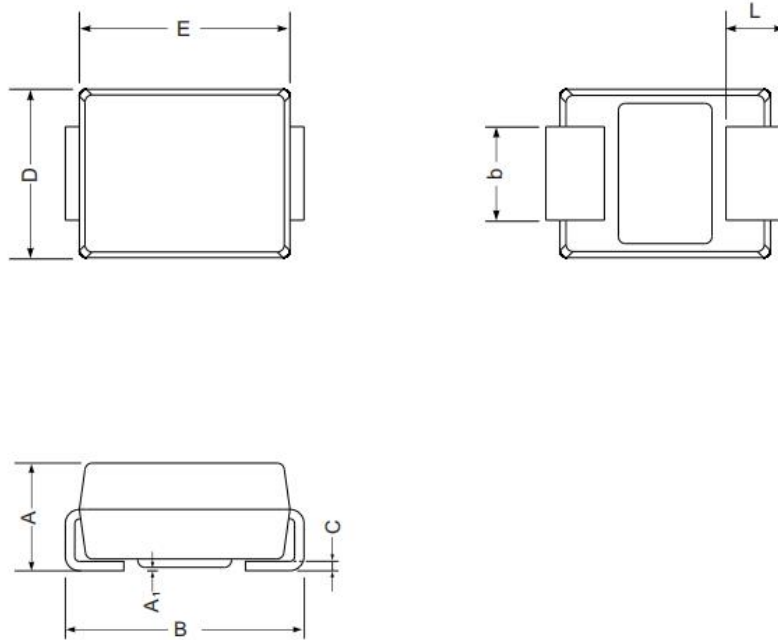
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Package Outlines

Plastic surface mounted package; 2 leads

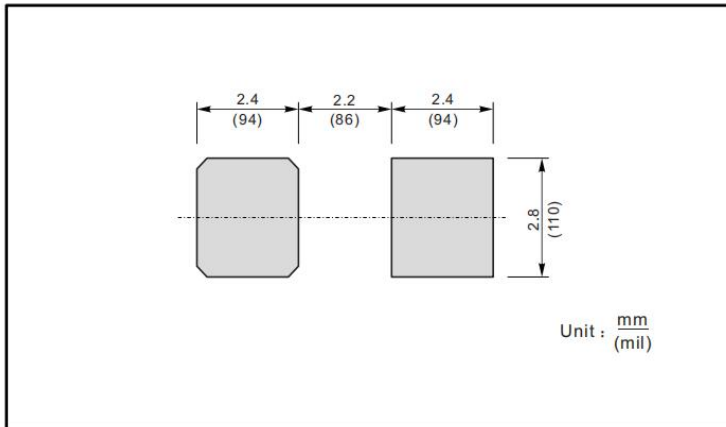
DO-214AA/SMB



SMB mechanical data

UNIT		A	E	D	B	A ₁	L	C	b
mm	max	2.5	4.70	3.94	5.5	0.20	1.5	0.305	2.2
	min	2.1	4.06	3.3	5.0	0.05	0.8	0.152	1.9
mil	max	98	185	155	216	7.9	59	12	87
	min	82	160	130	196	2.0	32	6	75

The recommended mounting pad size



Marking

Type number	Marking code
ES3AB	ES3A
ES3BB	ES3B
ES3CB	ES3C
ES3DB	ES3D
ES3EB	ES3E
ES3GB	ES3G
ES3JB	ES3J

***Important Usage Information and Disclaimer**

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