

### Surface Mount Super fast Recovery Rectifier

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



#### 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)

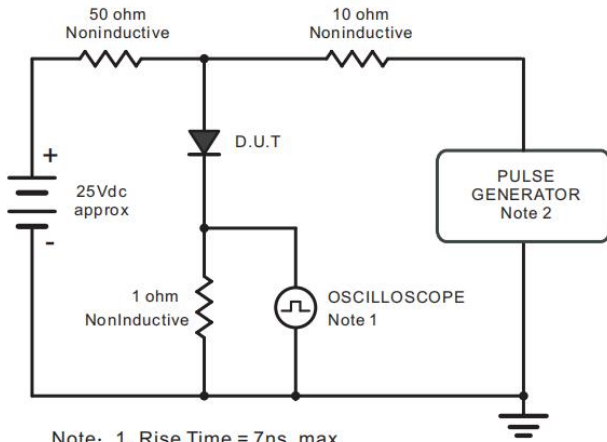
Parameter	Symbol	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at Tc = 125°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 VR=4V, f=1MHz	$C_j$	40							pF
Maximum Reverse Recovery Time (1)	$t_{rr}$	35							ns
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	40 16							°C/W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							°C

#### Notes:

- (1) Measured with  $I_F = 0.5A$ ,  $I_R = 1A$ ,  $I_{rr} = 0.25A$ .  
 (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 = 1megohm, 22pF.  
2. Rise Time = 10ns, max.  
Source Impedance = 50 ohms.

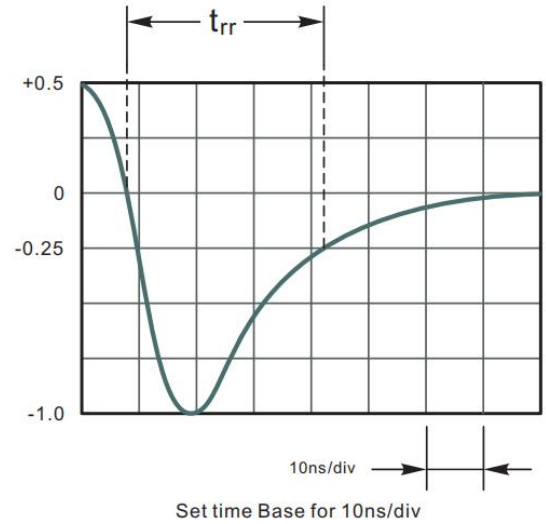


Fig.2 Maximum Average Forward Current Rating

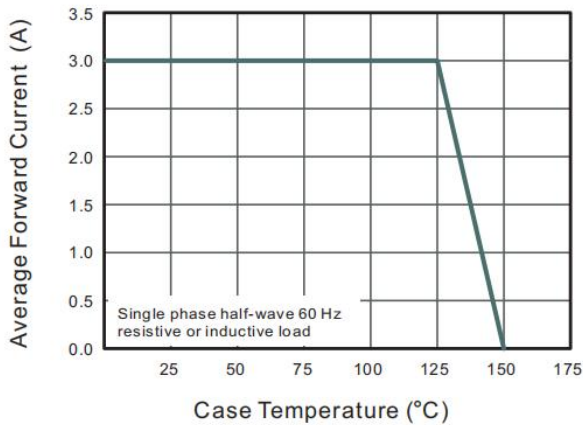
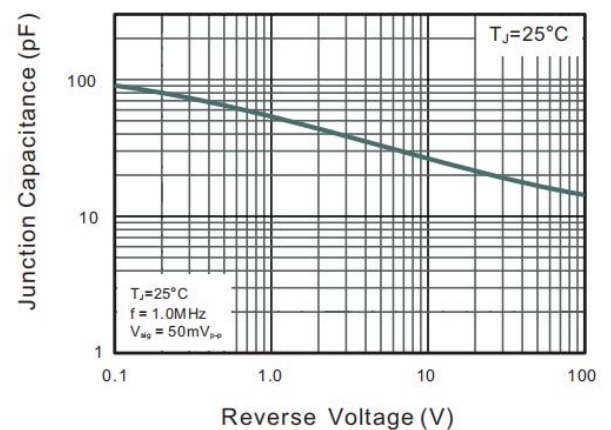
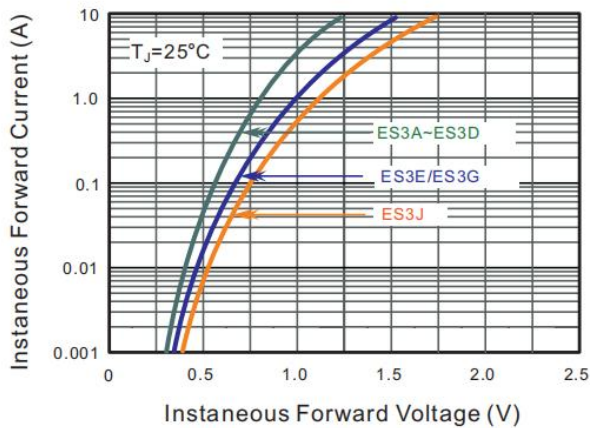
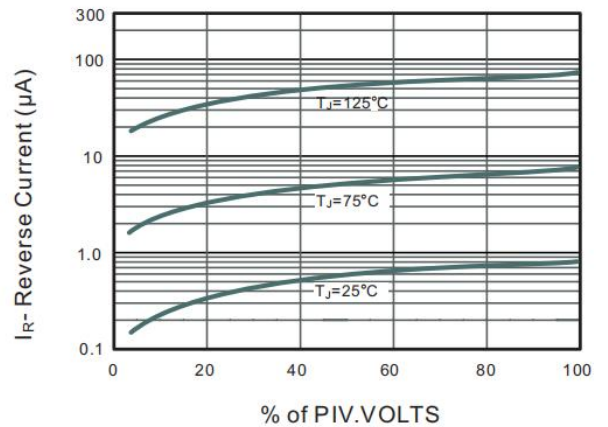
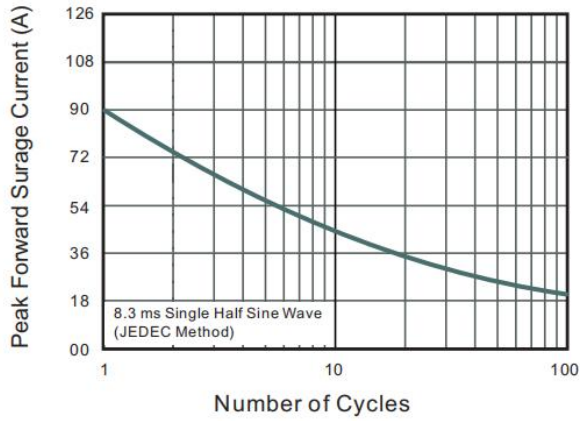


Fig.3 Typical Reverse Characteristics



**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



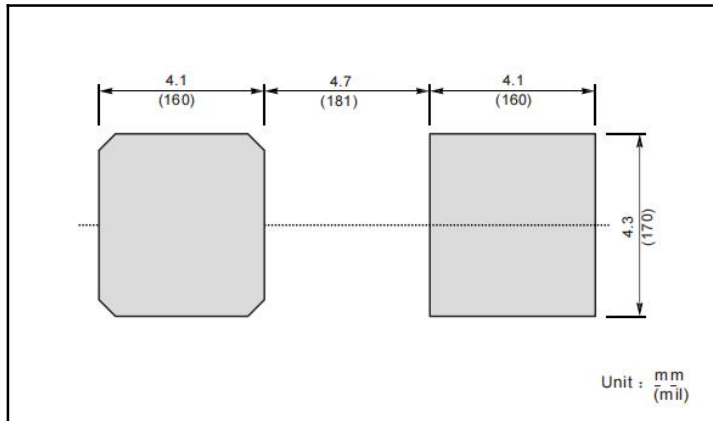
**Package Outlines**

Plastic surface mounted package; 2 leads

**DO-214AB/SMC**

**SMC mechanical data**

UNIT		A	E	D	B	A <sub>1</sub>	C	L	b
mm	max	2.62	7.1	6.2	8.3	0.21	0.31	1.6	3.25
	min	2.00	6.6	5.6	7.7	0.05	0.15	0.9	2.75
mil	max	103	280	244	327	8.3	12	63	128
	min	79	260	220	303	2.0	5.9	35	108

**The recommended mounting pad size****Marking**

Type number	Marking code
ES3A	ES3A
ES3B	ES3B
ES3C	ES3C
ES3D	ES3D
ES3E	ES3E
ES3G	ES3G
ES3J	ES3J

**\*Important Usage Information and Disclaimer**

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