

# ES07B-ES07D

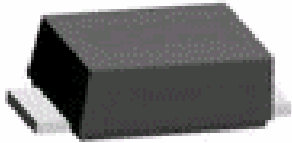
Surface Mount Rectifiers

## Features

- ✧ Glass passivated device
- ✧ Ideal for surface mouted applications
- ✧ Low leakage current
- ✧ Metallurgically bonded construction
- ✧ High temperature soldering:  
250 /10 seconds at terminals

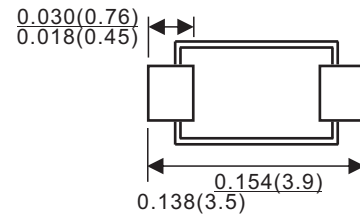
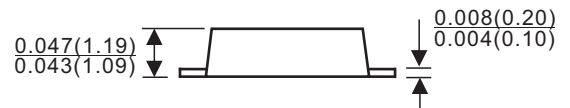
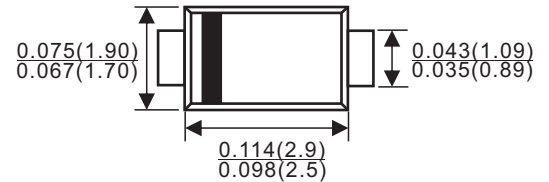
## Mechanical Data

- ✧ Case:JEDEC SOD-123FL,molded plastic over passivated chip
- ✧ Polarity: Color band denotes cathode end
- ✧ Weight: 0.003 ounces, 0.01 gram
- ✧ Mounting position: Any



**REVERSE VOLTAGE: 100 - 200 V**  
**CURRENT: 1.0 A**

SOD-123FL



Dimensions in inches and(millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified.

Single hase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

### ABSOLUTE RATINGS

		ES07B	ES07D	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	V
Maximum RMS voltage	$V_{RMS}$	70	140	V
Maximum DC blocking voltage	$V_{DC}$	100	200	V
Maximum average forward rectified current $T_A=65$ (NOTE 1)	$I_{(AV)}$	1.0		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load $T_L=25$	$I_{FSM}$	30		A
Typical thermal resistance (NOTE 2)	$R_{J0A}$	180		K/W
Maximum reverse recovery time (NOTE 3)	$t_{rr}$	25		ns
Operating temperature range	$T_j$	- 55 --- + 150		
Storage temperature range	$T_{STG}$	- 55 --- + 150		

NOTES:1.Averaged over any 20 ms period.

2. Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.

3.Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

**ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Min	Typ.	Max.	Unit
Maximum instantaneous (NOTE 4) forward voltage at 1.0A	$V_F$	-	-	0.98	V
Maximum DC reverse current @ $T_A=25$ at rated DC blockjng voltage @ $T_A=125$	$I_R$	- -	- -	10 100	$\mu$ A
Typical junction capacitance (NOTE 5)	$C_j$	-	4	-	pF

NOTES: 4.Pulse test:300 $\mu$ s pulse width,1% duty cycle.

5.Measured at 1.0MHz and applied average voltage of 4.0V DC.

### ELECTRICAL CHARACTERISTICS

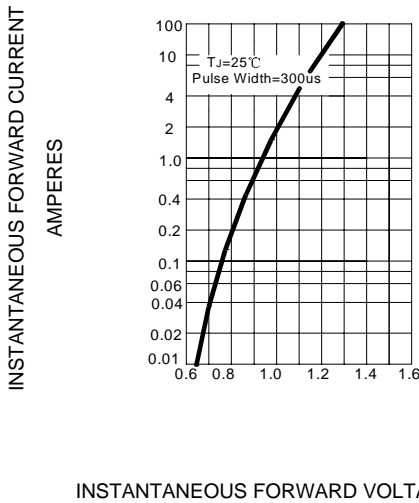
Parameter	Symbol	Min	Typ.	Max.	Unit
Maximum instantaneous (NOTE 4) forward voltage at 1.0A	$V_F$	-	-	0.98	V
Maximum DC reverse current @ $T_A=25$ at rated DC blocking voltage @ $T_A=125$	$I_R$	-	-	10 100	$\mu A$
Typical junction capacitance (NOTE 5)	$C_j$	-	4	-	pF

NOTES: 4.Pulse test:300 $\mu s$  pulse width,1% duty cycle.

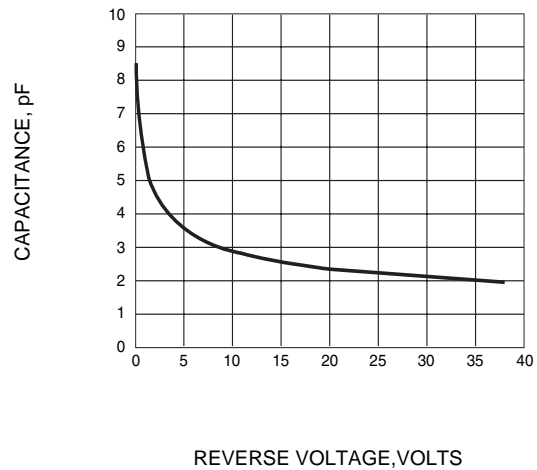
5.Measured at 1.0MHz and applied average voltage of 4.0V DC.

### Ratings AND Characteristic Curves

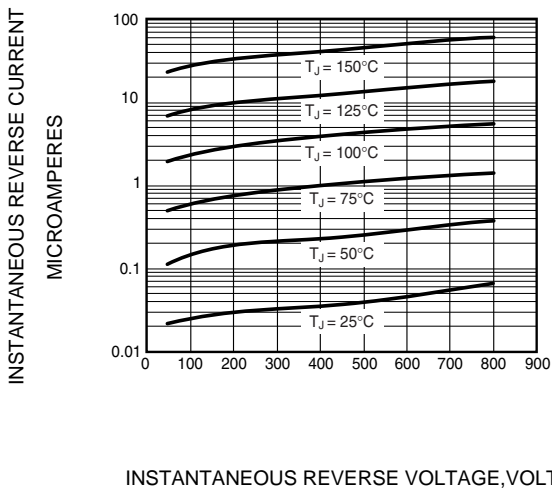
**FIG.1 –TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**



**FIG.4 – FORWARD DERATING CURVE**

