

# ES1000FL – ES1006FL

## SURFACE MOUNT ULTRAFAST EFFICIENT RECTIFIER

### Features

- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-0
- Glass passivated chip junctions
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- High temperature soldering guaranteed: 260°C/10

seconds on terminals

- RoHS Compliant Product

### Mechanical Data

Case: SOD-123S molded plastic body

Terminals: Solder plated, solderable per

MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.017 gram

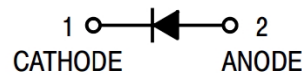
### Packing & Order Information

3,000/Reel

### SOD123S

Dimension	Millimeters		Inches	
	Min	Max	Min	Max
A	3.50	3.90	0.138	0.154
B	1.60	2.00	0.063	0.079
B1	0.80	1.00	0.031	0.039
C	1.00	1.40	0.039	0.055
D	0.12	0.20	0.005	0.008
E1	0.60	1.00	0.024	0.039
E2	0.60	1.00	0.024	0.039
F	0.20	0.60	0.008	0.024

### Graphic symbol



**RoHS**  
COMPLIANT

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

		ES 1000FL	ES 1001FL	ES 1002FL	ES 1004FL	ES 1006FL	Unit
$V_{RRM}$	Maximum repetitive peak reverse voltage	50	100	200	400	600	V
$V_{RWS}$	Maximum RMS voltage	35	70	140	280	420	V
$V_{DC}$	Maximum DC blocking voltage	50	100	200	400	600	V
$I_{F(AV)}$	Maximum average forward rectified current at $T_L=110^\circ\text{C}$	1					A
$I_{FSM}$	Peak forward surge current 8.3ms single half-sine-wave	30					A
$V_F$	Maximum instantaneous forward voltage at $I_{FM}=1.0\text{A}$	0.95		1.25		1.7	V
$I_R$	Maximum DC reverse current $T_J=25^\circ\text{C}$ At rated DC blocking voltage $T_A=100^\circ\text{C}$	5 200					$\mu\text{A}$

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Ratings at 25°C ambient temperature unless otherwise specified

		ES 1000FL	ES 1001FL	ES 1002FL	ES 1004FL	ES 1006FL	Unit
T <sub>rr</sub>	Maximum reverse recovery time	35					nS
C <sub>j</sub>	Typical junction capacitance	10					PF
R <sub>θJA</sub>	Maximum thermal resistance	82					°C/W
R <sub>θJL</sub>		27					°C/W
T <sub>STG</sub>	Storage temperature range	-55 to +150					°C

NOTE:

1. Pluse test: Pulse width 300us, duty cycle 1%

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### SURFACE MOUNT ULTRAFAST EFFICIENT RECTIFIER

#### □ Ratings and Characteristic Curves

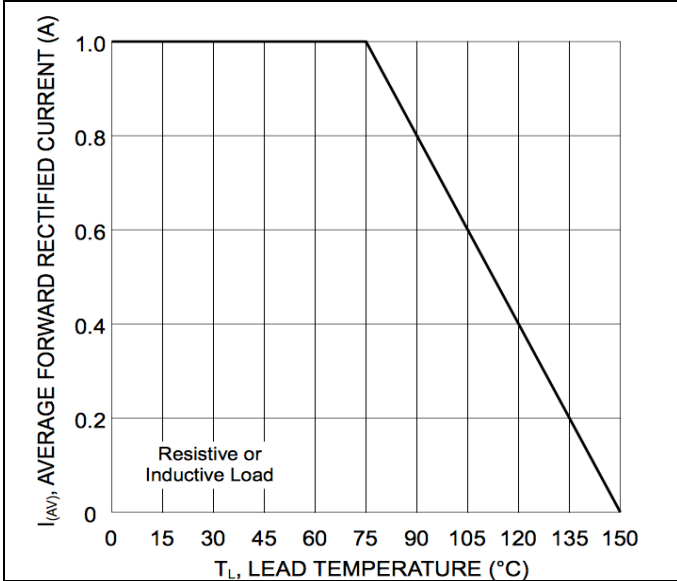


FIG.1-FORWARD DERATING CURVE

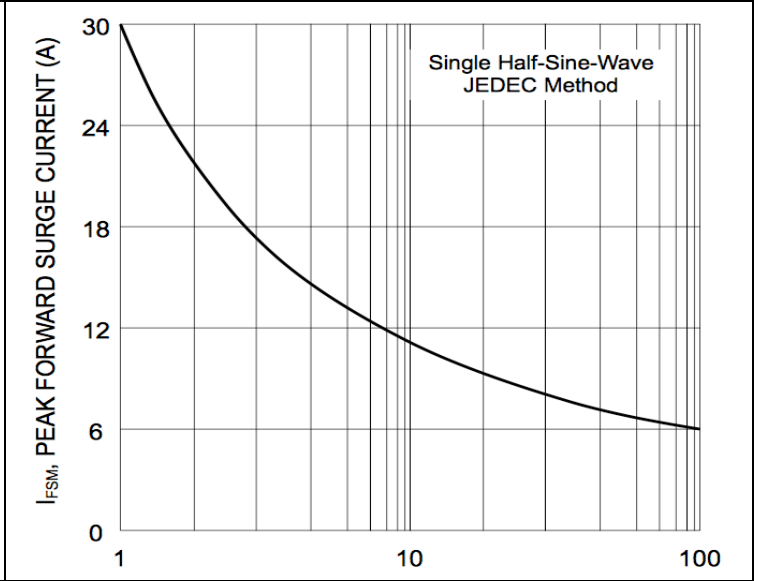


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

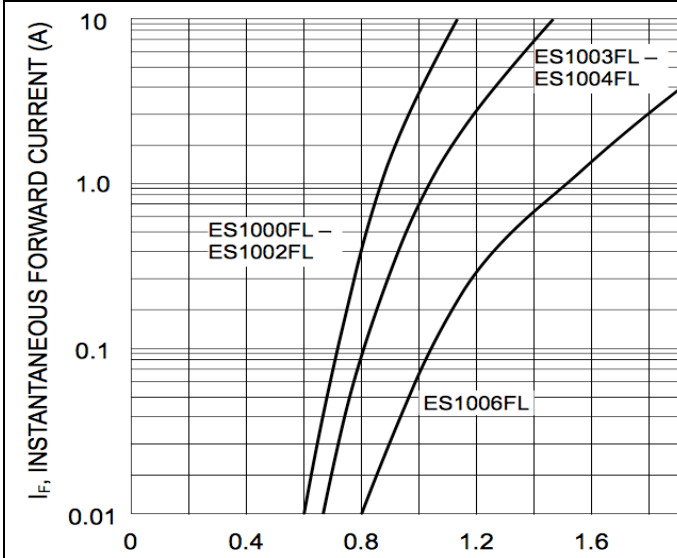


FIG.3-TYPICAL FORWARD CHARACTERISTICS

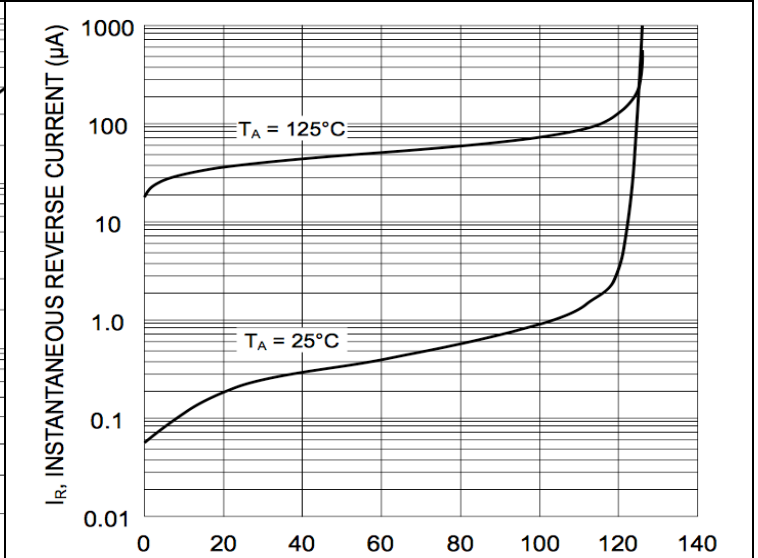


FIG.4-TYPICAL REVERSE CHARACTERISTICS

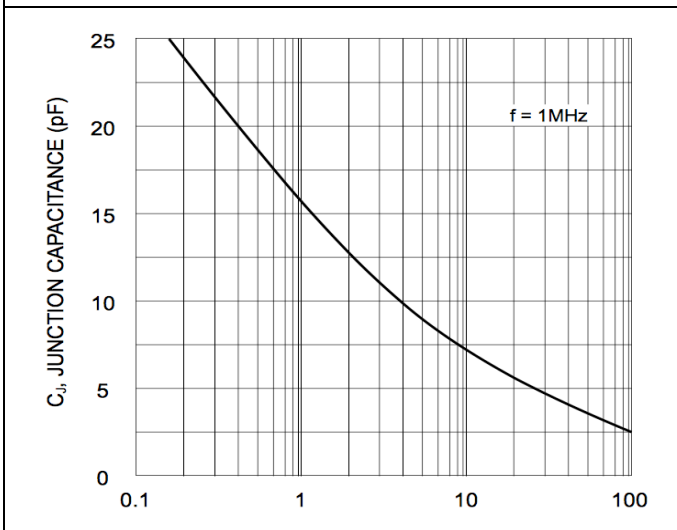


FIG.5-TYPICAL JUNCTION CAPACITANCE

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