



## ES1000FL~ES1010FL SUPER FAST RECOVERY RECTIFIER

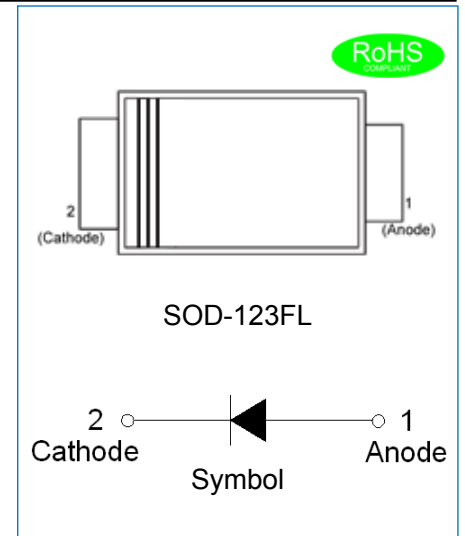
Rev.3.1

### DESCRIPTION:

- ✧ Plastic package has underwriters laboratory flammability classification 94V-0
- ✧ For surface mounted applications in order to optimize board space
- ✧ Glass passivated chip junction
- ✧ Lead free in comply with EU RoHS 2011/65/EU directives
- ✧ Super fast recovery time

### MECHANICAL DATA

- ✧ Case: SOD-123FL molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Polarity: Color band denotes cathode end
- ✧ Weight: 0.016gram



### ABSOLUTE MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified.)

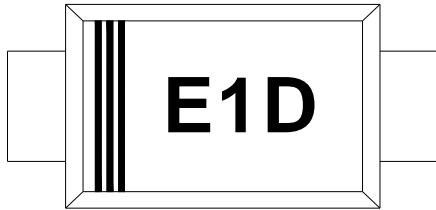
Parameter		Symbol	ES1000 FL	ES1001 FL	ES1002 FL	ES1004 FL	ES1006 FL	ES1010 FL	Unit
Maximum repetitive peak reverse voltage		$V_{RRM}$	50	100	200	400	600	1000	V
Maximum RMS voltage		$V_{RMS}$	35	70	140	280	420	700	V
Maximum DC blocking voltage		$V_{DC}$	50	100	200	400	600	1000	V
Maximum average forward current at $T_A=75^\circ\text{C}$		$I_{F(AV)}$	1.0						A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		$I_{FSM}$	30						A
Maximum forward voltage @ $I_F=1.0\text{A}$		$V_F$	0.95		1.3		1.7	2.4	V
Maximum DC reverse current at rated DC blocking voltage	$T_j=25^\circ\text{C}$	$I_R$	5						$\mu\text{A}$
	$T_j=150^\circ\text{C}$		200						$\mu\text{A}$
Typical junction capacitance $V_R=4.0\text{V}$ , $f=1\text{MHz}$		$C_J$	15			10			pF
Maximum reverse recovery time $I_F=0.5\text{A}$ , $I_R=1\text{A}$ , $I_{rr}=0.25\text{A}$		$t_{rr}$	35						ns
Operating junction and storage temperature range		$T_j, T_{stg}$	-55 to +150						$^\circ\text{C}$

**THERMAL RESISTANCES**

Symbol	Parameter	ES1000	ES1001	ES1002	ES1004	ES1006	ES1010	Unit
		FL	FL	FL	FL	FL	FL	
$R_{th(j-c)}$	Junction to case(note1)	25						$^{\circ}C/W$

Note1: Thermal resistance from junction to case mounted on P.C.B. with 5.0 mm x 5.0 mm copper pad areas.

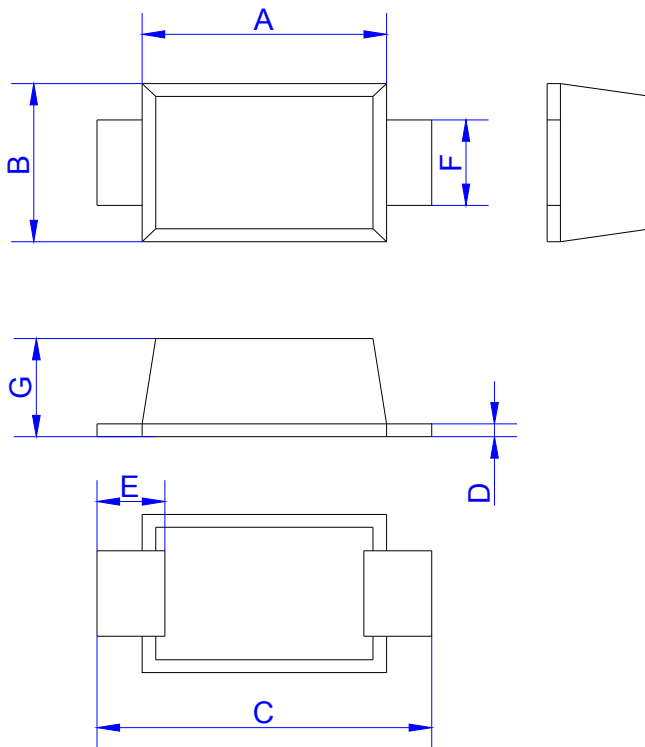
**MARKING**



E	Super Fast Recovery Rectifier
1	$I_{F(AV)}=1.0A$
D	$V_{RRM}:200V$

A:50V B:100V D:200V G:400V J:600V M:1000V

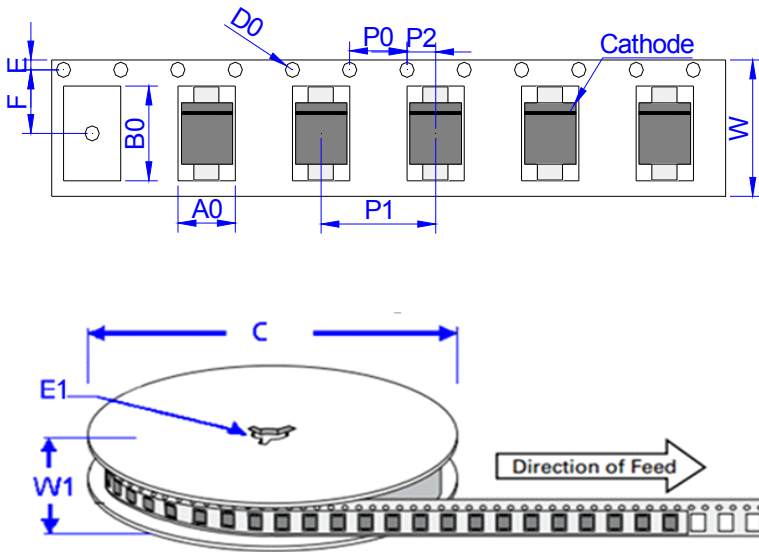
**PACKAGE MECHANICAL DATA**



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.40	3.00	0.094	0.118
B	1.60	2.10	0.063	0.083
C	3.40	4.00	0.134	0.157
D	0.10	0.30	0.004	0.012
E	0.35	0.85	0.014	0.033
F	0.80	1.20	0.031	0.047
G	0.90	1.40	0.035	0.055

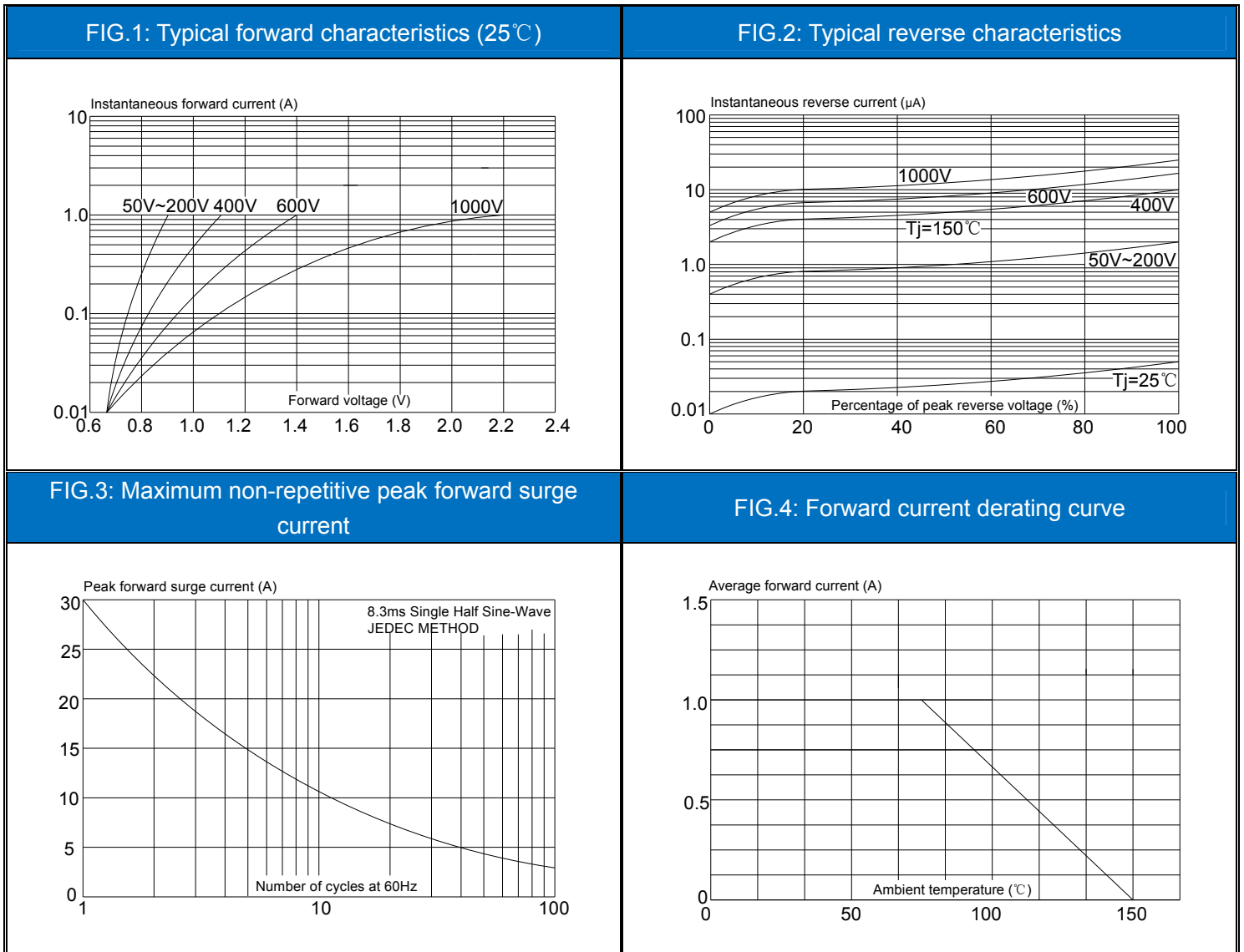
TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.016	3,000	150,000	178

CHARACTERISTICS CURVE



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