



**THE DATASHEET OF  
ES1004FL\_R1\_00001**





# ES1001FL~ES1006FL

## SMALL SURFACE MOUNT SUPER FAST DIODES

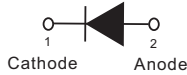
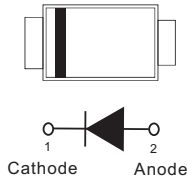
**VOLTAGE** 100 to 600 Volt **CURRENT** 1 Ampere

### FEATURES

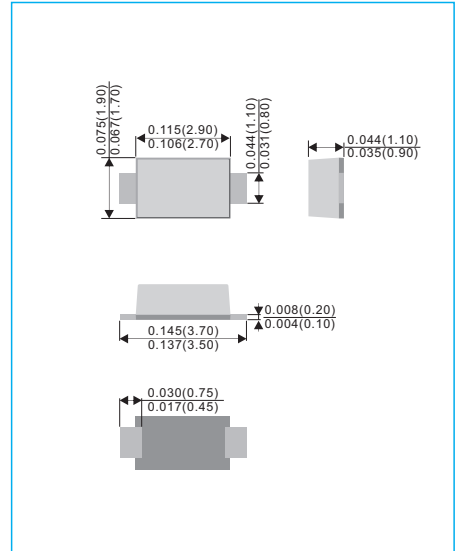
- For surface mounted applications in order to optimize board space
- Ideal for automated placement
- Glass passivated
- High temperature soldering : 260°C / 10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Weight: 0.0006 ounces, 0.0173 grams
- Polarity: Color band denotes cathode end



### SOD-123FL Unit : inch(mm)



### ABSOLUTE RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Test condition	Symbol	ES1001FL	ES1002FL	ES1004FL	ES1006FL	Units
Marking Code		-	E1B	E1D	E1G	E1J	-
Maximum repetitive peak reverse voltage		$V_{RRM}$	100	200	400	600	V
Maximum RMS voltage		$V_{RMS}$	70	140	280	420	V
Maximum DC blocking voltage		$V_{DC}$	100	200	400	600	V
Maximum average forward current	$T_L=120^{\circ}C$	$I_{F(AV)}$	1				A
Peak forward surge current 8.3ms single half sine-wave	$T_L=25^{\circ}C$	$I_{FSM}$	30				A
Maximum instantaneous forward voltage	1.0A	$V_F$	0.95		1.25	1.7	V
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^{\circ}C$ $T_J=100^{\circ}C$	$I_R$			0.5 10		$\mu A$
Reverse recovery time	$I_F=0.5A$ $I_R=1A$ $I_{RR}=0.25A$	$T_{RR}$			35		ns
Typical capacitance	4V,1MHz	$C_J$			7		pF

### ELECTRICAL CHARACTERISTICS

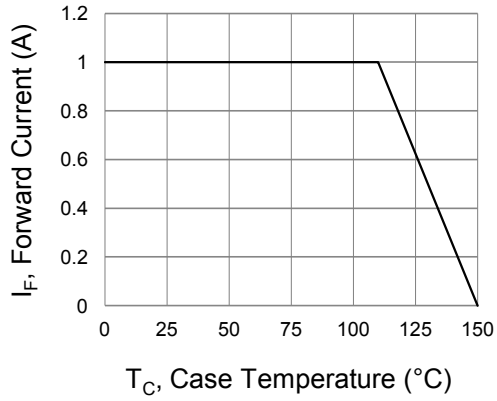
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	ES1001FL	ES1002FL	ES1004FL	ES1006FL	Units
Typical Thermal Resistane (Notes 1) (Notes 2)	$R_{\theta JA}$ $R_{\theta JC}$		200 30			$^{\circ}C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$		-55 to +150			$^{\circ}C$

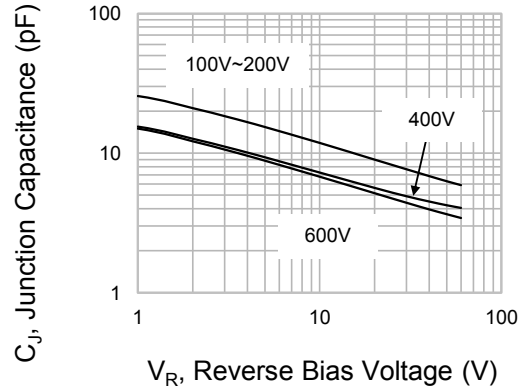
NOTES : 1.Mounted on a FR4 PCB, single-sided copper, mini pad.  
2.Mounted on a FR4 PCB, single-sided copper, with 10cm\*10cm copper pad area.



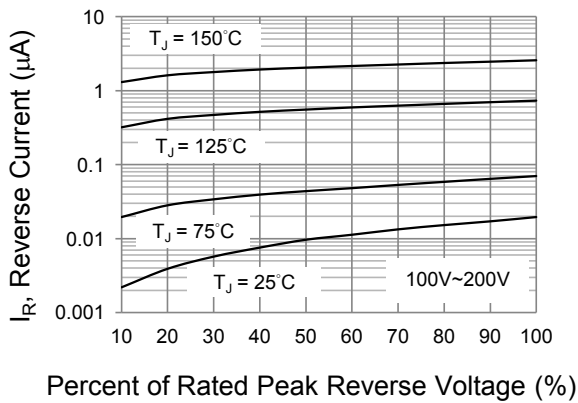
**ES1001FL~ES1006FL**



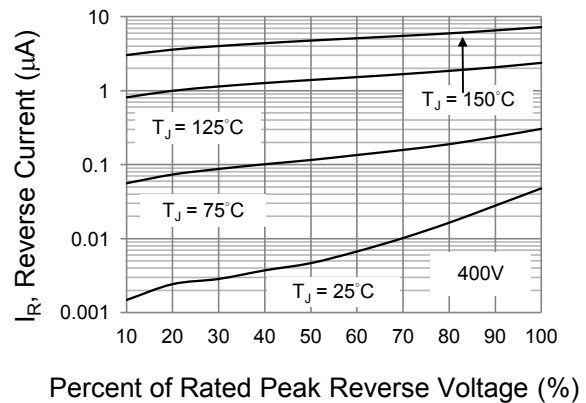
**Fig.1 Forward Current Derating Curve**



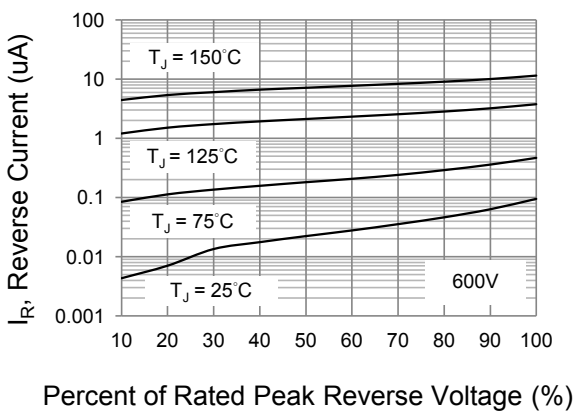
**Fig.2 Typical Junction Capacitance**



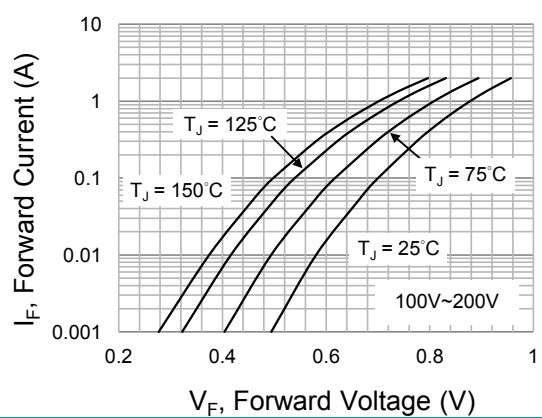
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



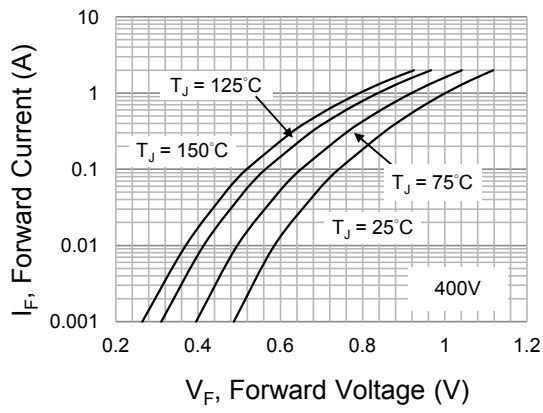
**Fig.5 Typical Reverse Characteristics**



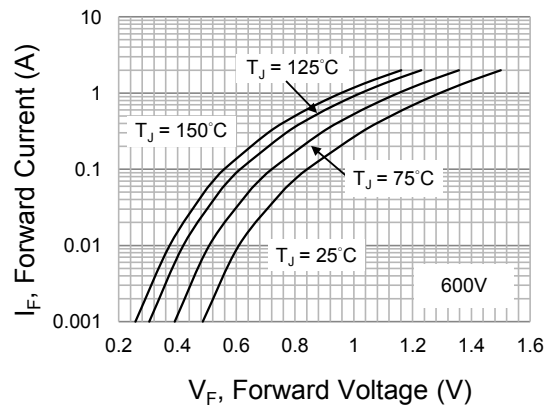
**Fig.6 Typical Forward Characteristics**



## ES1001FL~ES1006FL



**Fig.7 Typical Forward Characteristics**

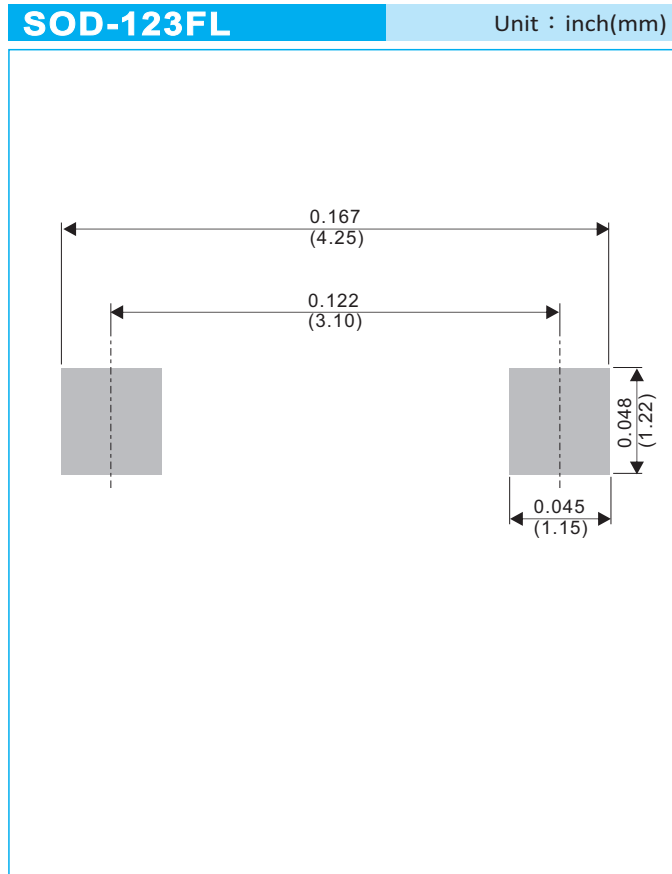


**Fig.8 Typical Forward Characteristics**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel



## ES1001FL~ES1006FL

### Part No\_packing code\_Version

ES1001FL\_R1\_00001

ES1001FL\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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