



# US1001FL~US1008FL

## SMALL SURFACE MOUNT FAST DIODES

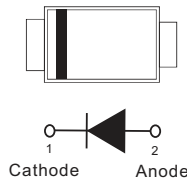
**VOLTAGE** 100 to 800 Volt **CURRENT** 1 Ampere

### FEATURES

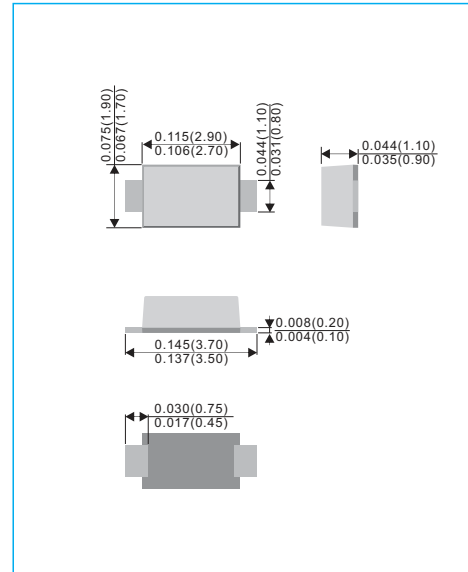
- For surface mounted applications in order to optimize board space
- Ideal for automated placement
- Glass Passivated Chip Junction
- High temperature soldering : 260°C / 10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

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



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



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

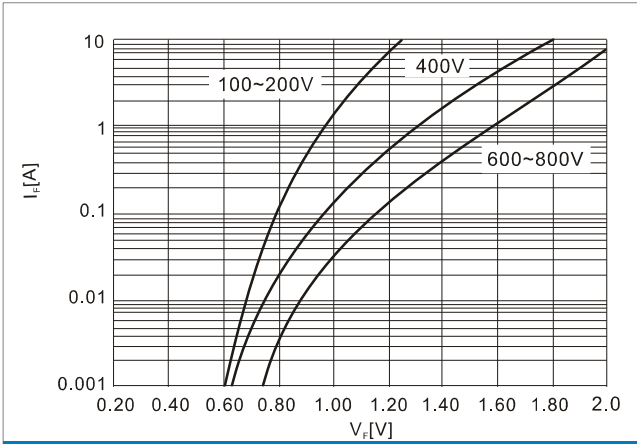
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%

Rating	Test condition	Symbol	US1001FL	US1002FL	US1004FL	US1006FL	US1008FL	Units
Marking code		-	U1B	U1D	U1G	U1J	U1K	-
Maximum repetitive peak reverse voltage		$V_{RRM}$	100	200	400	600	800	V
Maximum RMS voltage		$V_{RMS}$	70	140	280	420	560	V
Maximum DC blocking voltage		$V_R$	100	200	400	600	800	V
Maximum average forward rectified current	$T_A=25^\circ\text{C}$	$I_{F(AV)}$	1				A	
Peak forward surge current 8.3ms single half sine-wave	$T_L=25^\circ\text{C}$	$I_{FSM}$	30				A	
Maximum instantaneous forward voltage	1A	$V_F$	1	1.4	1.7	V		
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^\circ\text{C}$	$I_R$	1				$\mu\text{A}$	
Reverse recovery time	$I_F=0.5\text{A}$ $I_R=1\text{A}$ $I_{rr}=0.25\text{A}$	$t_{rr}$	50			100		nS
Typical capacitance	4V,1MHz	$C_J$	9				pF	
Typical thermal resistance	(Note 1)	$R_{\theta JA}$	200				$^\circ\text{C/W}$	
Operating junction and storage temperature range		$T_J, T_{STG}$	-55 to +150				$^\circ\text{C}$	

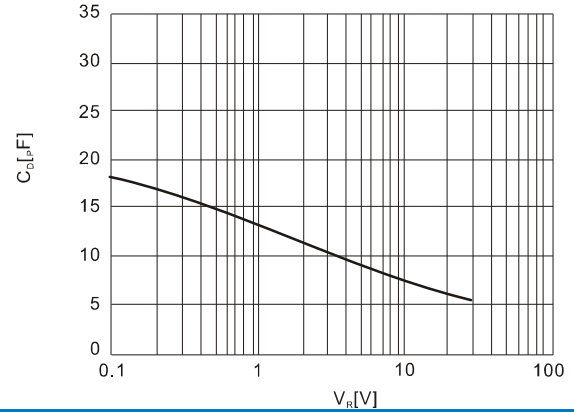
NOTE : 1.Mounted on an FR4 PCB, single-sided copper, mini pad.



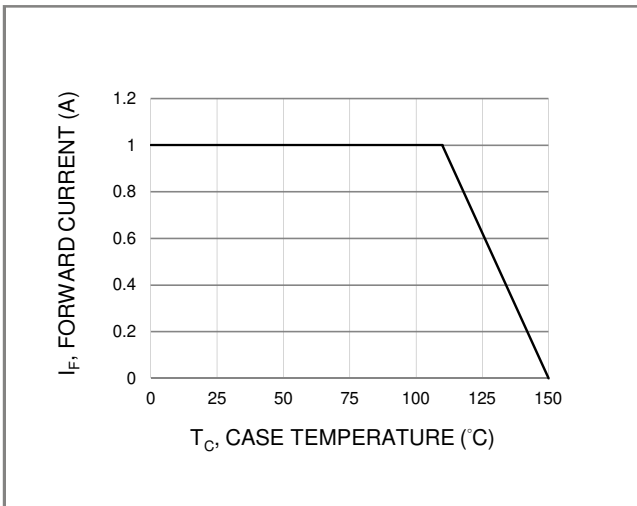
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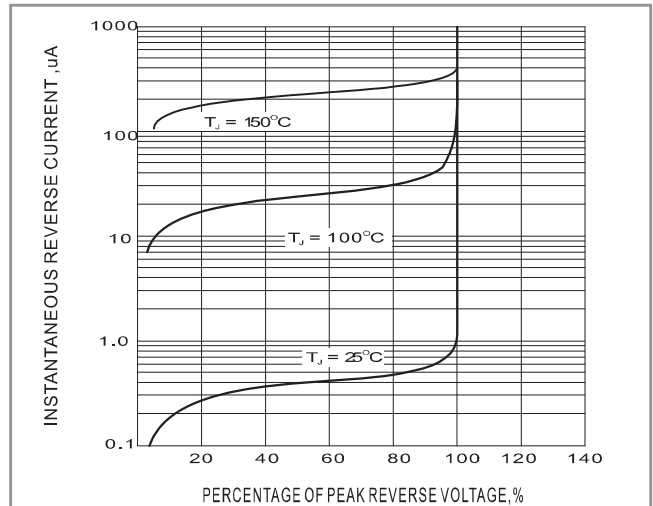
**Fig.1-Typical forward characteristics**



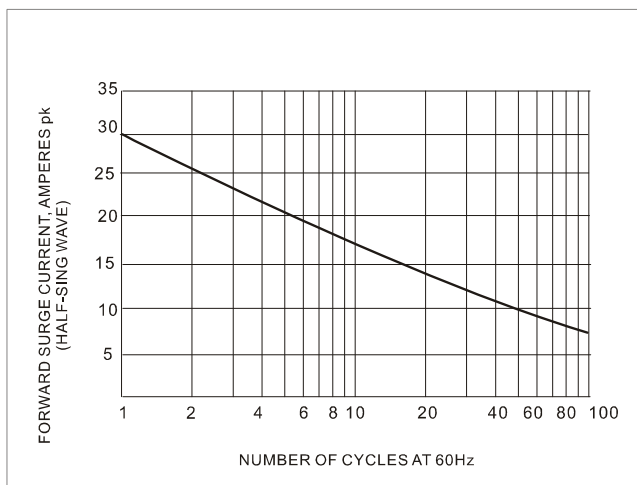
**Fig.2-Typical diode capacitance vs. Reverse voltage**



**Fig.3 FORWARD CURRENT DERATING CURVE**



**Fig.4-TYPICAL REVERSE CHARACTERISTIC**

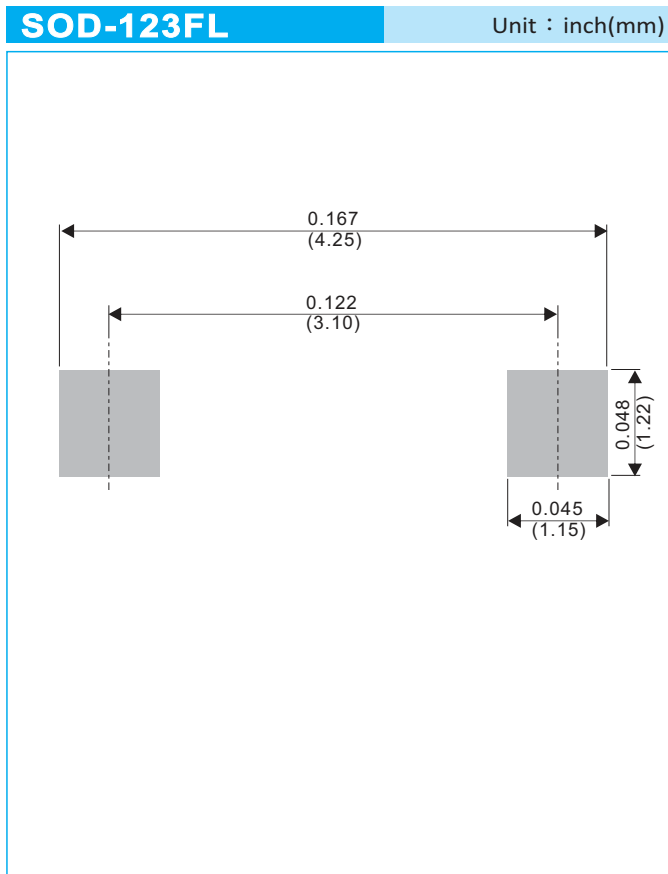


**FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT**



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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



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### Part No\_packing code\_Version

US1001FL\_R1\_00001

US1001FL\_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)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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