



ES1002FL ~ ES1006FL Series

Small Surface Mount Super Fast Diodes

Voltage 200~600 V **Current** 1 A

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-1 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.00054 ounces, 0.0155 grams

SOD-123FL-1



Cathode 1 Anode 2

Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	ES1002FL	ES1004FL	ES1006FL	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V_R	200	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1			A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	30			A
Maximum Forward Voltage at 1A $T_J = 25^\circ\text{C}$	V_F	0.95	1.25	1.7	V
Typical Forward Voltage at 1A $T_J = 125^\circ\text{C}$	V_F	0.78	0.86	1.05	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J = 25^\circ\text{C}$	I_R	0.5			uA
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J = 100^\circ\text{C}$	I_R	10			
Reverse recovery time $I_F=0.5\text{A}$ $I_R=1\text{A}$ $I_{RR}=0.25\text{A}$	T_{RR}	35			ns
Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4\text{V}$	C_J	18			pF
Typical Thermal Resistance <small>(Note 1)</small> <small>(Note 2)</small>	$R_{\theta JA}$ $R_{\theta JC}$	240 50			°C/W
Operating Junction Temperature Range	T_J	-55~150			°C
Storage Temperature Range	T_{STG}	-55~150			°C

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area.



ES1002FL ~ ES1006FL Series

TYPICAL CHARACTERISTIC CURVES

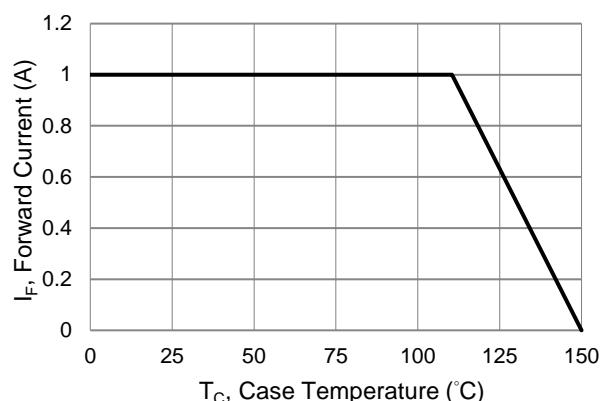


Fig.1 Forward Current Derating Curve

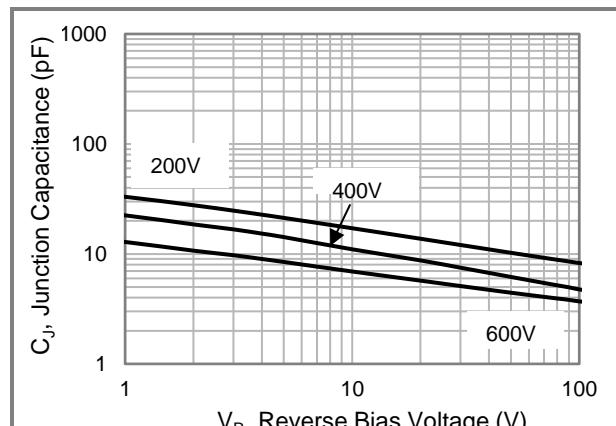


Fig.2 Typical Junction Capacitance

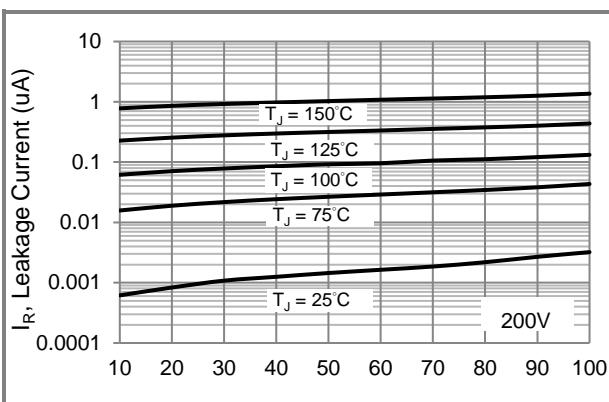


Fig.3 Typical Reverse Characteristics

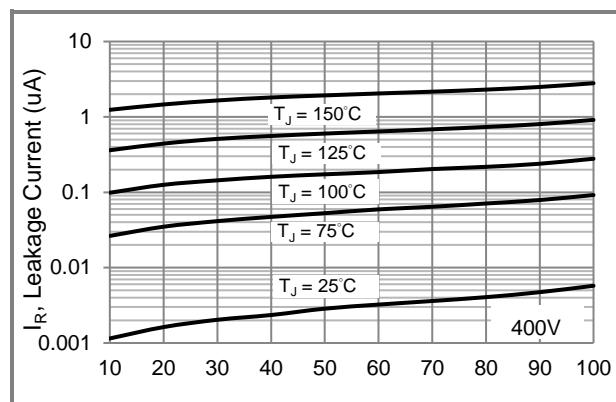


Fig.4 Typical Reverse Characteristics

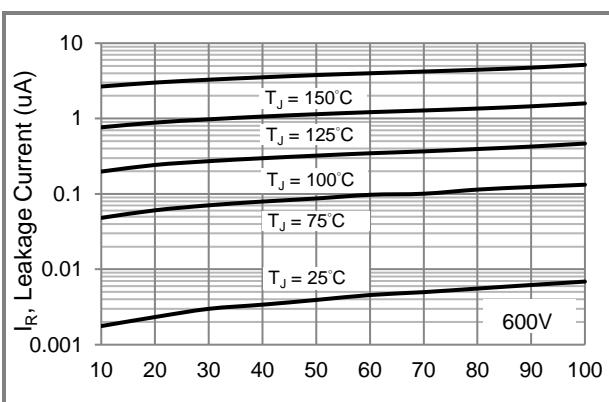


Fig.5 Typical Reverse Characteristics

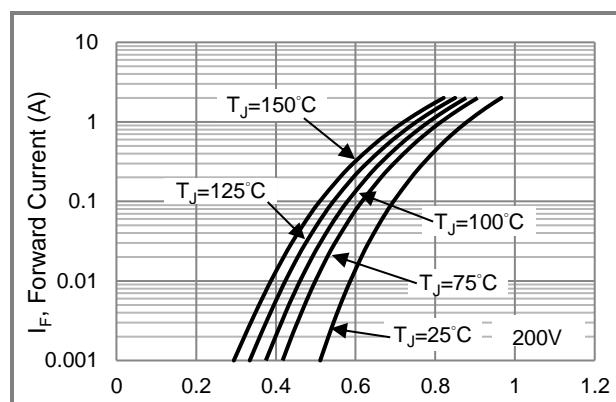


Fig.6 Typical Forward Characteristics

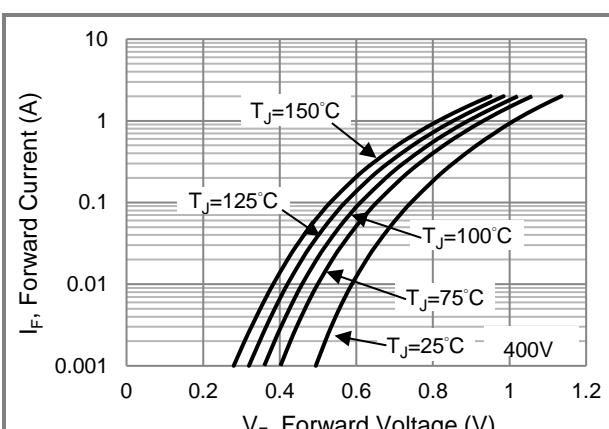


Fig.7 Typical Forward Characteristics

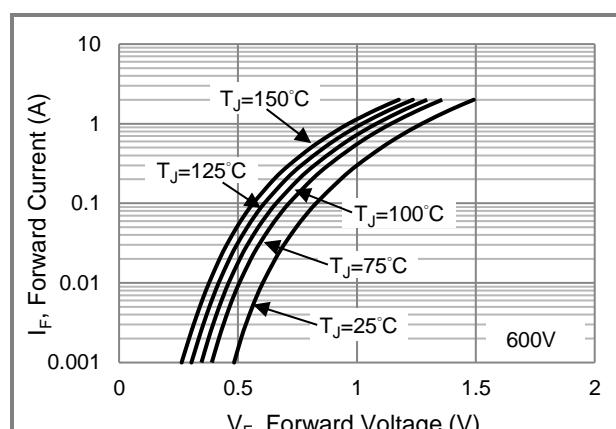


Fig.8 Typical Forward Characteristics

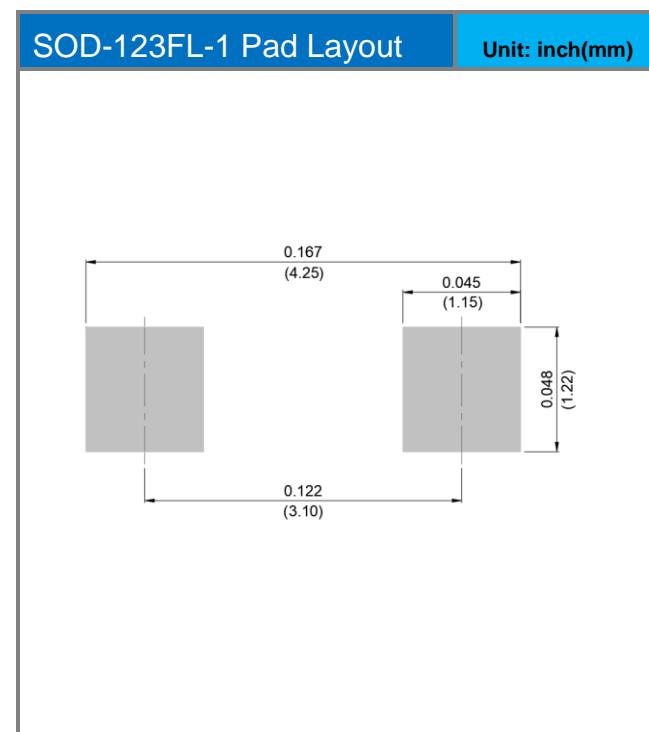
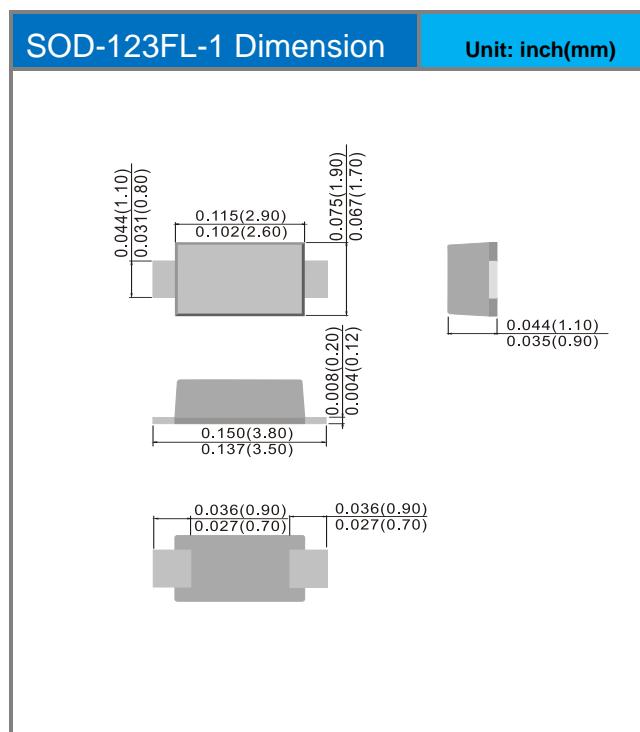


ES1002FL ~ ES1006FL Series

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
ES1002FL_R1_00101	SOD-123FL-1	3K pcs / 7" reel	E1D	Halogen free RoHS compliant
ES1002FL_R2_00101	SOD-123FL-1	10K pcs / 13" reel	E1D	Halogen free RoHS compliant
ES1004FL_R1_00101	SOD-123FL-1	3K pcs / 7" reel	E1G	Halogen free RoHS compliant
ES1004FL_R2_00101	SOD-123FL-1	10K pcs / 13" reel	E1G	Halogen free RoHS compliant
ES1006FL_R1_00101	SOD-123FL-1	3K pcs / 7" reel	E1J	Halogen free RoHS compliant
ES1006FL_R1_00101	SOD-123FL-1	10K pcs / 13" reel	E1J	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout





ES1002FL ~ ES1006FL Series

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.