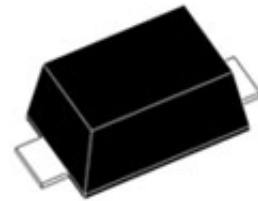


**SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS**  
**Reverse Voltage – 50 to 600 Volts**  
**Forward Current – 1.0 Ampere**

## Features

- Glass passivated junction chip
- For surface mounted application
- Low profile package
- Built-in strain relief
- Ideal for automated placement
- Easy pick and place
- Superfast recovery time for high efficiency
- Glass passivated chip junction
- High temperature soldering:  
260°C/10 seconds at terminals
- Plastic material used carries Underwriters
- Laboratory Classification 94V-0
- AEC-Q101 qualified (Automotive grade with suffix "Q".)



## Mechanical Data

- Case: JEDEC SOD-123FL molded plastic
- Terminals: Pure tin plated, lead free.
- Polarity: Indicated by cathode band
- Packing: 12mm tape per EIA STD RS-481

## Absolute Maximum Ratings and 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%.

	Symbols	ESS1A	ESS1B	ESS1C	ESS1D	ESS1E	ESS1G	ESS1J	Units
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum average forward rectified current $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Maximum forward voltage at 1.0A	$V_F$	0.95				1.30		1.70	V
Maximum reverse current at $T_A = 25^\circ\text{C}$	$I_R$	5.0							uA
at rated DC blocking voltage at $T_A = 100^\circ\text{C}$	$I_R$	200							
Typical Junction Capacitance at $V_R = 4.0\text{ V}$ , $f = 1\text{ MHz}$	$C_J$	20							pF
Typical Reverse Recovery Time at $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	35							ns
Typical thermal resistance (Note 1)	$R_{\theta JL}$ $R_{\theta JA}$	30 75							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_S$	-55 to +150							$^\circ\text{C}$

Note: 1.8mm<sup>2</sup> (0.013mm thick) land areas.

FIG.1 TYPICAL JUNCTION CAPACITANCE

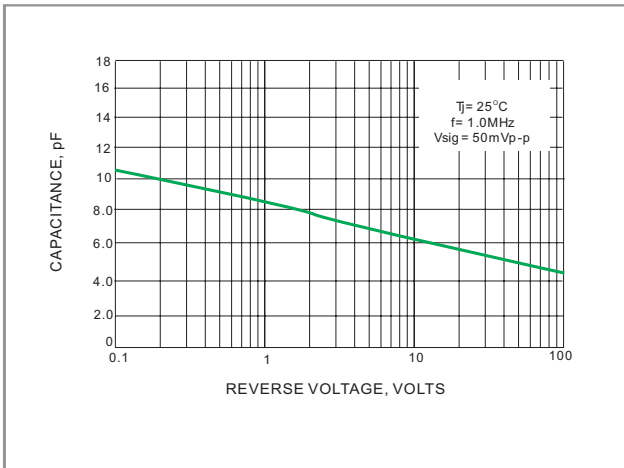


FIG.2 MAXIMUM AVERAGE FORWARD CURRENT DERATING

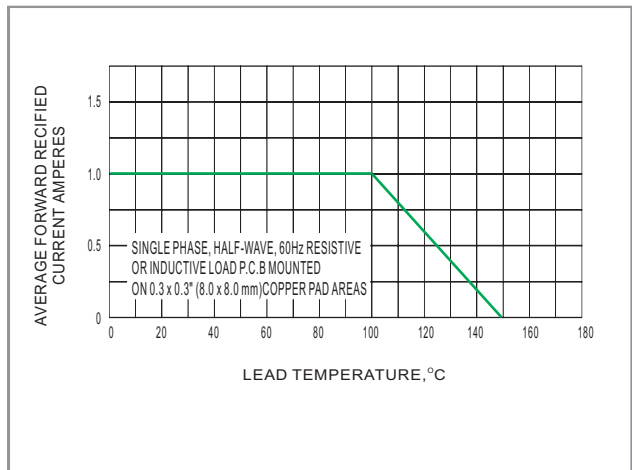


FIG.3 TYPICAL REVERSE CHARACTERISTICS

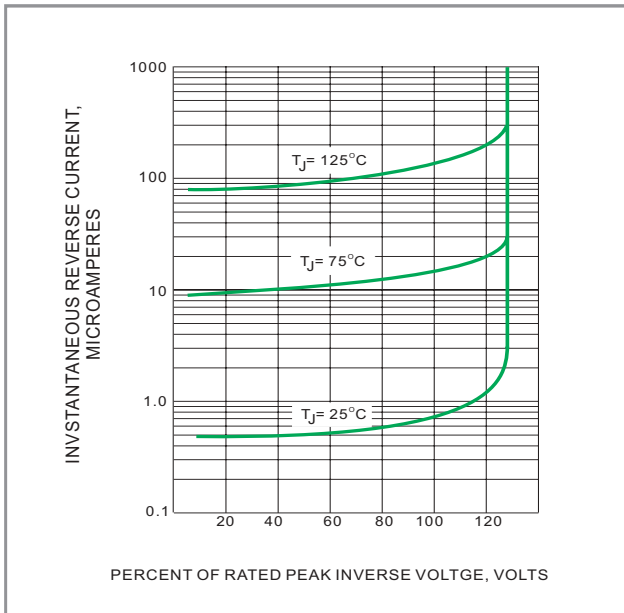


FIG.4 TYPICAL FORWARD CHARACTERISTICS

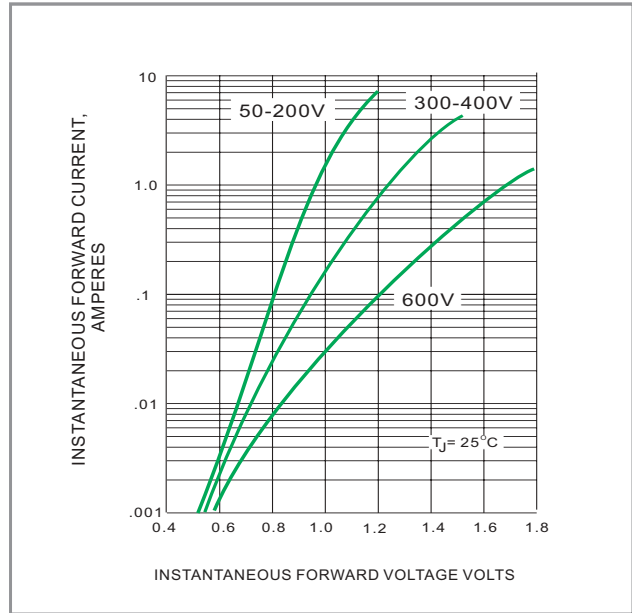
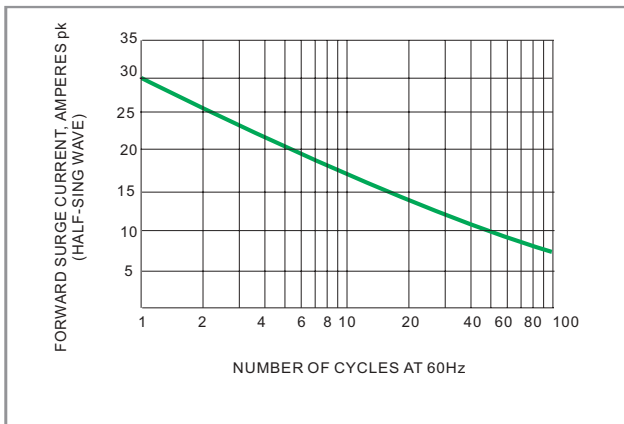
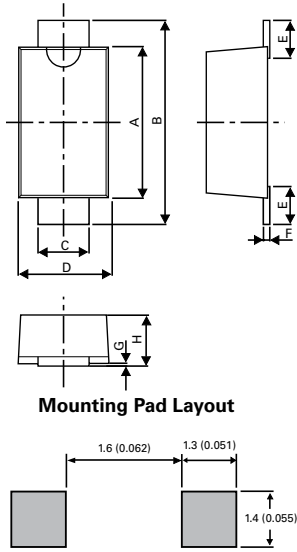


FIG.5 MAXIMUM NON-REPEITIVE SURGE CURRENT



**Dimensions**

SOD-123FL Package

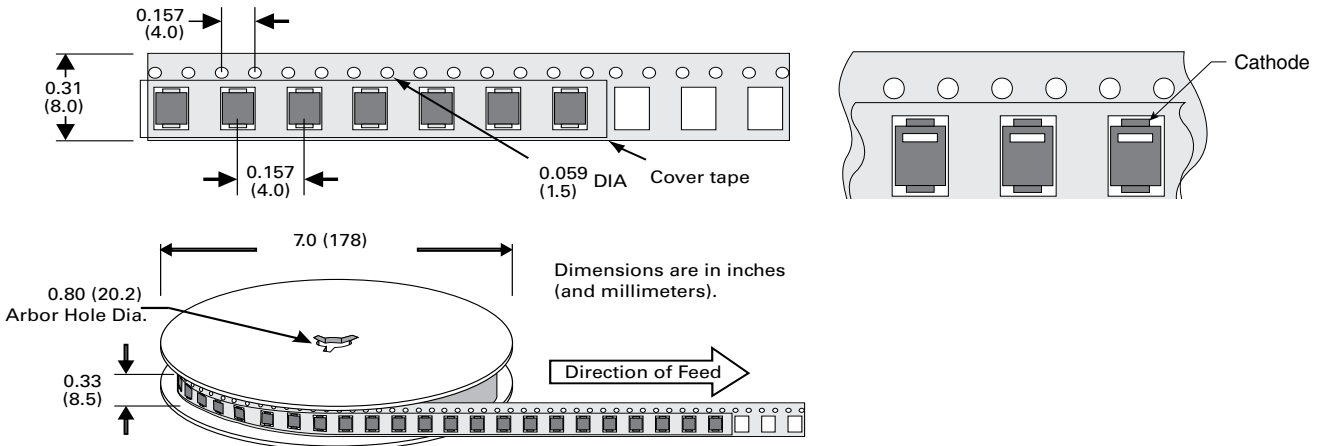


Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	2.50	3.20	0.0984	0.1259
B	3.40	3.90	0.1339	0.1535
C	0.70	1.35	0.0275	0.0531
D	1.50	2.00	0.0591	0.0787
E	0.35	0.90	0.0138	0.0354
F	0.05	0.26	0.0020	0.0102
G	0.00	0.10	0.000	0.0039
H	0.70	1.35	0.0275	0.0531

**Packaging Options**

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
ESS1X	SOD-123FL	3000	Tape & Reel – 8mm tape/7" reel	EIA RS-481

**Tape and Reel Specification**



**Note:** Devices are packde in accordance with EIA standard RS-481-Aand specification given above.