1A, 200V - 600V Surface Mount Super Fast Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low profile package
- Low power loss, high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

SOD-123FL

MECHANICALW DATA

Case: SOD-123FL

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

Polarity: Indicated by cathode band

Weight: 0.016 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)					
PARAMETER	SYMBOL	ES1DFL	ES1GFL	ES1JFL	UNIT
Marking Code		EDF	EGF	EJF	
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	V
Maximum RMS voltage	V_{RMS}	140	280	420	V
Maximum DC blocking voltage	V_{DC}	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 instantaneous forward voltage (Note 1) @ 1 A	V_F	1.00	1.30	1.70	V
Maximum reverse current @ rated V_R T_J=25°C	I_R	5			μA
T_J=125°C		100			
Typical junction capacitance (Note 2)	C_J	8			pF
Maximum reverse recovery time (Note 3)	t_{rr}	35			ns
Typical thermal resistance	$R_{\theta JL}$ $R_{\theta JA}$	35 85			°C/W
Operating junction temperature range	T_J	- 55 to +150			°C
Storage temperature range	T_{STG}	- 55 to +150			°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Measured at 1 MHz and Applied VR=4.0 Volts.

Note 3: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
ES1XFL (Note 1)	RV	G	SOD-123FL	3,000 / 7" Plastic reel
	RQ		SOD-123FL	10,000 / 13" Paper reel

Note 1: "x" defines voltage from 200V (ES1DFL) to 600V (ES1JFL)

Note 2: Whole series with green compound (halogen-free)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
ES1JFL RVG	ES1JFL	RV	G	Green compound

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

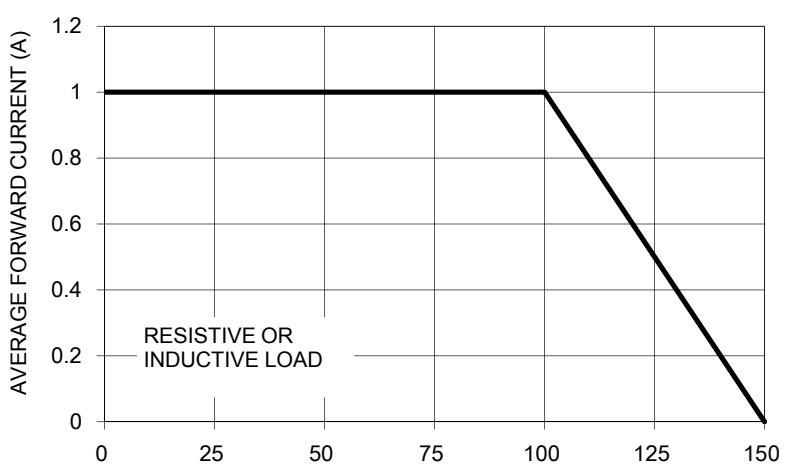


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

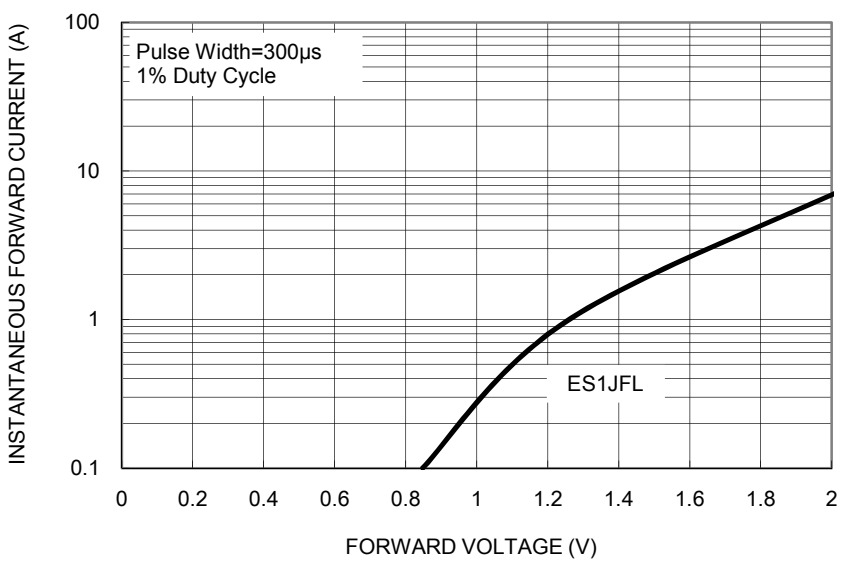


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

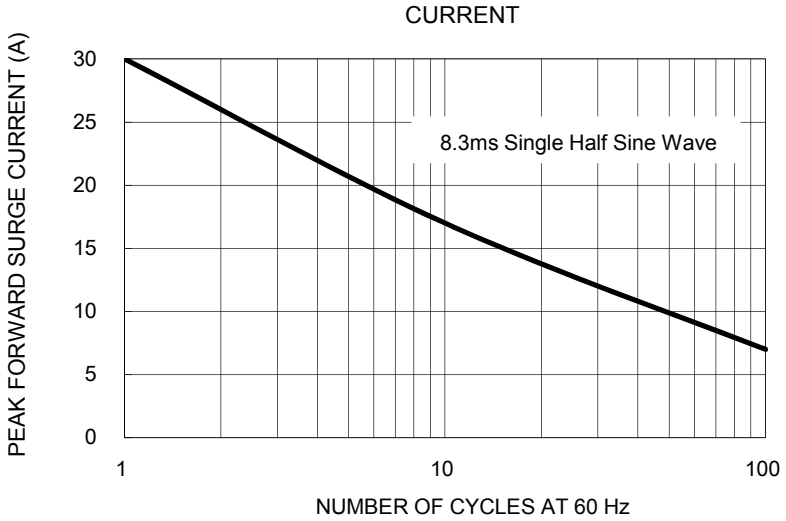


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

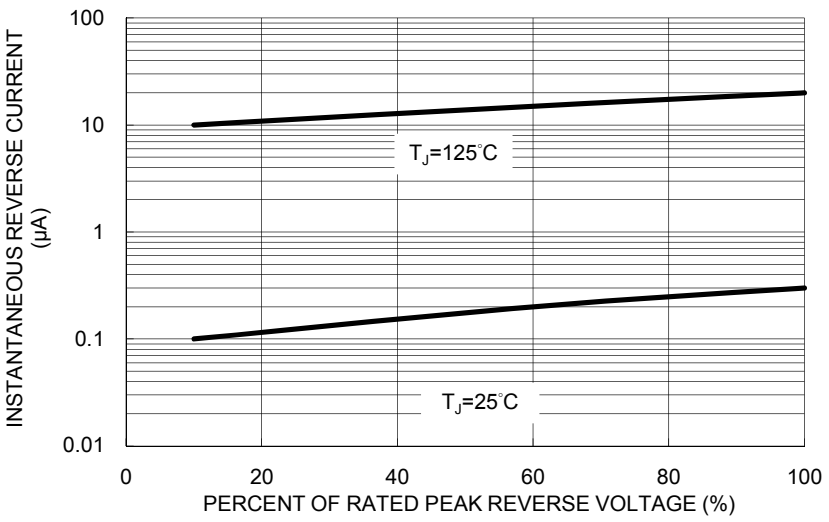


FIG. 5 TYPICAL JUNCTION CAPACITANCE

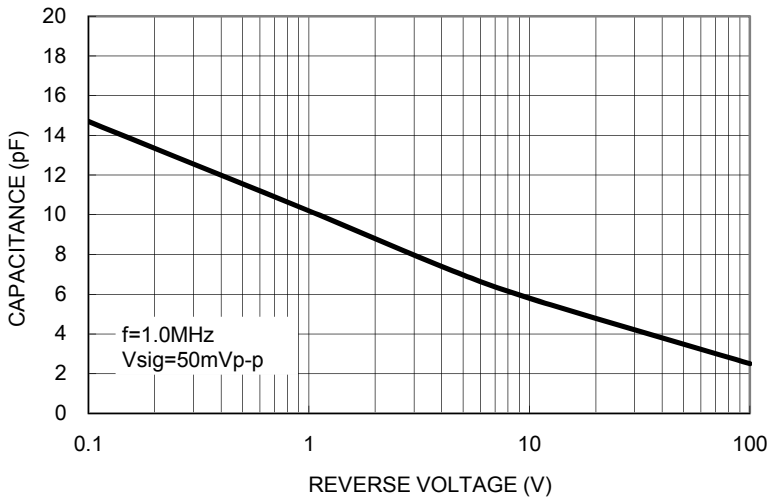
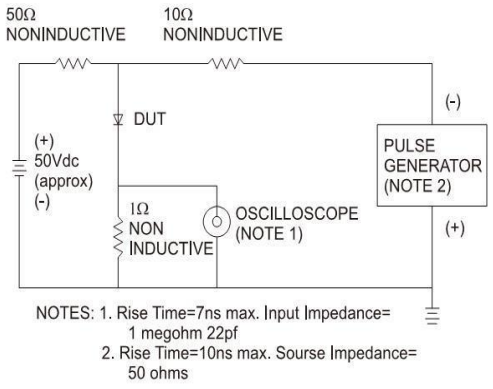
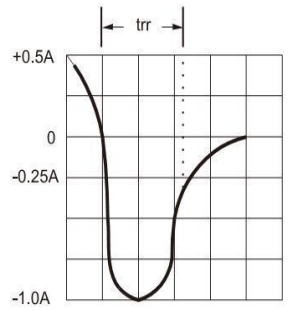


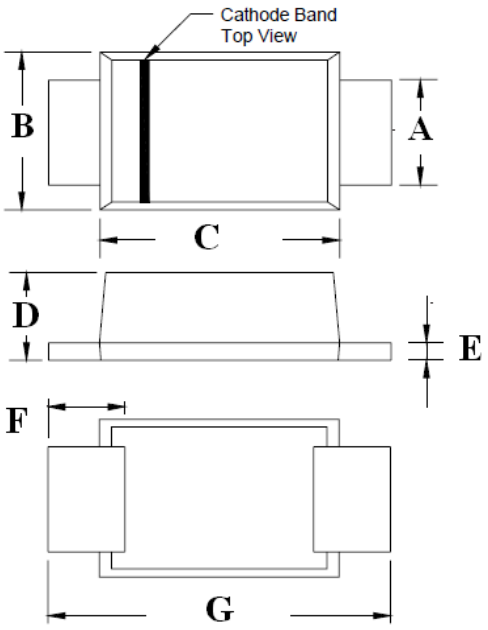
FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





PACKAGE OUTLINE DIMENSIONS

SOD-123FL



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.80	1.10	0.031	0.043
B	1.70	2.00	0.067	0.079
C	2.60	3.10	0.102	0.122
D	0.90	1.10	0.035	0.043
E	0.10	0.25	0.004	0.010
F	0.43	0.90	0.017	0.035
G	3.50	3.90	0.138	0.154

MARKING DIAGRAM

P/N = Marking Code
G = Green compound Code
YW = Date Code
F = Factory Code

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