

## Small Signal Product

**1A, 100V - 1000V Surface Mount Rectifiers**
**FEATURES**

- Glass passivated devices
- Ideal for surface mounted applications
- Low leakage current
- Metallurgical bonded construction
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21
- Packing code with suffix "G" means green compound (halogen-free)


**SOD-123FL**

**MECHANICAL DATA**

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Weight: 21 ± 0.5mg

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)								
PARAMETER	SYMBOL	TSOD1F	TSOD1F	TSOD1F	TSOD1F	TSOD1F	TSOD1F	UNIT
		1HM	2HM	4HM	6HM	8HM	10HM	
Device marking code		FB	FD	FG	FJ	FK	FM	
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	100	200	400	600	800	1000	V
Maximum average forward rectified current (Note 1)	I <sub>(AV)</sub>	1						A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load	I <sub>FSM</sub>	25						A
Maximum instantaneous forward voltage at 1A (Note 2)	V <sub>F</sub>	1.3						V
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	5						μA
		50						
Maximum reverse recovery time (Note 3)	t <sub>rr</sub>	150			250	500		ns
Typical junction capacitance (Note 4)	C <sub>J</sub>	4						pF
Typical thermal resistance (Note 5)	R <sub>θJA</sub>	180						K/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150						°C

Note 1: Averaged over any 20ms period.

Note 2: Pulse test: 300μs pulse width, 1% duty cycle.

 Note 3: Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, I<sub>rr</sub>=0.25A

Note 4: Measured at 1.0MHz and applied average voltage of 4.0V DC.

 Note 5: Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.

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**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  unless otherwise noted)

Fig. 1 FORWARD DERATING CURVE

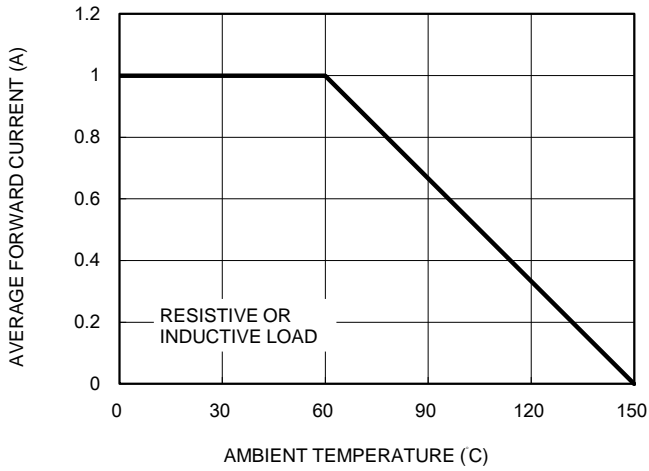


Fig. 2 TYPICAL FORWARD CHARACTERISTICS

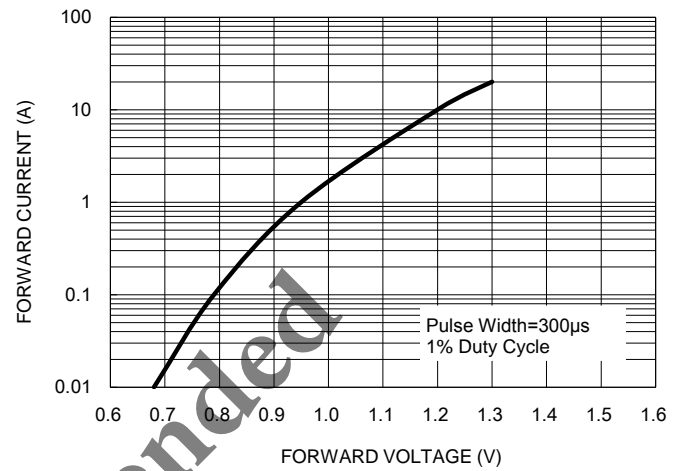


Fig. 3 TYPICAL REVERSE CHARACTERISTICS

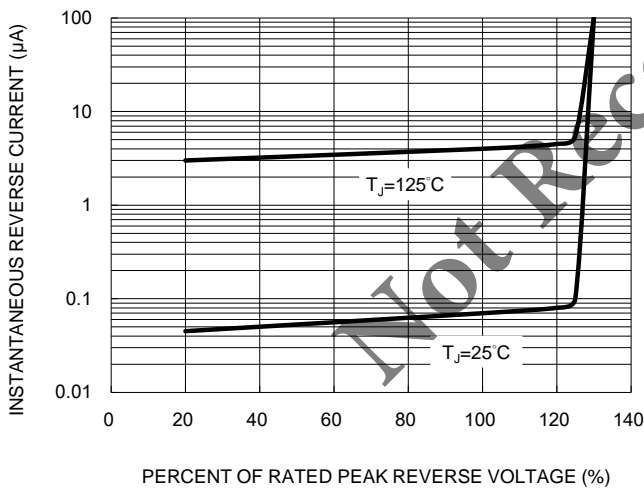
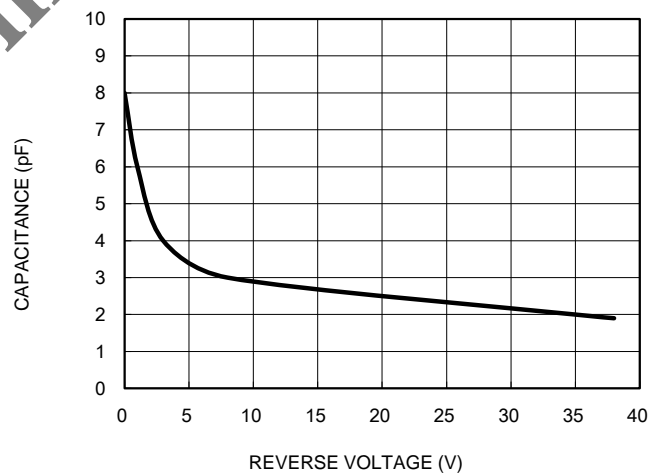


Fig. 4 TYPICAL JUNCTION CAPACITANCE



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**ORDERING INFORMATION**

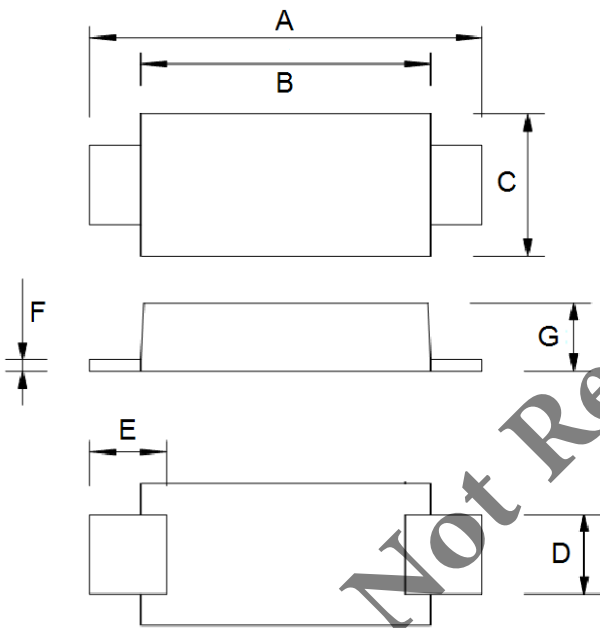
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSOD1FxHM (Note 1, 2)	R4	G	SOD-123FL	10,000 / 13" reel

Note 1: "x" defines voltage from 100V (TSOD1F1HM) to 1000V (TSOD1F10HM)

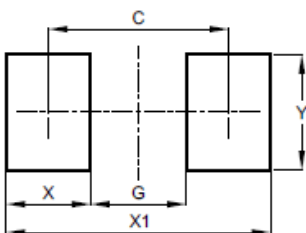
Note 2: Whole series with green compound

**EXAMPLE**

PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSOD1F1HM R4G	TSOD1F1HM	R4	G	Green compound

**PACKAGE OUTLINE DIMENSIONS**
**SOD-123FL**


DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.45	3.95	0.136	0.156
B	2.60	3.10	0.102	0.122
C	1.70	2.10	0.067	0.083
D	0.80	1.15	0.031	0.045
E	0.30	0.90	0.012	0.035
F	0.10	0.30	0.004	0.012
G	0.88	1.35	0.035	0.053

**SUGGEST PAD LAYOUT**


DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
C	4.00	0.157
G	3.00	0.118
X	1.20	0.047
X1	4.90	0.193
Y	1.20	0.047

**Not Recommended**

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