

SOD-123F

Features

- High current capability
- High surge current capability
- Low reverse current
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Ordering Information

Part No.	Package	Packing
SFM10xFL	SOD-123F	3000 / Tape & Reel

Device P/N

Part Number	Remark
SFM10xFL	General
SFM10xFL-H	Halogen Free
SFM10xFL-Q	Automotive

Primary Characteristics

I_F	1	A
V_{RRM}	50~600	V
I_{FSM}	20	A
V_F	0.98, 1.30, 1.70	V
T_J max	150	°C

Mechanical Data

- Cases: SOD-123F
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.035 grams (approximate)

Maximum Ratings (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SFM 101FL	SFM 102FL	SFM 103FL	SFM 104FL	SFM 105FL	SFM 106FL	SFM 108FL	UNIT
Maximum repetitive 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	I _F	1.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	20.0							A
Maximum Instantaneous Forward Voltage IF=1A @ 25°C	V _F	1.0				1.3		1.7	V
Maximum DC Reverse Current @ TA=25°C at Rated DC Blocking Voltage @ TA=100°C	I _R	5 100							uA
Maximum Reverse Recovery Time(NOTE2)	T _{rr}	35.0							ns
Typical Junction Capacitance(NOTE1)	C _j	30							pF
Typical Thermal Resistance	R _{θJA}	180							°C/W
Operating Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C
Marking Code		E1	E2	E3	E4	E5	E6	E8	

NOTES:

- 1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC
- 2.Measured with IF=0.5A, IR=1A, IRR=0.25A

Rating and Characteristics Curves

FIG. 1-Typical Forward Current Derating Curve

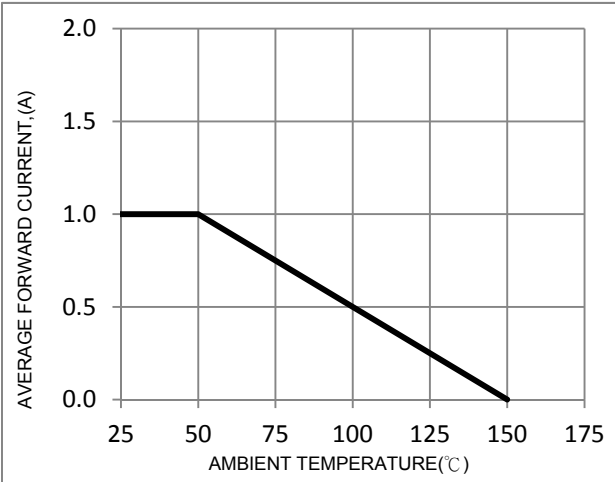


FIG. 2-Typical Forward Characteristics

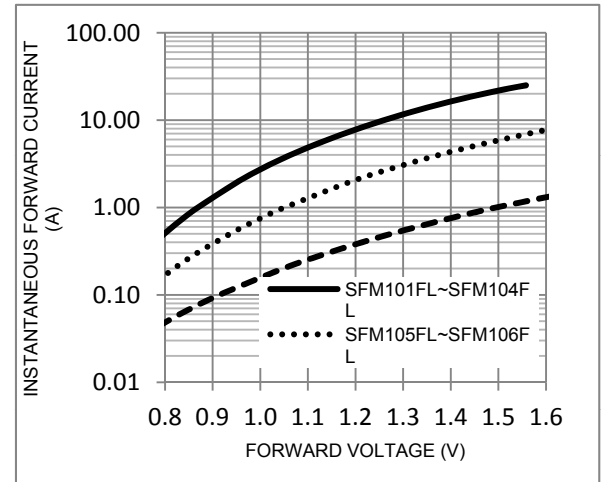


FIG. 3-Maximum Non-Repetitive Forward Surge Current

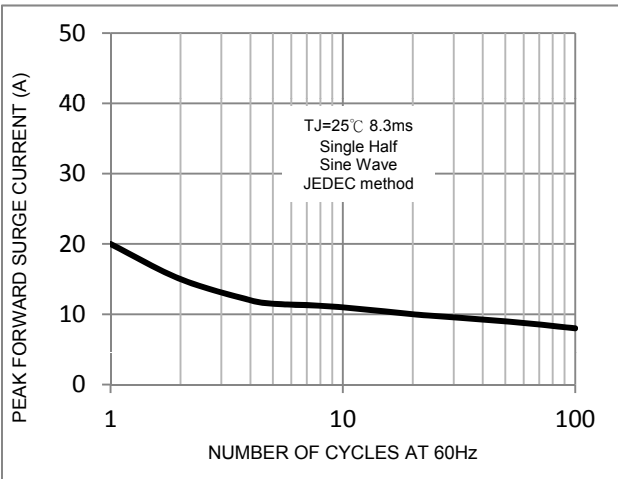


FIG. 4-Typical Reverse Characteristics

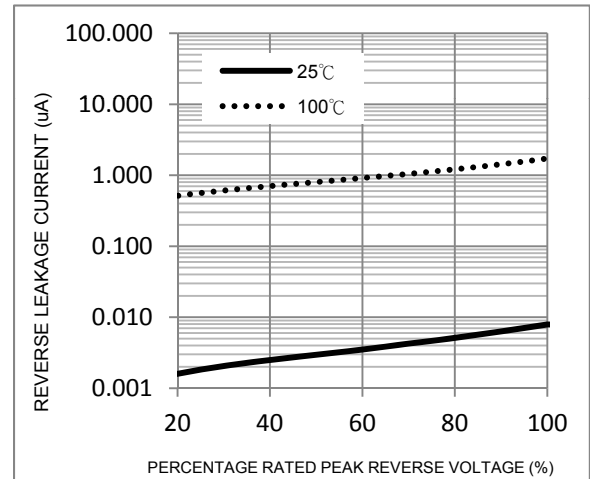


FIG. 5-Typical Junction Capacitance

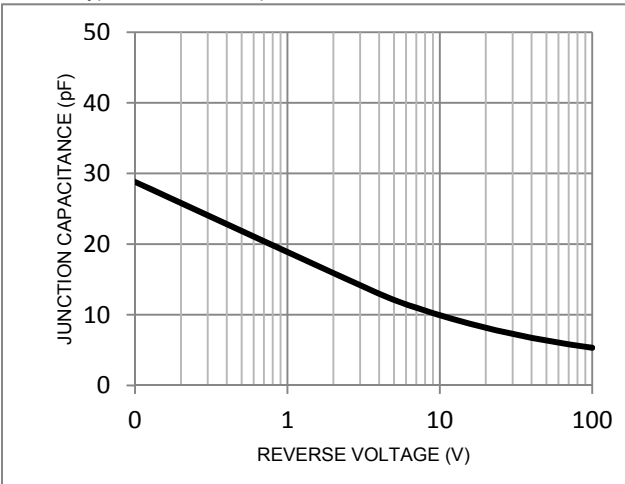
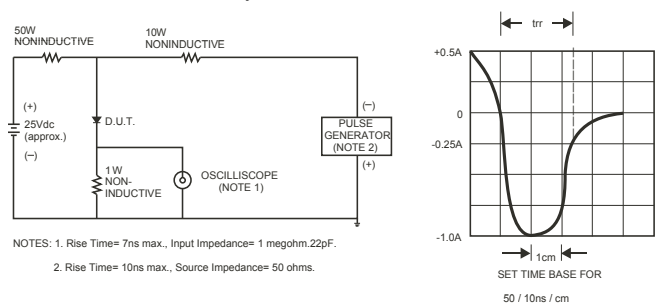
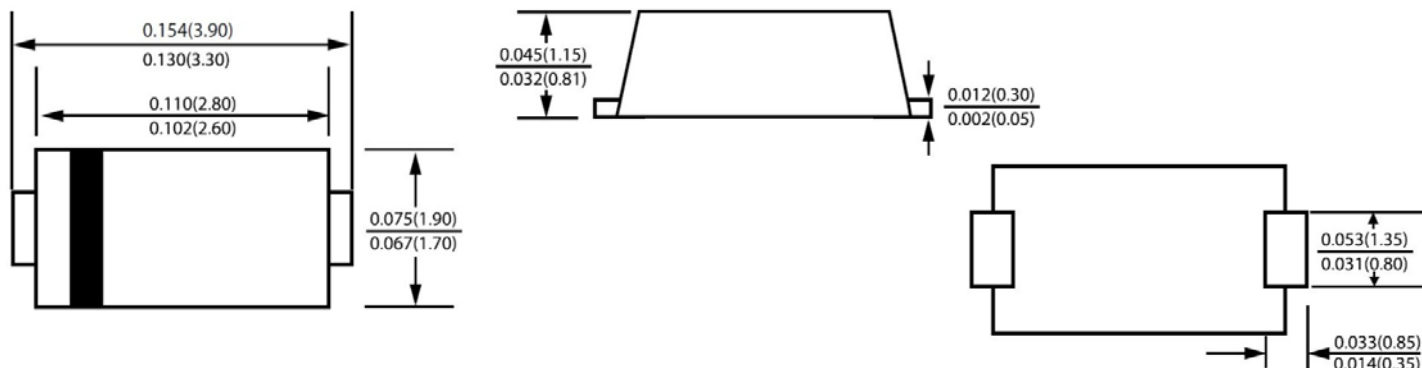


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit



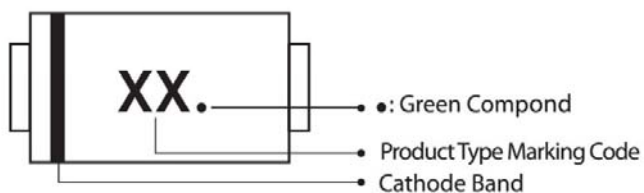
Package Outline Dimensions



SOD-123F

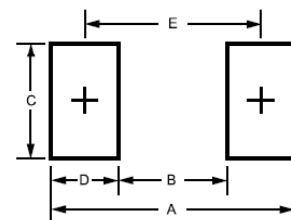
Dimensions in inches and (millimeters)

Marking Information



Suggested Pad Layout

Outline	SOD-123F (mm)
Dimension	
A	4.20
B	1.52
C	1.80
D	1.34
E	2.86



Tap & Reel Specification

ITEM	SYMBOL	SOD-123F (mm)
Carrier width	A	3±0.1
Carrier length	B	5.6±0.1
Carrier depth	C	1.2±0.1
Sprocket hole	d	1.50±0.1
Reel outside diameter	D	330±2.0
Reel inner diameter	D1	13.5±1
Feed Hole diameter	D2	50 (min.)
Sprocket hole position	E	1.75±0.1
Punch hole position	F	5.5±0.05
Punch hole pitch	P	4.0±0.1
Sprocket hole pitch	P0	4.0±0.05
Embossment center	P1	2.0±0.05
Overall tape thickness	T	0.25±0.05
Tape width	W	12.0±0.2
Reel width	W1	18.4 (max)

