

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

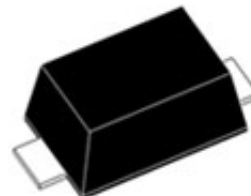
### VOLTAGE 20 TO 200 Volt CURRENT 1Ampere

#### FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology

#### MECHANICAL DATA

- Case: JEDEC SOD-123FL molded plastic body
- Terminals : Solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	SMD 120PL	SMD 140PL	SMD 160PL	SMD 180PL	SMD 1100PL	SMD 1150PL	SMD 1200PL	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	40							A
Max Instantaneous Forward Voltage at 1 A	$V_F$	0.55		0.70	0.80		0.86		V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$	$I_R$	10 500			5 300				$\mu\text{A}$
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	50		19					pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	85							$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_j$	-55 ~ +150			-55 ~ +175				$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 ~ +150			-55 ~ +175				$^\circ\text{C}$

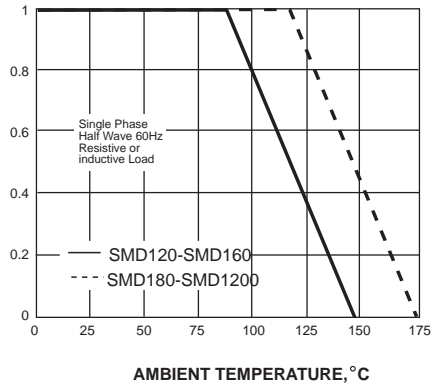
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

RATING AND CHARACTERISTIC CURVES

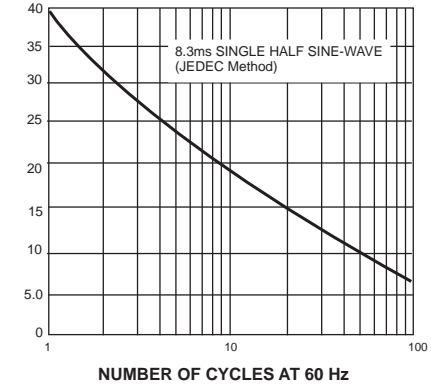
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



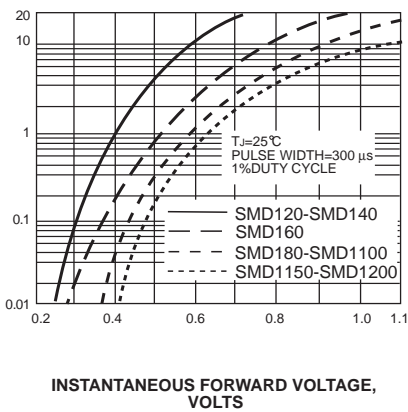
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



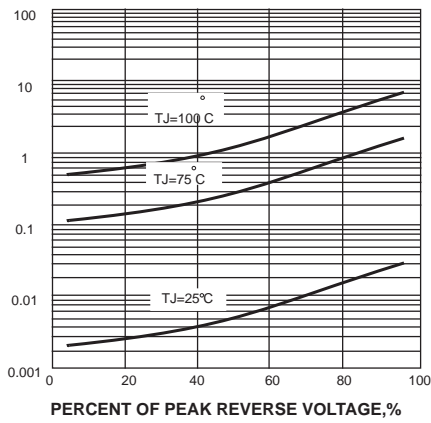
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



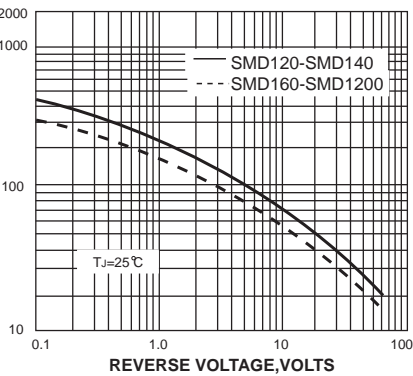
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



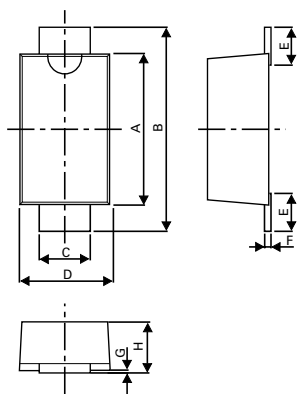
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE

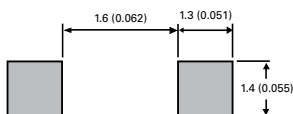


### Dimensions

SOD-123FL Package



Mounting Pad Layout

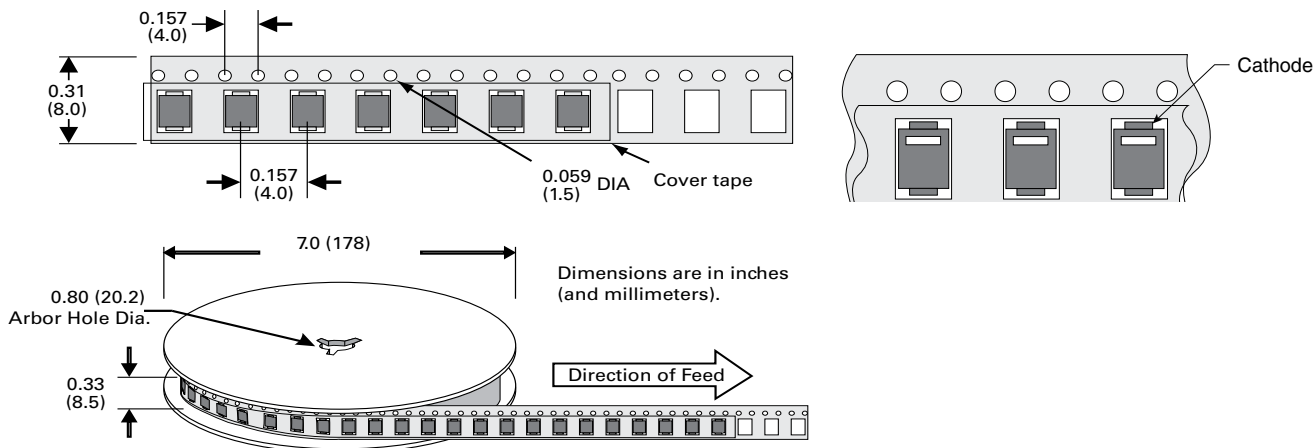


Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A	2.50	2.90	0.0984	0.1142
B	3.40	3.90	0.1339	0.1535
C	0.70	1.20	0.0275	0.0472
D	1.50	2.00	0.0591	0.0787
E	0.35	0.90	0.0138	0.0354
F	0.05	0.26	0.0020	0.0102
G	0.00	0.10	0.000	0.0039
H	0.90	1.35	0.0354	0.0531

### Packaging Options

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

### Tape and Reel Specication



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