

# SFW03H60S

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 60 V

Forward Current - 3 A

### Features

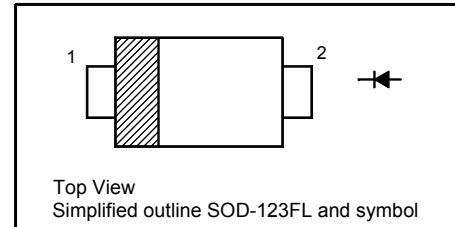
- Low forward voltage drop
- Easy pick and place
- Built-in strain relief

### Applications

- Low voltage rectification
- High efficiency DC-to-DC conversion
- Switch mode power supply
- Freewheeling application

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load.

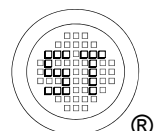
For capacitive load, derate by 20%

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	60	V
Maximum RMS Voltage	$V_{RMS}$	42	V
Maximum DC Blocking Voltage	$V_{DC}$	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3	A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load(JEDEC methode)	$I_{FSM}$	60	A
Power Dissipation	$P_{tot}$	700	mW
Operating Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{stg}$	- 55 to + 150	°C

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	178	°C/W

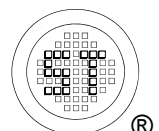
<sup>1)</sup> Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 1 \text{ mA}$	$V_{(BR)R}$	60	-	-	V
Forward Voltage at $I_F = 0.1 \text{ A}$ at $I_F = 0.5 \text{ A}$ at $I_F = 1 \text{ A}$ at $I_F = 2 \text{ A}$ at $I_F = 3 \text{ A}$	$V_F$	- - - - -	- - - - -	450 510 540 590 650	mV
Reverse Current at $V_R = 10 \text{ V}$ at $V_R = 40 \text{ V}$ at $V_R = 60 \text{ V}$	$I_R$	- - -	- - -	10 40 50	$\mu\text{A}$
Diode Capacitance at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$ at $V_R = 10 \text{ V}$ , $f = 1 \text{ MHz}$	$C_d$	- -	580 180	- -	pF
Reverse Recovery Time Step Recovery at $I_F = 0.5 \text{ A}$ , $I_R = 1 \text{ A}$ , $I_{rr} = 0.25 \text{ A}$	$t_{rr}$	-	17	-	ns



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## Electrical Characteristics Curves

Fig 1. Reverse Characteristics Curve

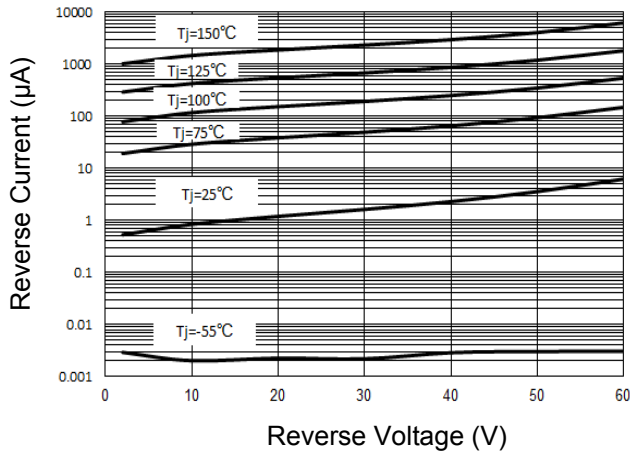


Fig 2. Forward Characteristics Curve

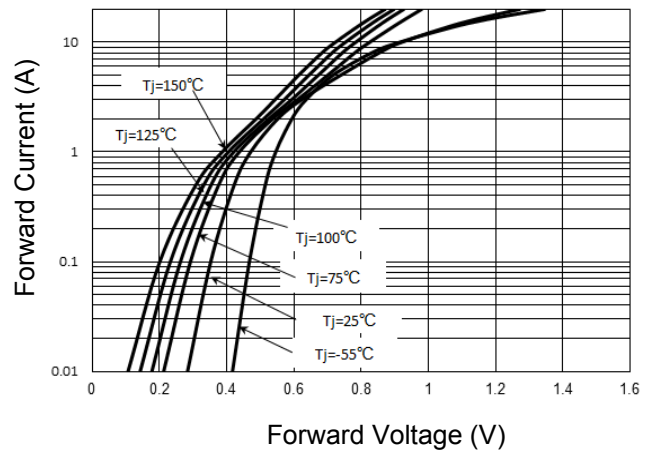


Fig 3. Junction Capacitance

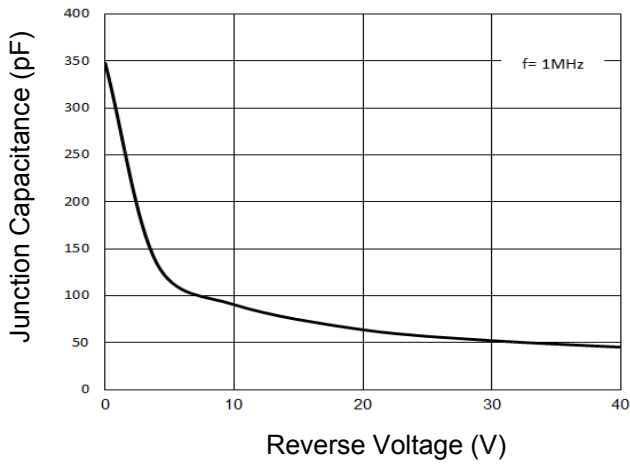
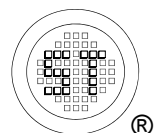
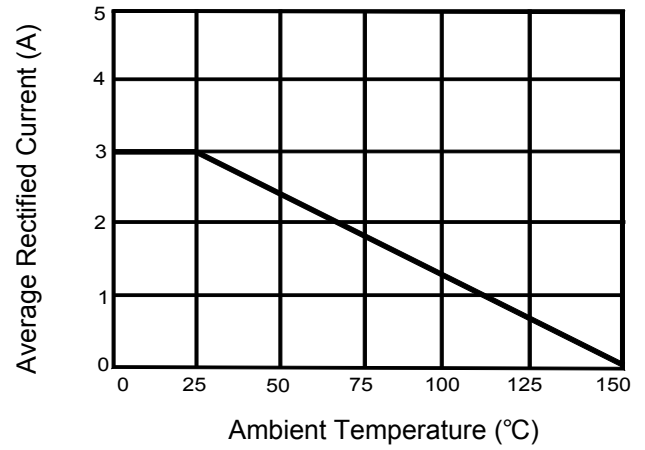


Fig 4. Average Rectified Current Derating Curve

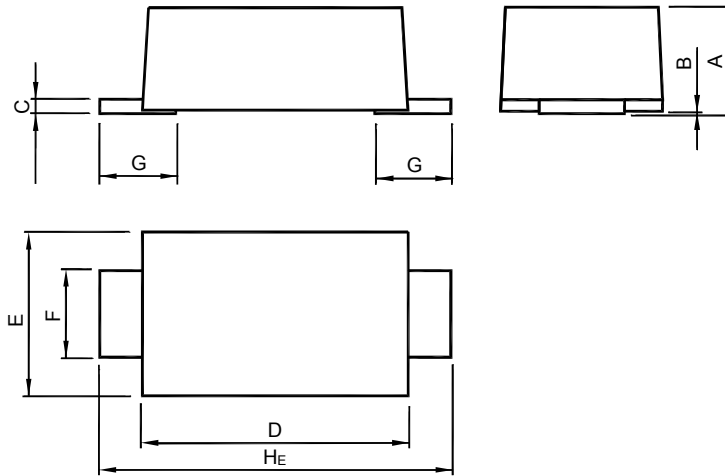


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## PACKAGE OUTLINE

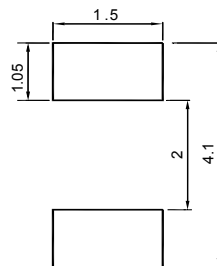
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT	A	B	C	D	E	F	G	H <sub>E</sub>
mm	1.08 0.88	0.1 0	0.2 0.1	2.9 2.7	1.9 1.7	1.1 0.8	0.85 0.45	3.9 3.5

### Recommended Soldering Footprint



### Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123FL	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

### Marking information

" TT " = Part No.  
 " III " = Cathode line  
 Font type: Arial

