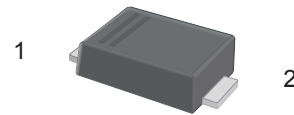


## Surface Mount Schottky Barrier Rectifier

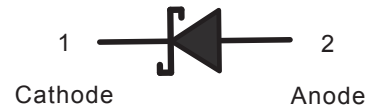
### FEATURES

- 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

### SOD-123FL



### CIRCUIT DIAGRAM



### MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

### MARKING

Type number	Marking code
DS12W	S12
DS14W	S14
DS16W	S16
DS18W	S18
DS110W	S110
DS112W	S112
DS115W	S115
DS120W	S120

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

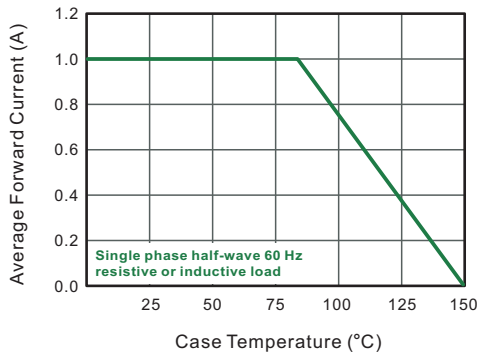
Parameter	Symbols	DS 12W	DS 14W	DS 16W	DS 18W	DS 110W	DS 112W	DS 115W	DS 120W	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	120	150	200	V
Maximum Average 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				30				A
Max Instantaneous Forward Voltage at 1 A	$V_F$	0.55		0.70		0.85		0.90		V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$	$I_R$	0.3 10				0.2 5		0.1 2		mA
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	110		80						pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	100								°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +150								°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150								°C

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

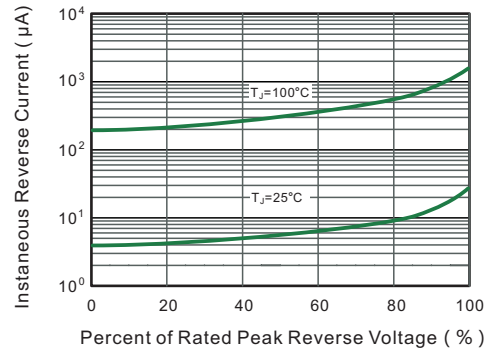
( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

## TYPICAL CHARACTERISTICS

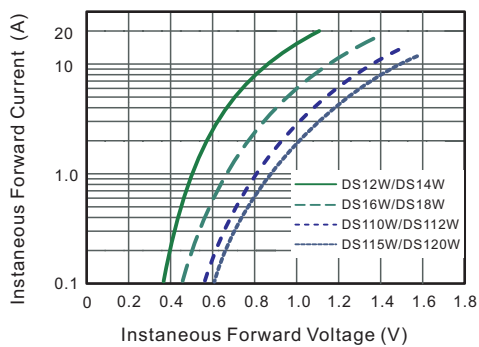
**Fig.1 Forward Current Derating Curve**



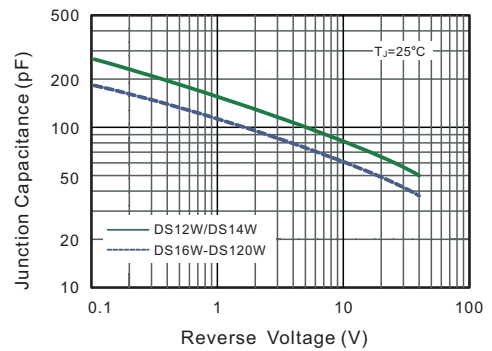
**Fig.2 Typical Reverse Characteristics**



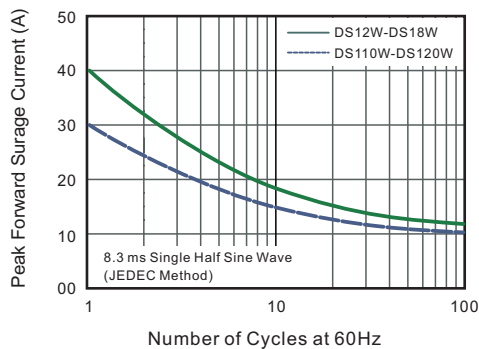
**Fig.3 Typical Forward Characteristic**



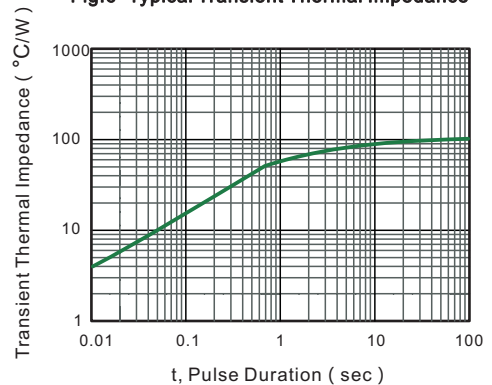
**Fig.4 Typical Junction Capacitance**



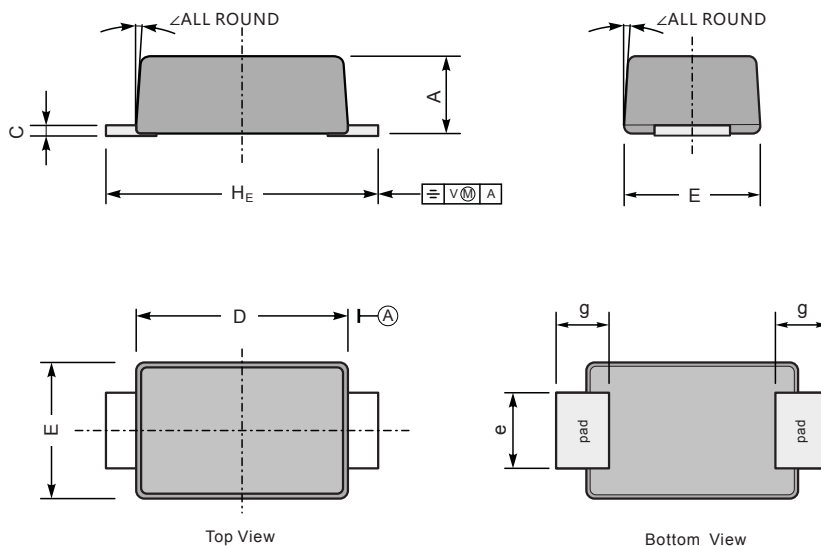
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.6- Typical Transient Thermal Impedance**



## SOD-123FL PACKAGE OUTLINE DRAWING



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.10	0.035	0.043
C	0.12	0.20	0.005	0.008
D	2.60	2.90	0.102	0.114
E	1.70	1.90	0.067	0.075
e	0.80	1.10	0.031	0.043
g	0.70	0.90	0.028	0.035
$H_E$	3.50	3.80	0.138	0.150
$\angle$	7°		7°	