

# DS12W~DS120W

ROHS

## Surface Mount Schottky Barrier Rectifier



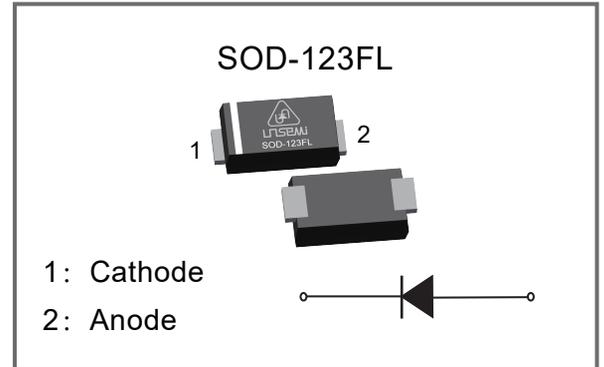
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### Features

- ◆ 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

### Mechanical Data

- ◆ Case: SOD-123FL
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Approx. Weight : 15mg/0.00048oz
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026



### 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	Symbol	DS 12W	DS 14W	DS 16W	DS 18W	DS 110W	DS 112W	DS 115W	DS 120W	Units
Maximum Repetitive Peak Reverse Voltage	VRRM	20	40	60	80	100	120	150	200	V
Maximum RMS Voltage	VRMS	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	VDC	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	IF(AV)	1.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	IFSM	25								A
Max Instantaneous Forward Voltage at 1A	VF	0.55	0.70		0.85		0.90		V	
Maximum DC Reverse Current at Rated DC Reverse Voltage	Ta=25°C	IR	0.3			0.2	0.1		mA	
	Ta=100°C	IR	10			5.0	2.0			
Typical Junction Capacitance <sup>(1)</sup>	Cj	110	80							pF
Typical Thermal Resistance <sup>(2)</sup>	R <sub>θJA</sub>	100								°C/W
Operating Junction Temperature Range	TJ	-55 ~ +125								°C
Storage Temperature Range	Tstg	-55 ~ +150								°C

Note:(1) Measured at 1 MHz and applied reverse voltage of 4VDC.

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

Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

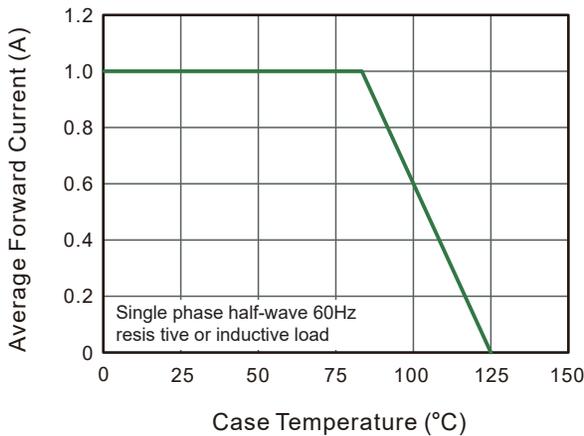


Fig. 2 Typical Reverse Characteristics

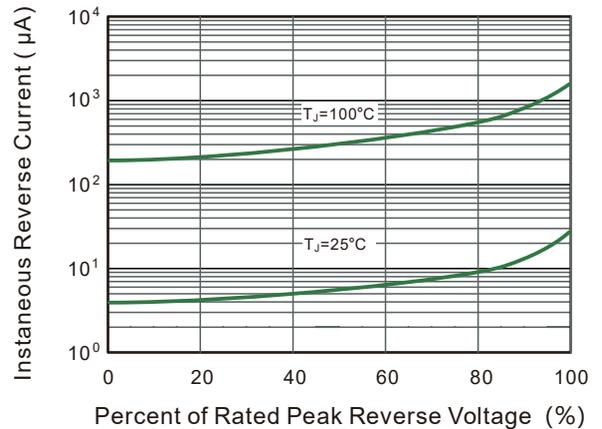


Fig.3 Typical Forward Characteristic

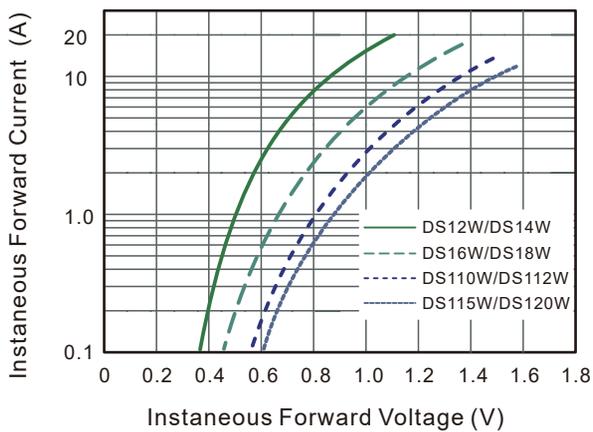


Fig. 4 Typical Junction Capacitance

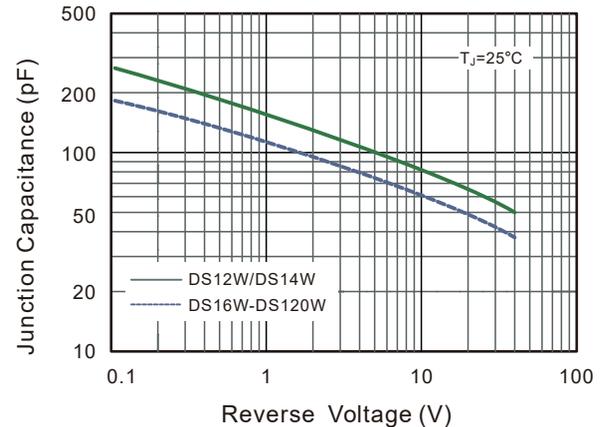


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

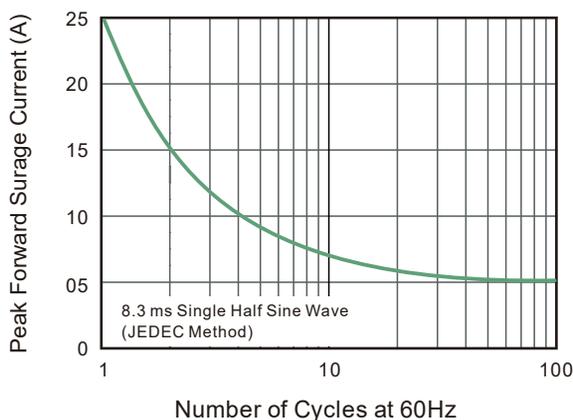
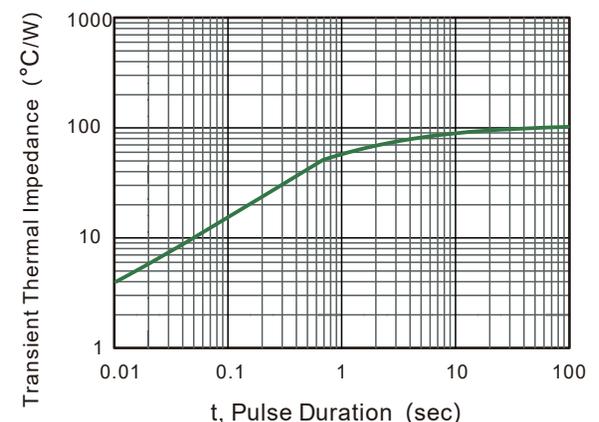
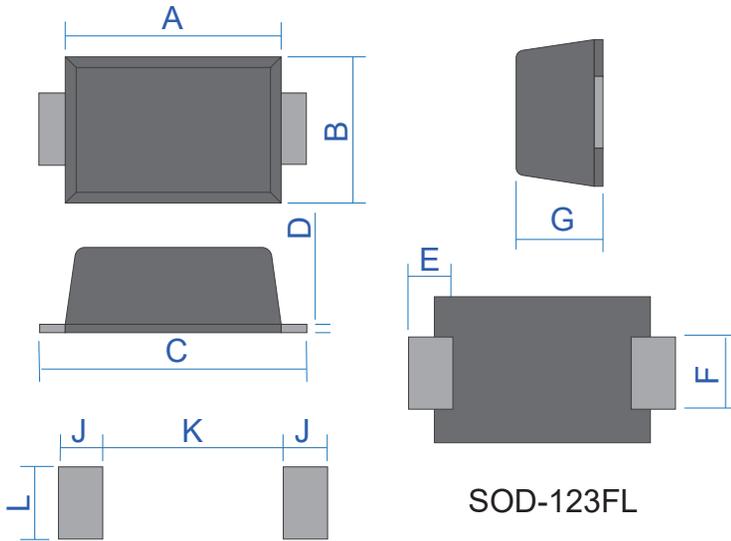


Fig. 6 Typical Transient Thermal Impedance



**Package Outline & Dimensions**



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
<b>A</b>	2.60	3.00	0.102	0.118
<b>B</b>	1.60	2.00	0.063	0.079
<b>C</b>	3.45	3.95	0.136	0.156
<b>D</b>	0.10	0.25	0.004	0.010
<b>E</b>	0.30	0.90	0.012	0.035
<b>F</b>	0.80	1.20	0.031	0.047
<b>G</b>	0.95	1.35	0.037	0.053
<b>J</b>	1.30		0.051	
<b>K</b>		1.70		0.067
<b>L</b>	1.30		0.051	

**Marking**

Type Number	DS12W	DS14W	DS16W	DS18W	DS110W	DS112W	DS115W	DS120W
Making	K12	K14	K16	K18	K110	K112	K115	K120

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