

### Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current - 1.0 A

#### FEATURES

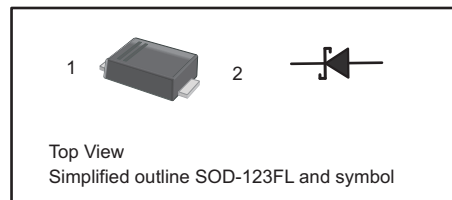
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

#### MECHANICAL DATA

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

#### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



#### Absolute 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, derate by 20 %

Parameter	Symbols	DS12W	DS14W	DS16W	DS18W	DS110W	DS112W	DS115W	DS120W	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 @ Fig.1	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	25								A
Peak Forward Surge Current, 1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	50								A
$I^2t$ Rating for fusing ( $3ms \leq t \leq 8.3ms$ )	$I^2t$	2.6								A <sup>2</sup> S
Max Instantaneous Forward Voltage at 1 A	$V_F$	0.55		0.70	0.85		0.90		V	
Maximum DC Reverse Current at Rated DC Reverse Voltage $T_a = 25^\circ C$ $T_a = 100^\circ C$	$I_R$	0.3 10			0.2 5		0.1 2		mA	
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	55	41	33	32		19	16	pF	
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	105 25 32								°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +125								°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 0.2" X 0.2" (5 X 5 mm) copper pad areas.



Fig.1 Forward Current Derating Curve

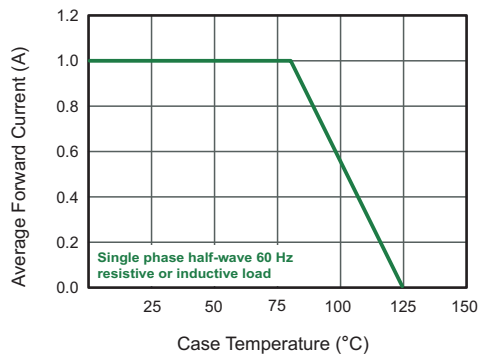


Fig.2 Typical Reverse Characteristics

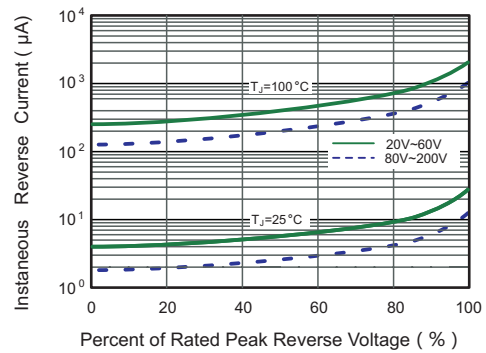


Fig.3 Typical Forward Characteristic

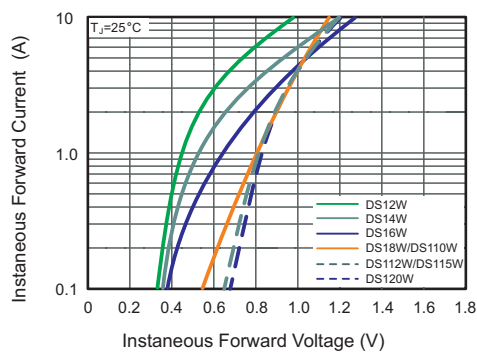


Fig.4 Typical Junction Capacitance

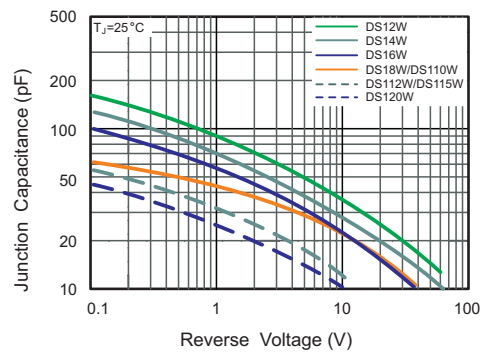
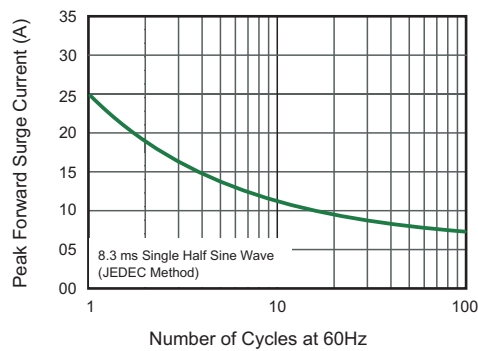


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

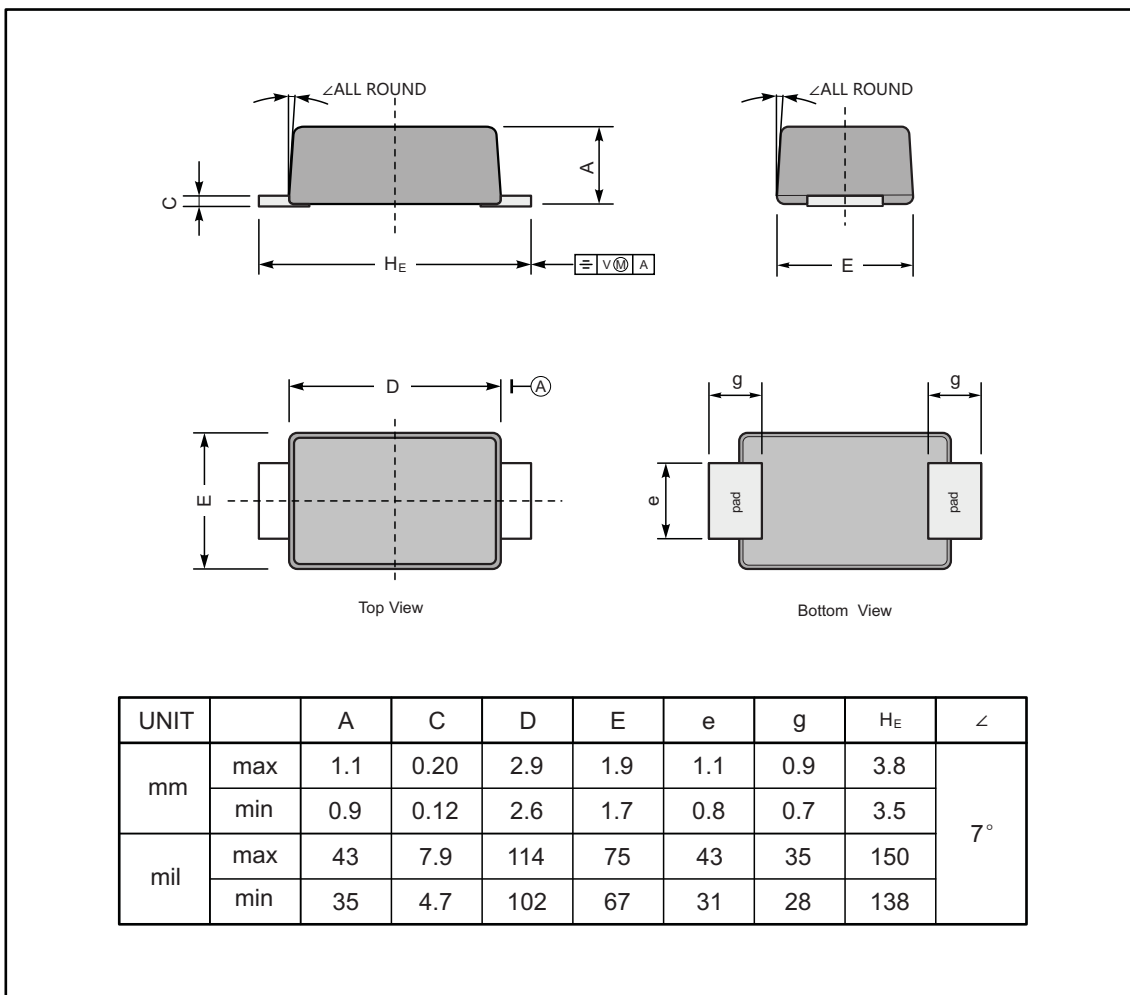




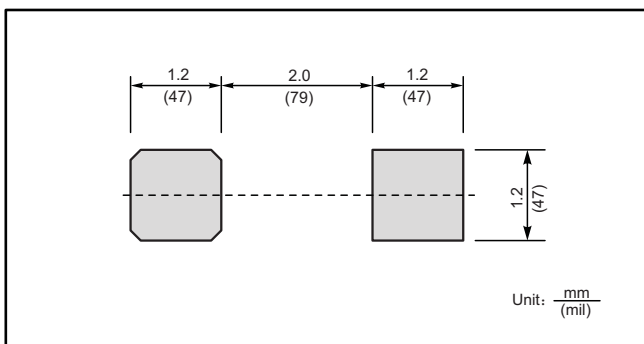
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size



Marking

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



### Important Notice and Disclaimer

Jingdao Microelectronics reserves the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Jingdao Microelectronics makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Jingdao Microelectronics assume any liability for application assistance or customer product design.

Jingdao Microelectronics does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Jingdao Microelectronics.

Jingdao Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of Jingdao Microelectronics.