



## DESCRIPTION

The DS12W~DS120W are available in SOD-123FL package.

## ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	DS12W
	DS14W
	DS16W
	DS18W
	DS110W
	DS112W
	DS115W
	DS120W
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

## PIN DESCRIPTION



## FEATURES

- 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
- Metal silicon junction, majority carrier conduction
- Available in SOD-123FL package

## MECHANICAL DATA

Case: SOD-123FL

Terminals: Solderable per MIL-STD-750,  
Method 2026

Approx. Weight: 15mg 0.00048oz



## 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	Symbol	DS12W	DS14W	DS16W	DS18W	DS110W	DS112W	DS115W	DS120W	Unit
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 1A	$V_F$	0.55	0.70		0.85		0.90		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A=25^\circ C$ 0.3		$T_A=100^\circ C$ 10		0.2 5.0		0.1 2		mA
Typical Junction Capacitance <sup>NOTE1</sup>	$C_J$	110		80						pF
Typical Thermal Resistance <sup>NOTE2</sup>	$R_{\theta JA}$	115								°C/W
Operating Junction Temperature Range	$T_J$	-55 ~ +125								°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150								°C

NOTE1: Measured at 1MHz and applied reverse voltage of 4V D.C.

NOTE2: P.C.B. mounted with 0.2 x 0.2" (5 x 5 mm) copper pad areas.



## TYPICAL CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

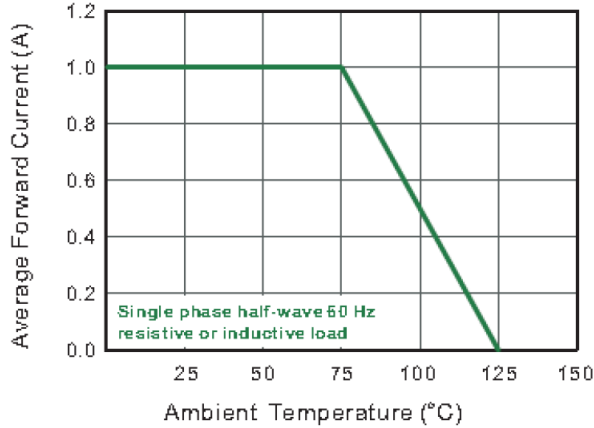


Figure. 2 Typical Reverse Characteristics

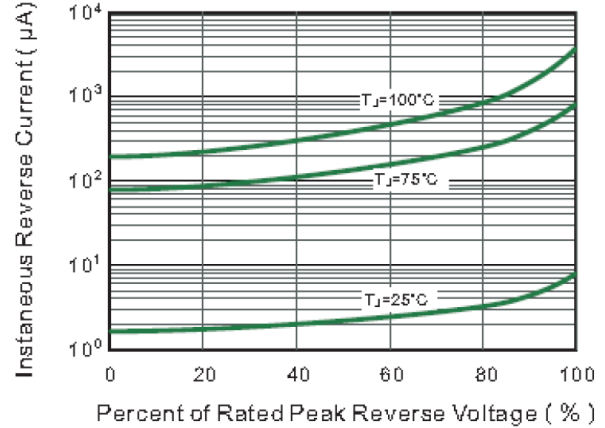


Figure. 3 Typical Forward Characteristic

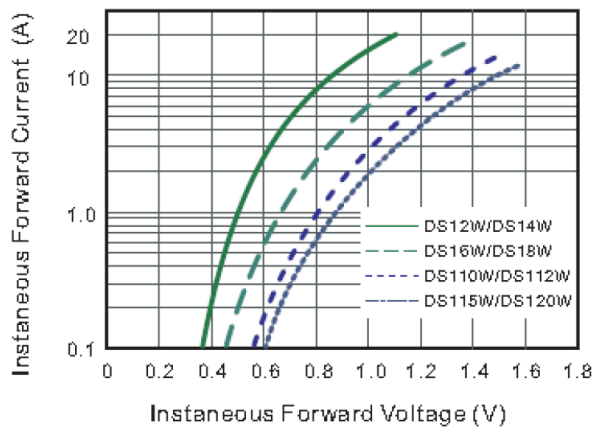


Figure. 4 Typical Junction Capacitance

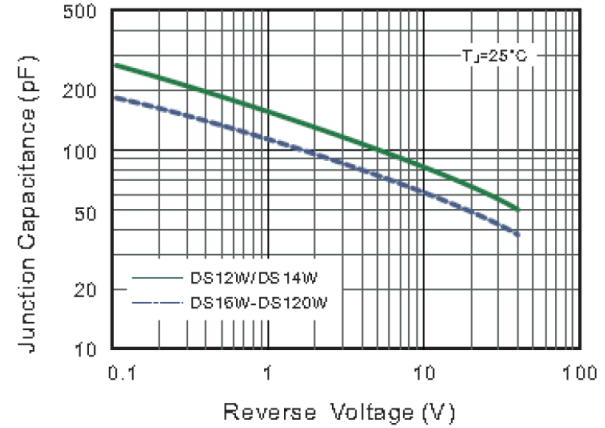


Figure. 5 Maximum Non-Repetitive Peak Forward Surge Current

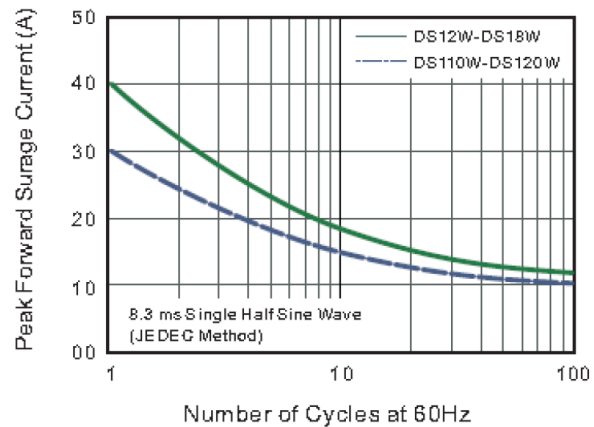
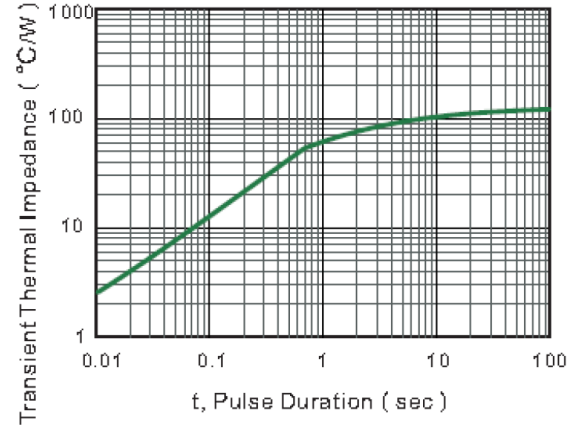


Figure. 6 Typical Transient Thermal Impedance

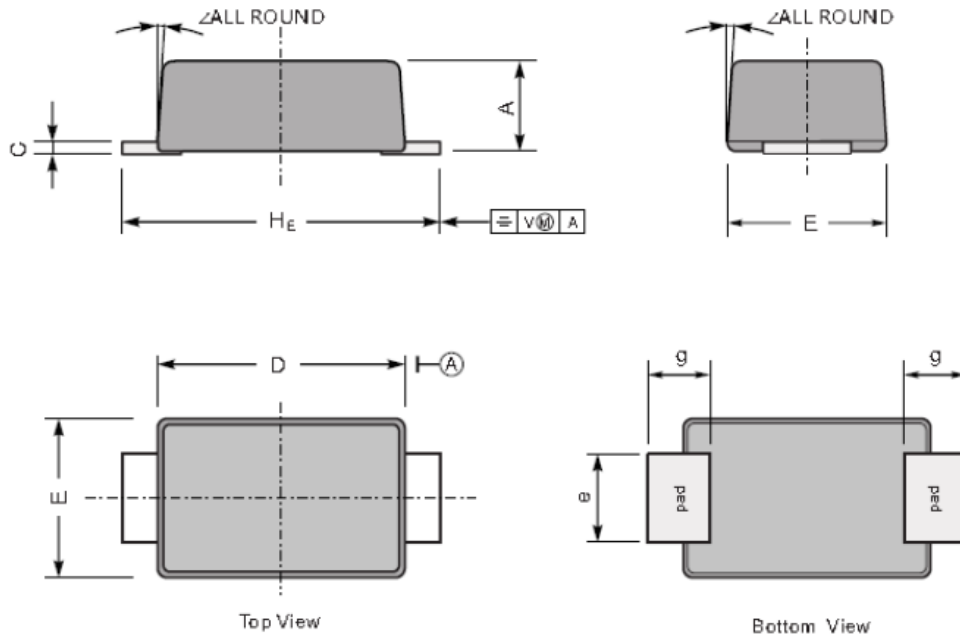




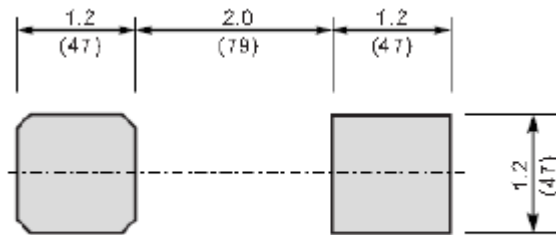
**PACKAGE INFORMATION**

Dimension in SOD-123FL (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



Unit:  $\frac{mm}{(mil)}$

UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
mm	Max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	Min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	Max	43	7.9	114	75	43	35	150	
	Min	35	4.7	102	67	31	23	138	



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