DS12W---DS120W

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

Top View
Marking Code: DS12W ---S12
DS14W ---S14
DS16W ---S16
DS18W ---S18
DS110W ---S110
DS112W ---S112
DS115W ---S115
DS120W ---S120
Simplified outline SOD-123FL and symbol

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	$I_{F(AV)}$	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°C at Rated DC Reverse Voltage T_a =100°C	I_R	0.3 10				0.2 5		0.1 2		mA
Typical Junction Capacitance (1)	C_j	110		80						pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	85								°C/W
Operating Junction Temperature Range	T_j	-55 ~ +125								°C
Storage Temperature Range	T_{stg}	-55 ~ +150								°C

(1) Measured at 1MHz and applied reverse voltage of 4 V D.C.
(2) P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

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Fig.1 Forward Current Derating Curve

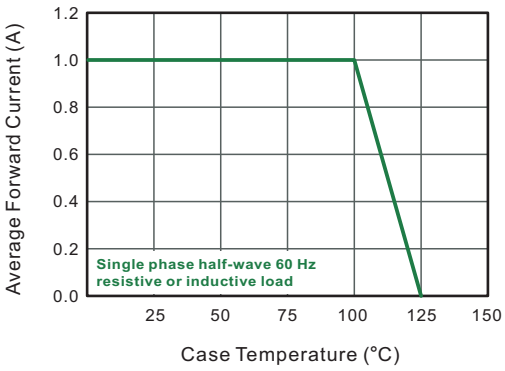

Fig.2 Typical Reverse Characteristics

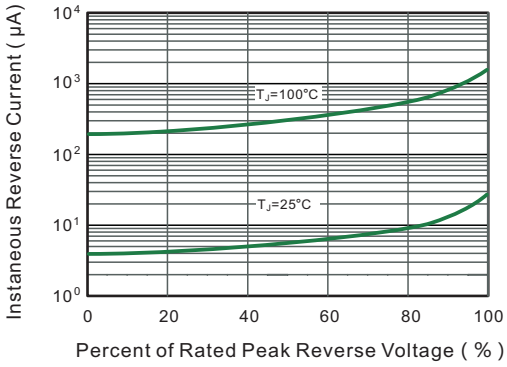

Fig.3 Typical Forward Characteristic

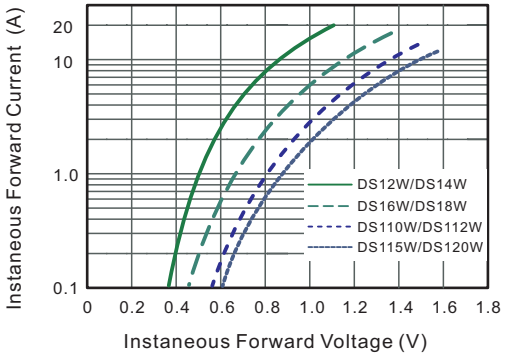

Fig.4 Typical Junction Capacitance

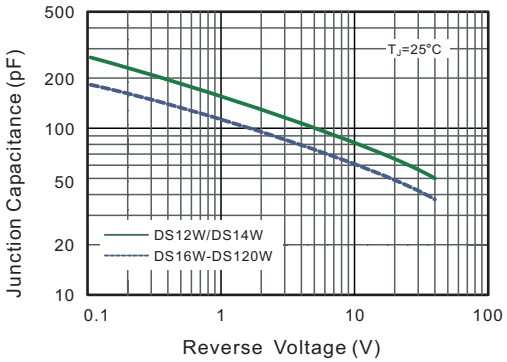

Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

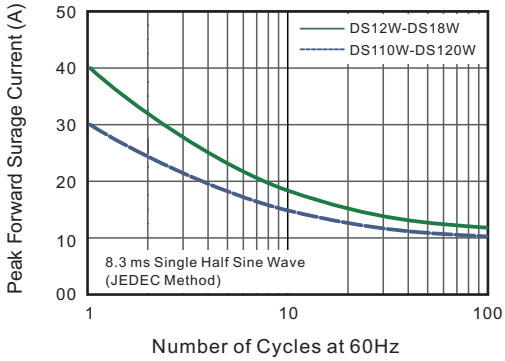

Fig.6- Typical Transient Thermal Impedance