DS12W THRU DS120W SOD-123FL

Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current - 1 A

Pinning

1.Cathode	2.Anode

SOD-123FL

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
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

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

Marking Code

DS12W	K12	S12
DS14W	K14	S14
DS16W	K16	S16
DS18W	K18	S18
DS110W	K110	S110
DS112W	K112	S112
DS115W	K115	S115
DS120W	K120	S120

Absolute Maximum Ratings and Electrical characteristics
Ratings at 25 ° 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
Maximum Instantaneous Forward Voltage at 1 A	V_F	0.55		0.70		0.85		0.90		V
Maximum Instantaneous 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)	$R_{\theta JA}$	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.

Fig.1 Forward Current Derating Curve

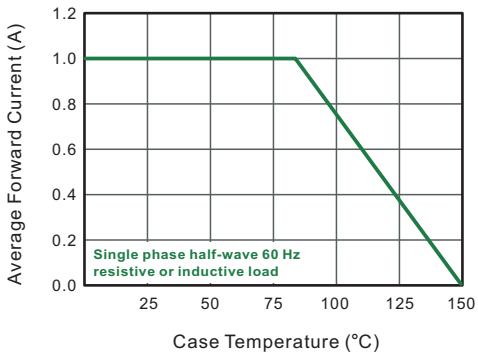


Fig.2 Typical Reverse Characteristics

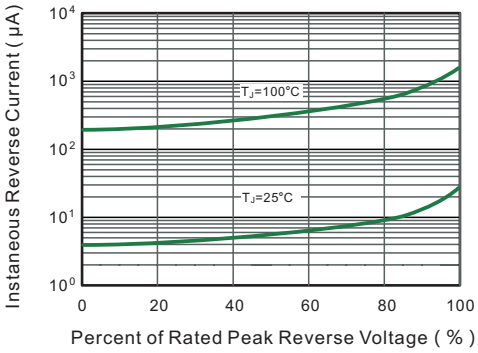


Fig.3 Typical Forward Characteristic

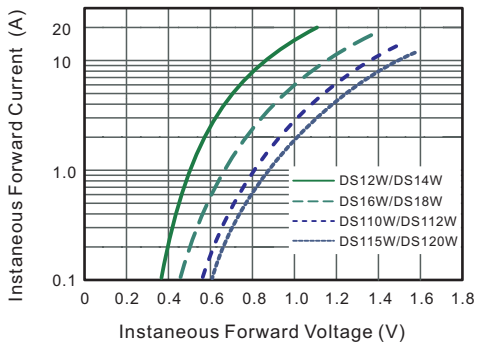


Fig.4 Typical Junction Capacitance

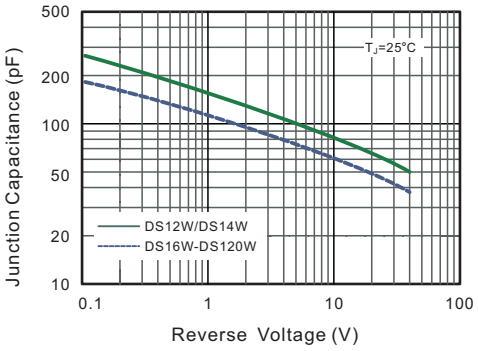


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

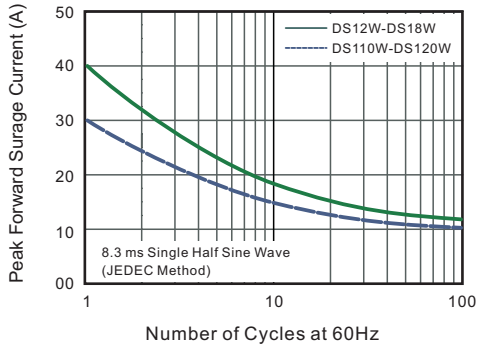
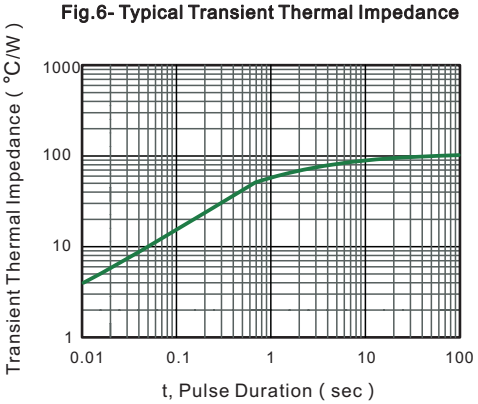
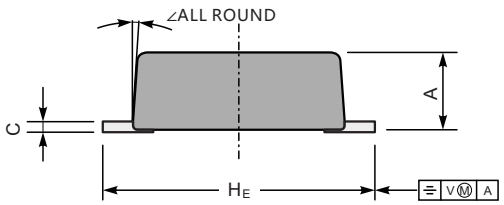


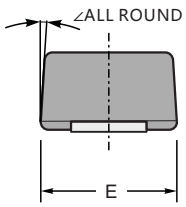
Fig.6- Typical Transient Thermal Impedance

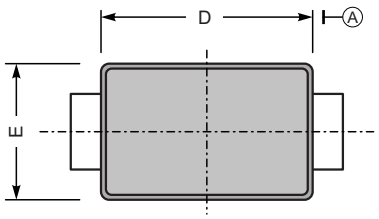


Package Outline SOD-123FL

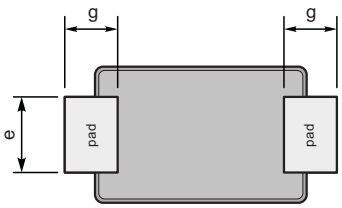
Plastic surface mounted package; 2 leads







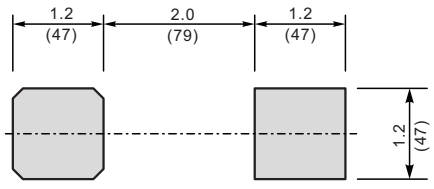
Top View



Bottom View

UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.3	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	28	138	

The recommended mounting pad size



Unit: mm / (mil)

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123FL	Tape/Reel,13"reel	10000	EIA-481-1
	Tape/Reel,7"reel	3000	EIA-481-1