

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current – 3.0 A

### FEATURES

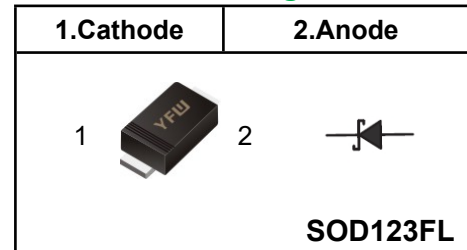
- ◆Metal silicon junction, majority carrier conduction
- ◆For surface mounted applications
- ◆Low power loss, high efficiency
- ◆High forward surge current capability
- ◆For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆Lead free in comply with EU RoHS 2011/65/EU directives



### MECHANICAL DATA

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

### Pinning



### Marking Code

Part Number	Marking Code	Marking Code
DS32W	K32	S32
DS34W	K34	S34
DS36W	K36	S36
DS38W	K38	S38
DS310W	K310	S310
DS312W	K312	S312
DS315W	K315	S315
DS320W	K320	S320

#### Absolute Maximum Ratings and Electrical characteristics

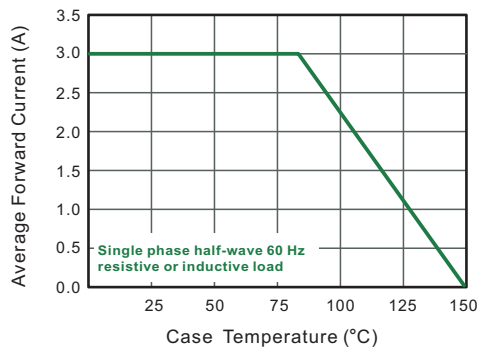
Ratings at 25 ° ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbols	DS32W	DS34W	DS36W	DS38W	DS310W	DS312W	DS315W	DS320W	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	$I_{F(AV)}$	3.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method)	$I_{FSM}$	80				70				A
Maximum Instantaneous Forward Voltage at 3 A	$V_F$	0.55		0.70		0.85		0.95		V
Maximum Instantaneous Reverse Current at Rated DC Reverse Voltage <small><math>T_A = 25^{\circ}C</math> <math>T_A = 100^{\circ}C</math></small>	$I_R$	0.5 10				0.3 5				mA
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	250				160				pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	80								°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +150								°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150								°C

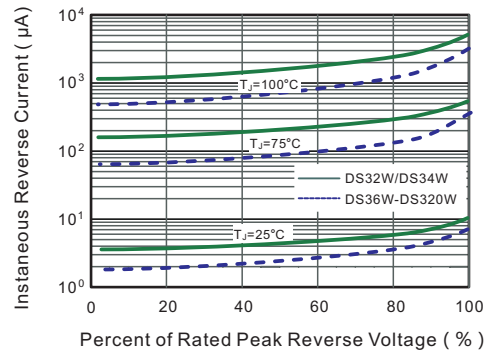
(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

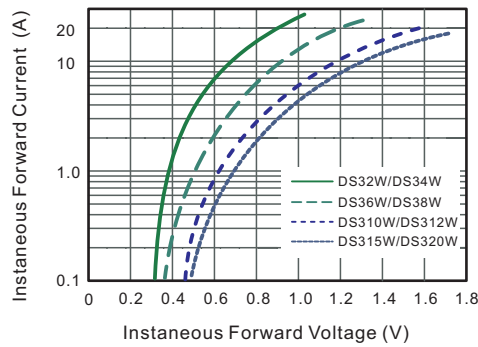
**Fig.1 Forward Current Derating Curve**



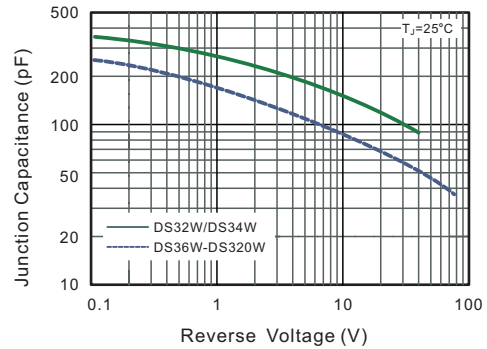
**Fig.2 Typical Reverse Characteristics**



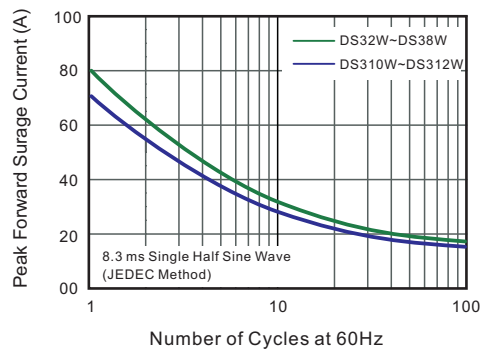
**Fig.3 Typical Forward Characteristic**



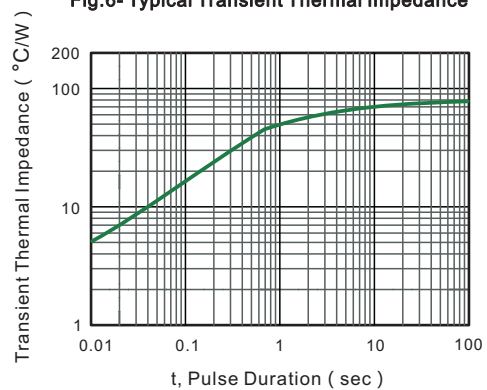
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**

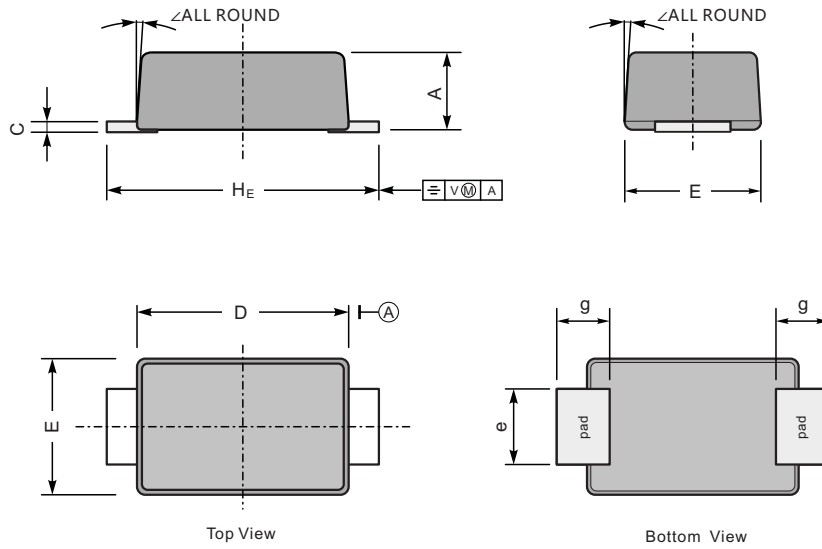


**Fig.6- Typical Transient Thermal Impedance**



**Package Outline SOD-123FL**

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H <sub>E</sub>	$\angle$
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:  $\frac{\text{mm}}{\text{(mil)}}$

**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

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