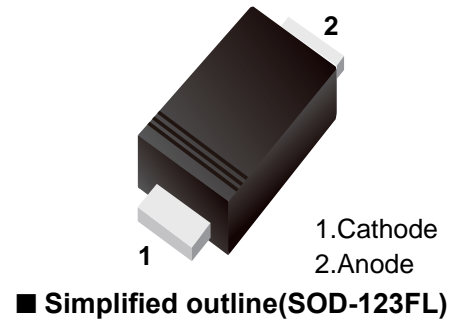


■ Surface Mount Schottky Barrier Rectifiers

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


■ Simplified outline(SOD-123FL)
Top View 
■ 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	Symbols	MBRX120	MBRX140	MBRX160	MBRX180	MBRX1A0	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	80	100	V
Maximum RMS voltage	V_{RMS}	14	28	42	56	70	V
Maximum DC Blocking Voltage	V_{DC}	20	40	60	80	100	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 $T_a = 25^{\circ}C$ at Rated DC Reverse Voltage $T_a = 100^{\circ}C$	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⁾	$R_{\theta JA}$	115					$^{\circ}C/W$
Operating Junction Temperature Range	T_j	-55 ~ +125					$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ +150					$^{\circ}C$

1) Measured at 1MHz 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

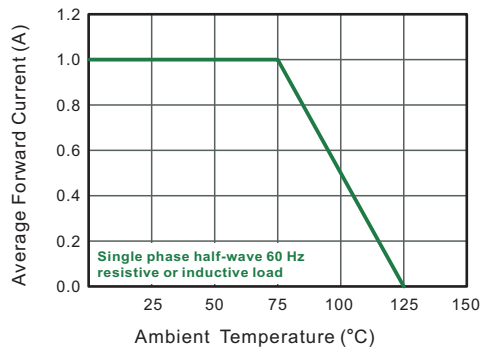


Fig.2 Typical Reverse Characteristics

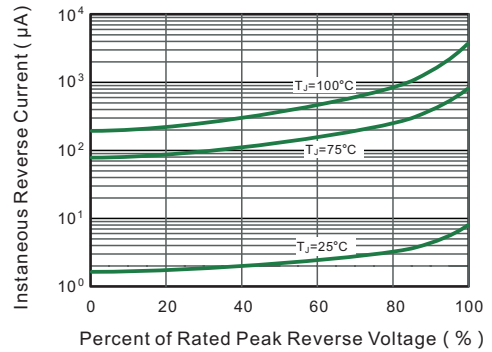


Fig.3 Typical Forward Characteristic

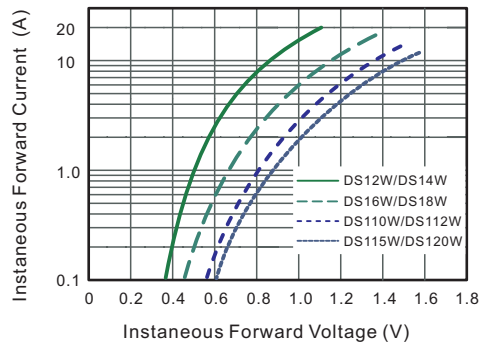


Fig.4 Typical Junction Capacitance

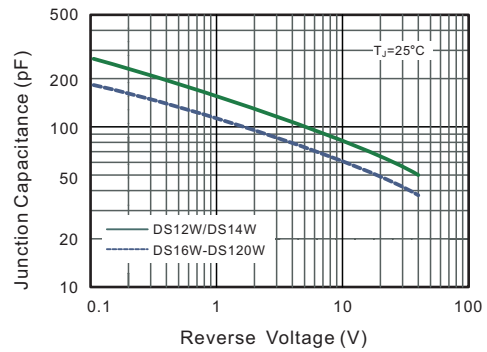


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

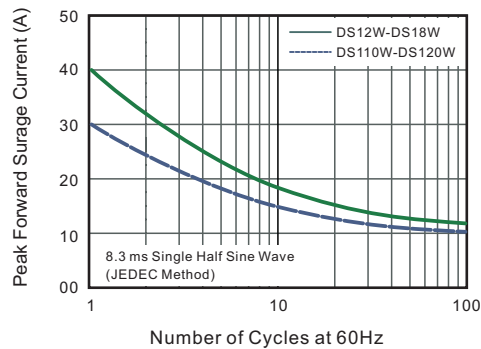
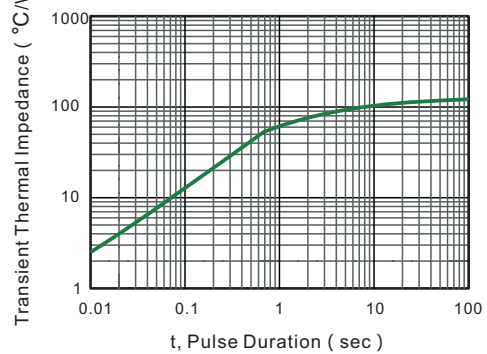
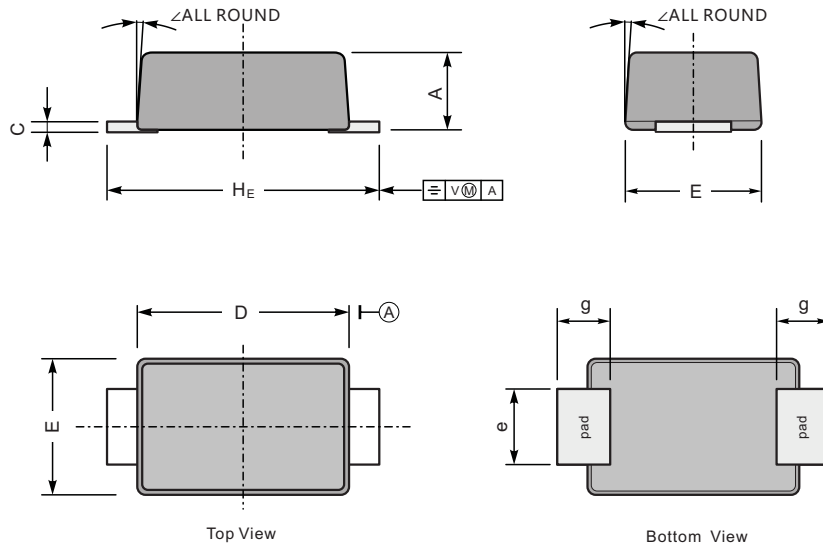


Fig.6- Typical Transient Thermal Impedance



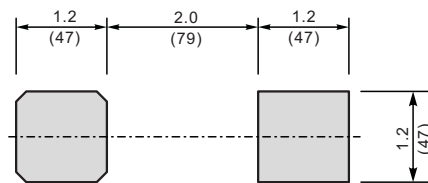
Package Outline SOD-123FL

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H _E	\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