

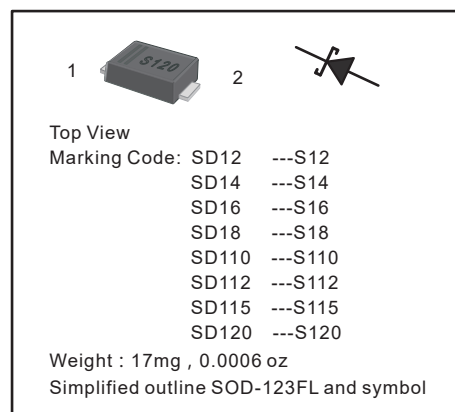
Surface Mount Schottky Barrier Rectifier
Reverse Voltage -20 to 200V
Forward Current - 1.0 A

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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	SD12	SD14	SD16	SD18	SD110	SD112	SD115	SD120	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 _{θJA}	115								°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 0.2 X 0.2" (5 X 5 mm) copper pad areas.



Fig.1 Forward Current Derating Curve

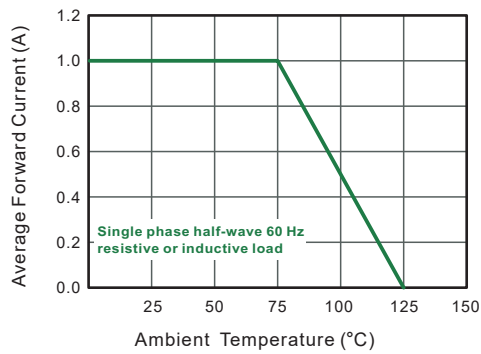


Fig.2 Typical Reverse Characteristics

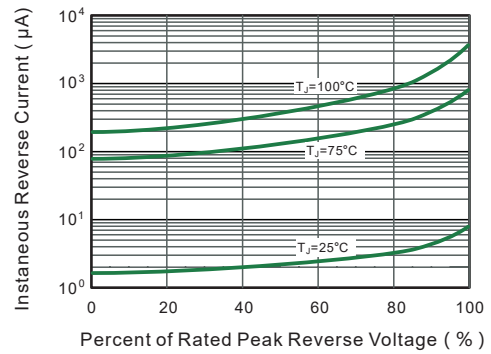


Fig.3 Typical Forward Characteristic

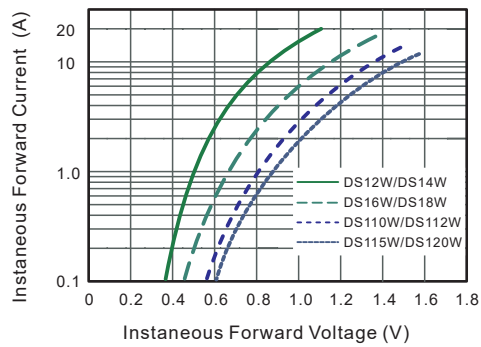


Fig.4 Typical Junction Capacitance

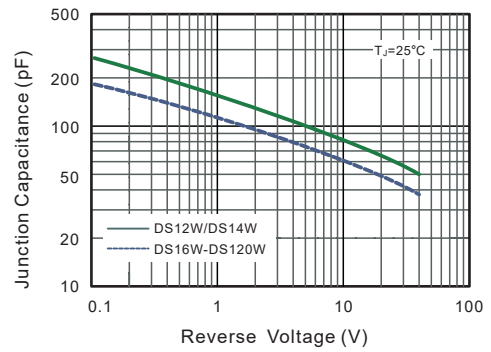


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

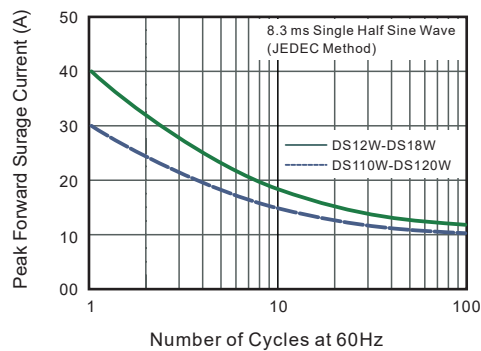
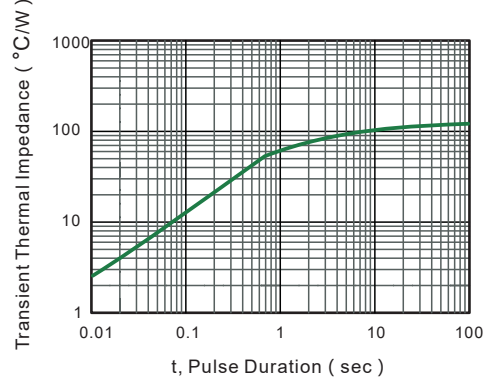


Fig.6- Typical Transient Thermal Impedance

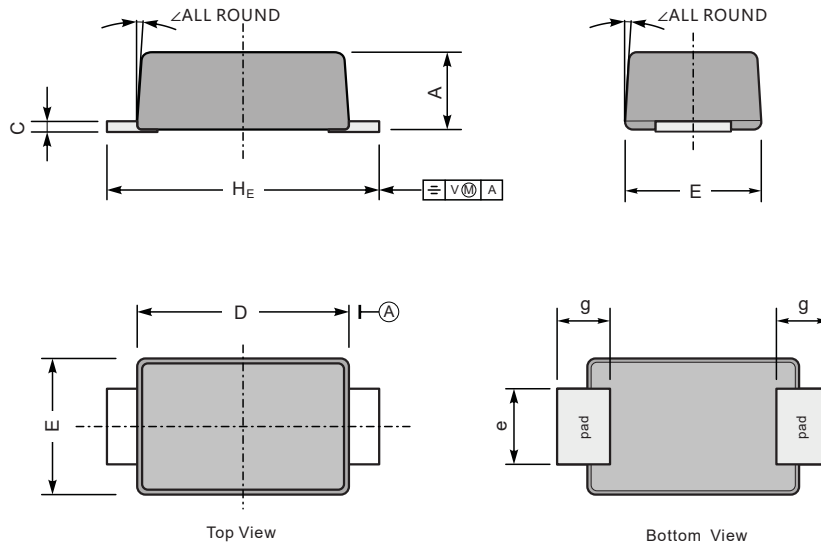




PACKAGE OUTLINE

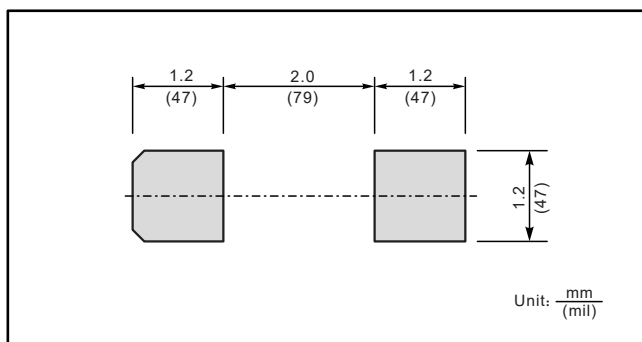
Plastic surface mounted package; 2 leads

SOD123FL



UNIT		A	C	D	E	e	g	H _E	∠
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	28	138	

The recommended mounting pad size

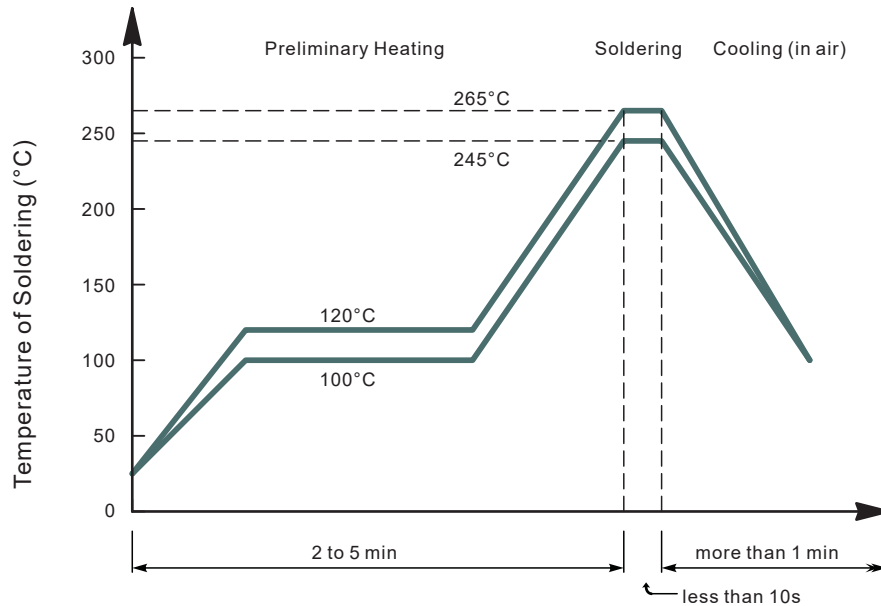


Marking

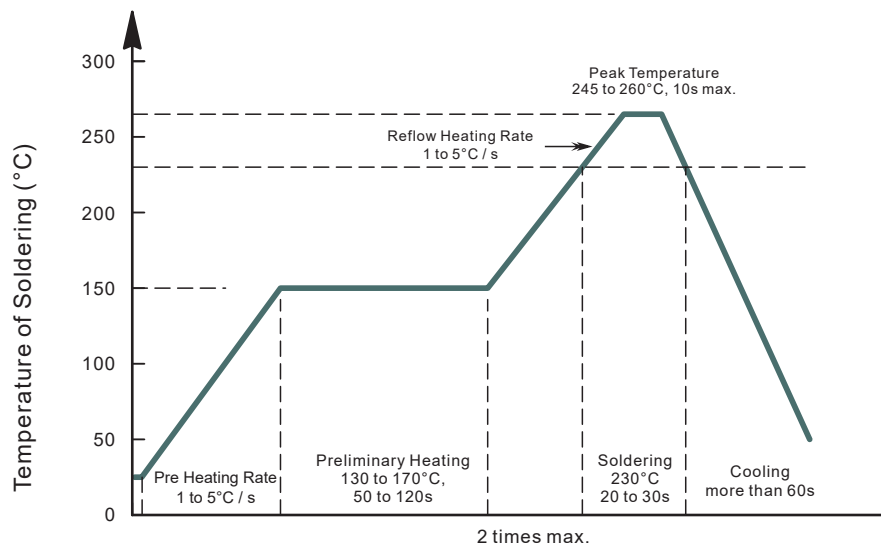
Type number	Marking code
SD12	S12
SD14	S14
SD16	S16
SD18	S18
SD110	S110
SD112	S112
SD115	S115
SD120	S120



• Recommended condition of flow soldering



• Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

• Condition of hand soldering

Temperature: 350°C

Time: 3s max.

Times: one time

• Remark:

Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)