

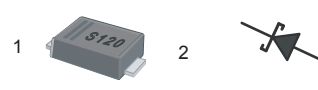
Surface Mount Schottky Barrier Rectifier
Reverse Voltage - 20 to 200 V Forward Current - 1.0A

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

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



Top View
Marking Code: DS12W ---S12
DS14W ---S14
DS16W ---S16
DS18W ---S18
DS110W ---S110
DS112W ---S112
DS115W ---S115
DS120W ---S120

Weight: 17mg, 0.0006 oz
Simplified outline SOD-123FH 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 $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$	I_R	0.3			0.2		0.1		m A	
		10			5		2			
Typical Junction Capacitance ¹⁾	C_j	110	80						pF	
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	115								°C/W
Typical Current Squared Time	I^2T	6.64								A²S
Operating Junction Temperature Range	T_j	-55 ~ +150								°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.

RATING AND CHARACTERISTICS CURVES (DS12W THRU DS120W)

Fig.1 Forward Current Derating Curve

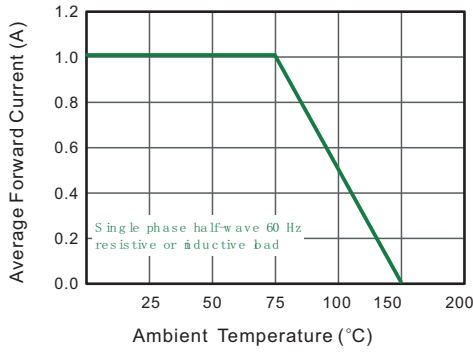


Fig.2 Typical Reverse Characteristics

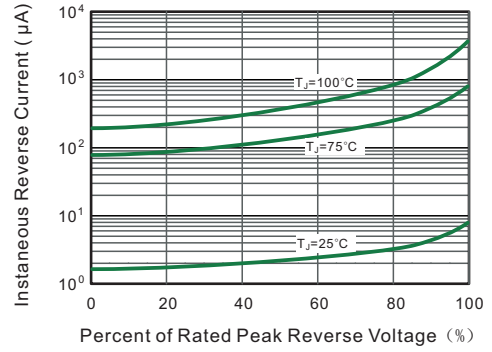


Fig.3 Typical Forward Characteristic

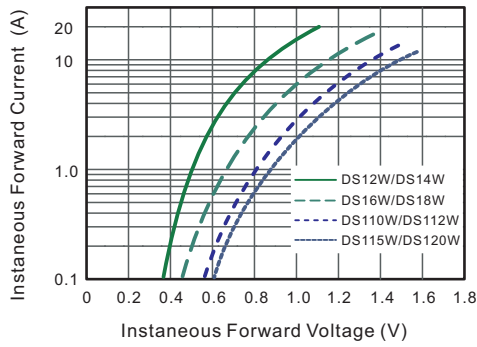


Fig.4 Typical Junction Capacitance

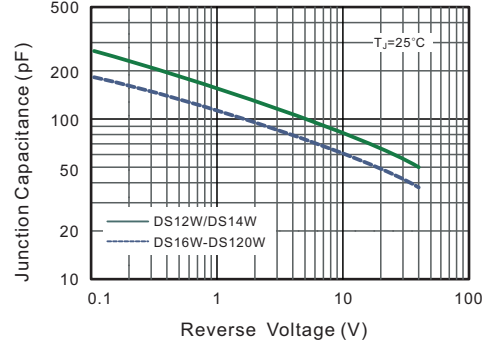


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

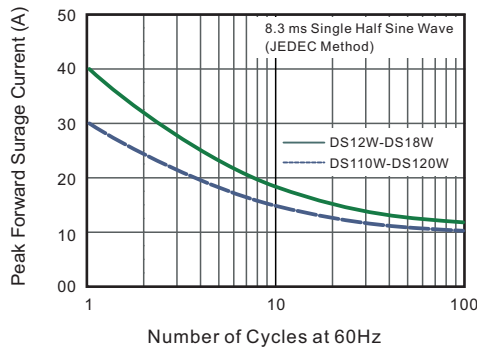
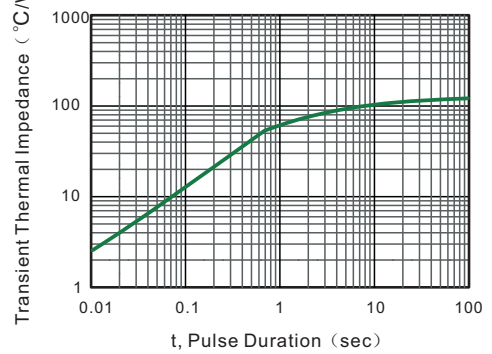
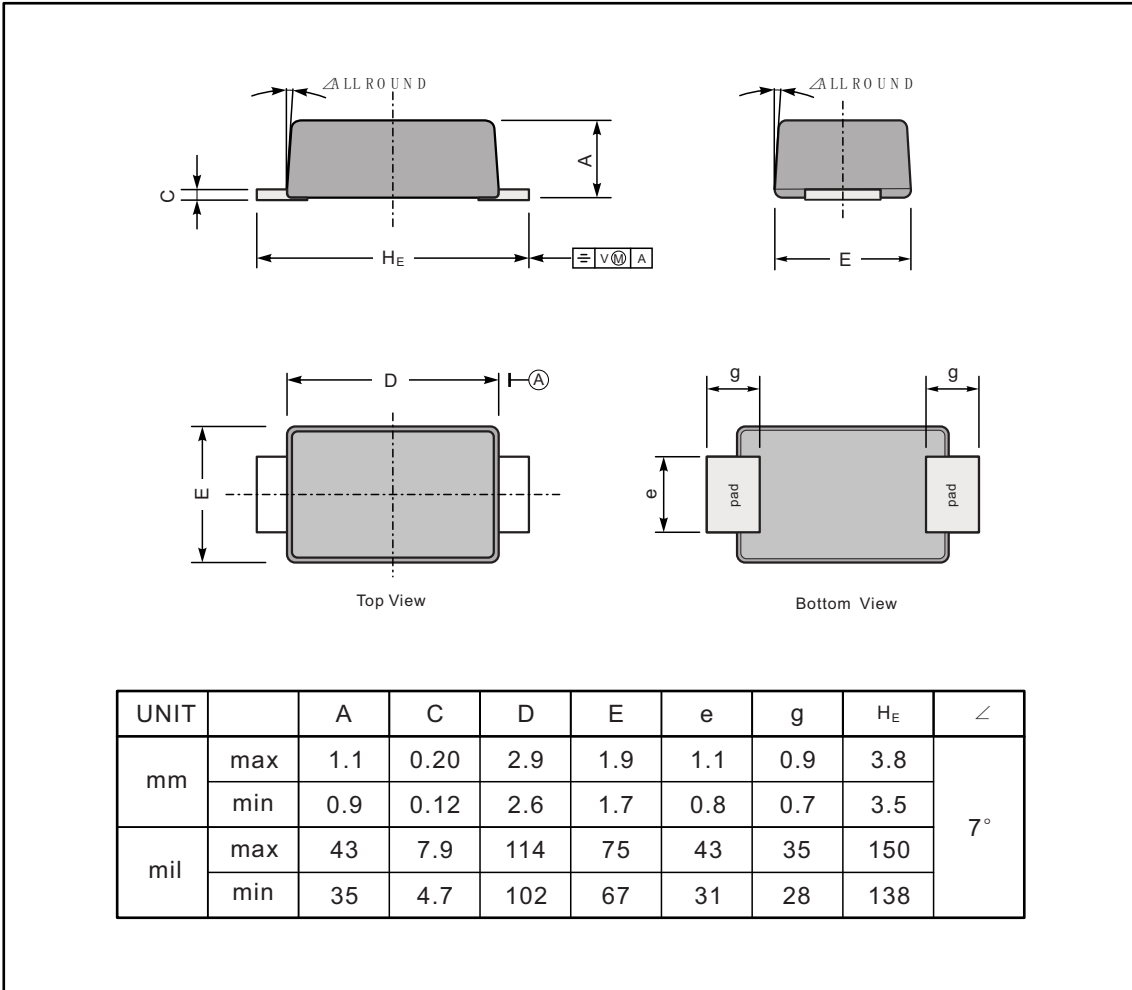


Fig.6- Typical Transient Thermal Impedance

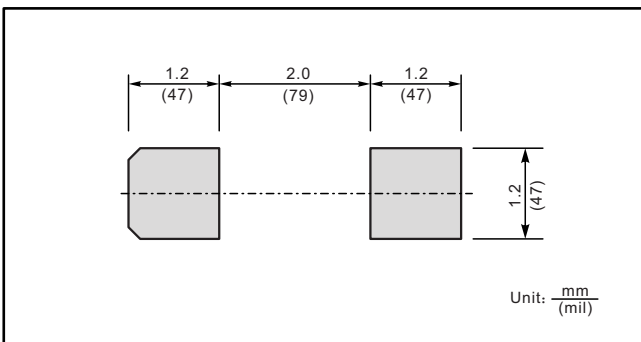


PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



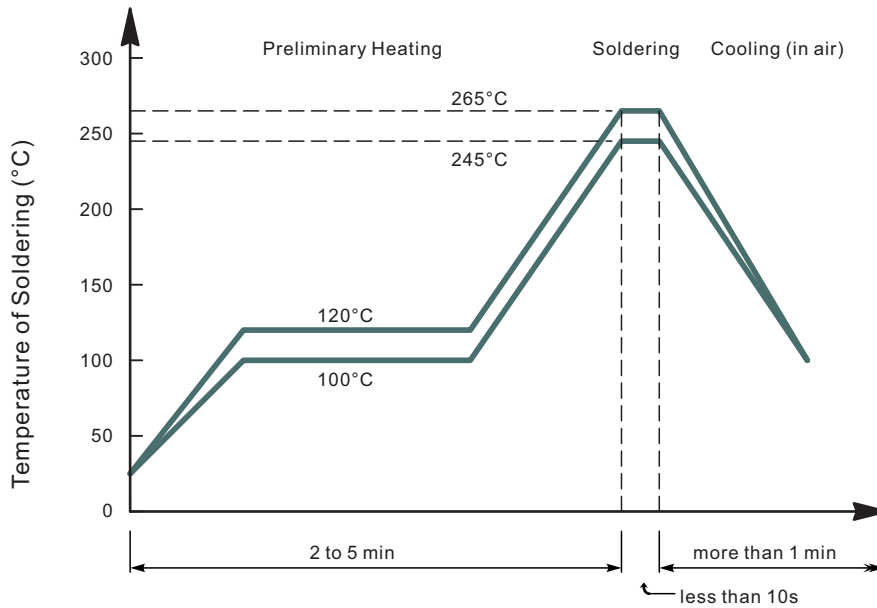
The recommended mounting pad size



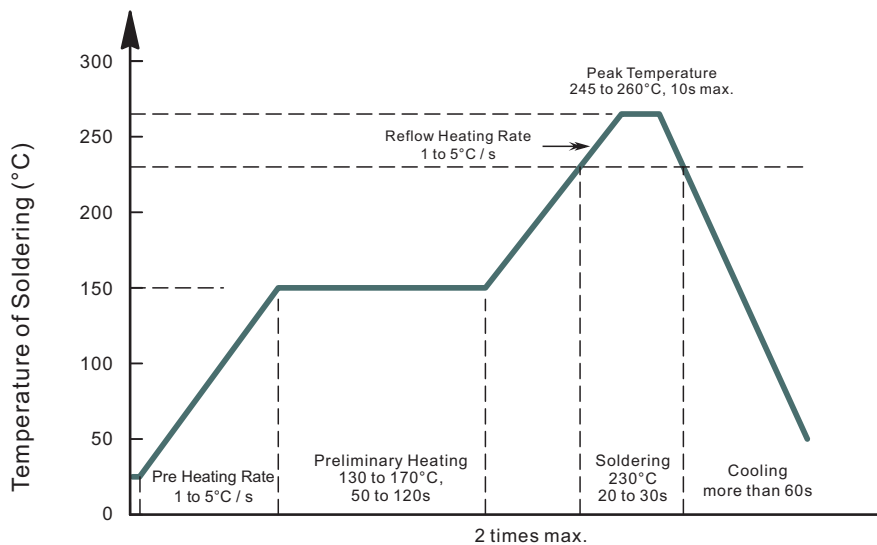
Marking

Type number	Marking code
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DS16W	S16
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DS115W	S115
DS120W	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)

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123FH	-W/T	3,000	15,000	---	---	178	390*205*31	120,000	6.964

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