



DESCRIPTION

The BAT46W is available in SOD-123FL Package

ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	BAT46W
Note	SPQ:3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



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
- Available in SOD-123FL Package

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, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%

Parameter	Symbol	BAT46W	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC Blocking Voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	0.5	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30	A
Max Instantaneous Forward Voltage at 1A	V_F	0.85	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	0.2 5	mA
Typical Junction Capacitance ^{NOTE1}	C_J	80	pF
Typical Thermal Resistance ^{NOTE2}	$R_{\theta JA}$	115	°C/W
Operating Junction Temperature Range	T_J	-55 ~ 125	°C
Storage Temperature Range	T_{STG}	-55 ~ 150	°C

NOTE1: Measured at 1MHz and applied reverse voltage of 4V D.C

NOTE2:P.C.B. mounted with 0.2 X 0.2" (5 X 5 cm) copper pad areas.



TYPICAL CHARACTERISTICS

Figure 1. Forward Current Deration Curve

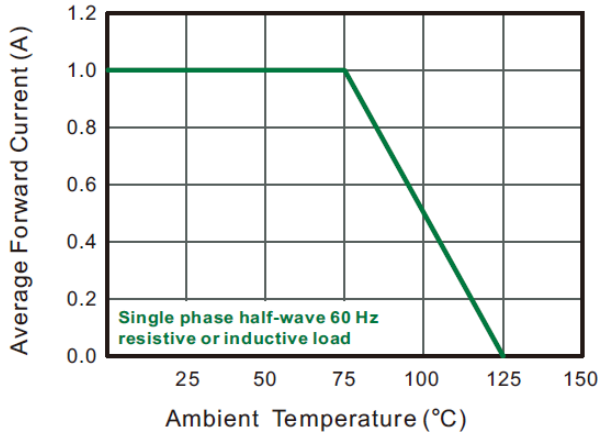


Figure 2. Typical Reverse Characteristics

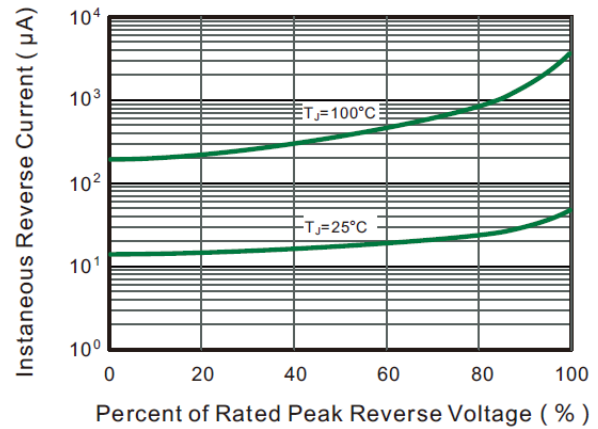


Figure 3. Typical Forward Characteristic

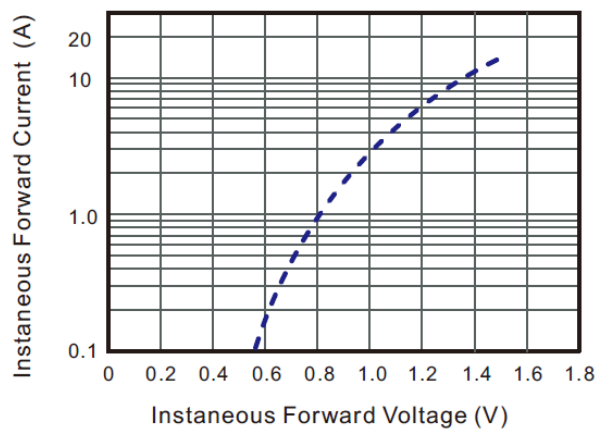


Figure 4. Typical Junction Capacitance

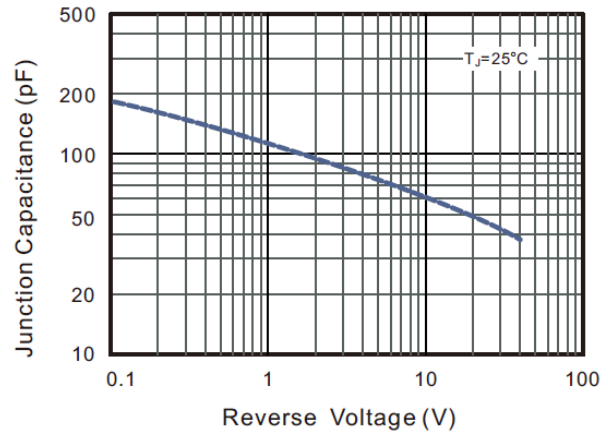


Figure 5. Maximum Non-Repetitive Peak Forward Surge Current

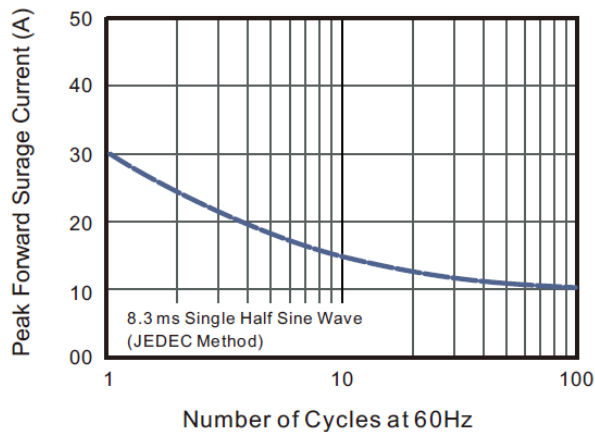
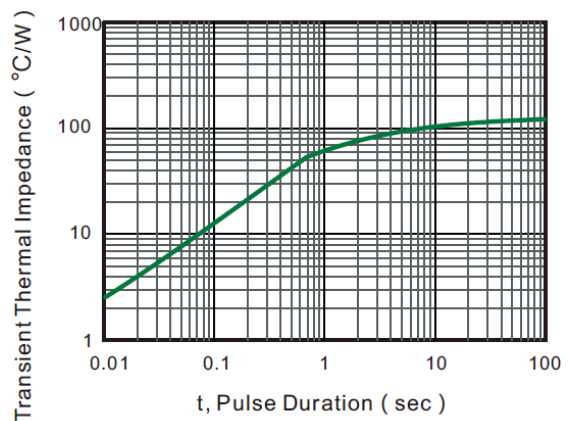


Figure 6. Typical Transient Thermal Impedance

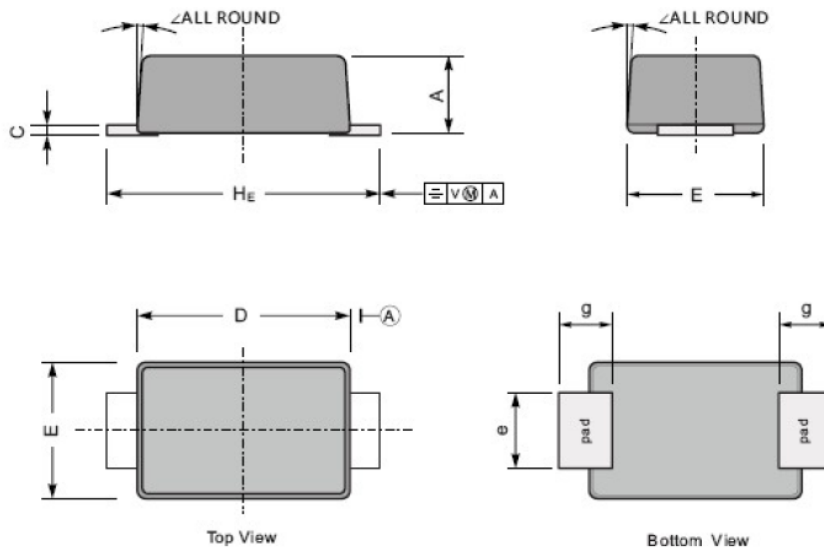




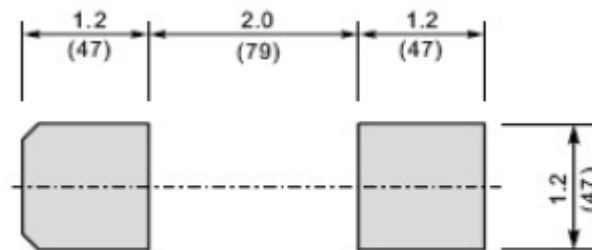
PACKAGE INFORMATION

Dimension in SOD-123FL Package (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$

UNIT		A	C	D	E	e	g	H _E	\angle
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	



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