



## DESCRIPTION

The BAT42W~BAT43W is available in SOD-123 Package

## FEATURES

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion
- RoHS Compliant
- Available in SOD-123 Package

## ORDERING INFORMATION

Package Type	Part Number
SOD-123	BAT42W
	BAT43W
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

## MECHANICAL DATA

Case: Plastic

Case material-UL Flammability Rating

Classification 94V-0

Moisture sensitivity: Level 1 per J-STD-020A

Terminals: Solderable per MIL-STD-202, Method 208

Polarity: Cathode Band

Type Codes: BAT42W S7

BAT43W S8

Weight: 0.01 grams (approx.)



## ABSOLUTE MAXIMUM RATINGS

@ T<sub>A</sub> = 25°C, unless otherwise specified

V <sub>RRM</sub> , Peak Repetitive Reverse Voltage		
V <sub>RWM</sub> , Working Peak Reverse Voltage		30V
V <sub>R</sub> , DC Blocking Voltage		
V <sub>R(RMS)</sub> , RMS Reverse Voltage		21V
I <sub>FM</sub> , Forward Continuous Current <sup>NOTE1</sup>		200mA
I <sub>FRM</sub> , Repetitive Peak Forward Current <sup>NOTE1</sup>	@t < 1.0s	500mA
I <sub>FSM</sub> , Non-Repetitive Peak Forward Surge Current	@ t < 10ms	4.0A
P <sub>D</sub> , Power Dissipation		200mW
R <sub>θJA</sub> , Thermal Resistance Junction to Ambient Air <sup>NOTE1</sup>		500°C/W
T <sub>J</sub> , T <sub>STG</sub> , Operating and Storage Temperature Range		-55~125°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## ELECTRICAL CHARACTERISTICS

@ T<sub>A</sub> = 25°C, unless otherwise specified

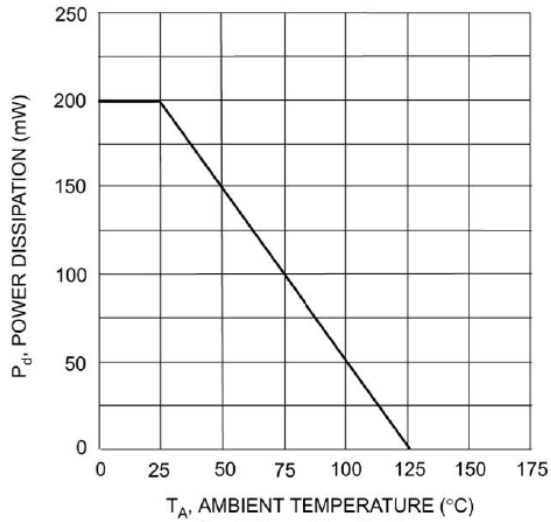
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage <sup>NOTE2</sup>	V <sub>(BR)R</sub>	I <sub>R</sub> = 100μA	30			V
Forward Voltage Drop <sup>NOTE2</sup>	V <sub>FM</sub>	I <sub>F</sub> = 200mA All Type	0.26		1.00	V
		I <sub>F</sub> = 10mA BAT42W			0.40	
		I <sub>F</sub> = 50mA BAT42W			0.65	
		I <sub>F</sub> = 2.0mA BAT43W			0.33	
		I <sub>F</sub> = 15mA BAT43W			0.45	
Peak Reverse Current <sup>NOTE2</sup>	I <sub>RM</sub>	V <sub>R</sub> = 25V			500	nA
		V <sub>R</sub> = 25V, T <sub>J</sub> = 100°C			100	μA
Total Capacitance	C <sub>T</sub>	V <sub>R</sub> = 1.0V, f = 1.0MHz			10	pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω			5.0	ns
Rectification Efficiency	η <sub>V</sub>	R <sub>L</sub> = 15Ω, C <sub>L</sub> = 300pF, f = 45MHz, V <sub>RF</sub> = 2.0V	80			%

NOTE1: Part mounted on FR-4 board with recommended pad layout.

NOTE2: Short duration pulse test used to minimize self-heating effect.

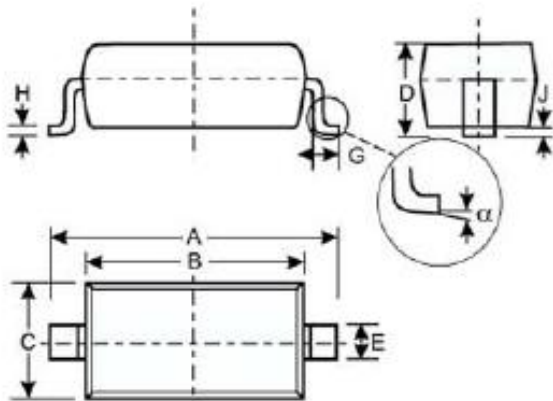
## TYPICAL CHARACTERISTICS

Figure 1. Power Derating Curve



## PACKAGE INFORMATION

Dimension in SOD-123 (Unit: mm)



Symbol	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	-	1.35
E	0.55 TYP	
G	0.25	-
H	0.11 TYP	
J	-	0.10
$\alpha$	0°	8°



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