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_A = 25°C, unless otherwise specified

V_{RRM}, Peak Repetitive Reverse Voltage V_{RWM}, Working Peak Reverse Voltage V_R, DC Blocking Voltage		30V
$V_{R(RMS)}$, RMS Reverse Voltage		21V
I_{FM}, Forward Continuous Current NOTE1		200mA
I_{FRM}, Repetitive Peak Forward Current NOTE1	@t< 1.0s	500mA
I_{FSM}, Non-Repetitive Peak Forward Surge Current	@ t < 10ms	4.0A
P_D, Power Dissipation		200mW
$R_{\theta JA}$, Thermal Resistance Junction to Ambient Air NOTE1		500°C/W
T_J, T_{STG}, 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

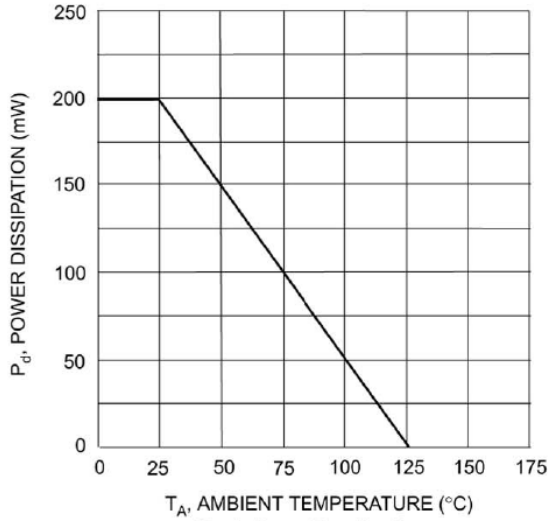
@ T_A = 25°C, unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage NOTE2	$V_{(BR)R}$	I_R = 100μA		30			V
Forward Voltage Drop NOTE2	V_{FM}	I_F = 200mA	All Type	0.26		1.00	V
		I_F = 10mA	BAT42W			0.40	
		I_F = 50mA	BAT42W			0.65	
		I_F = 2.0mA	BAT43W			0.33	
		I_F=15mA	BAT43W			0.45	
Peak Reverse Current NOTE2	I_{RM}	V_R= 25V				500	nA
		V_R = 25V, T_J= 100°C				100	μA
Total Capacitance	C_T	V_R = 1.0V, f = 1.0MHz				10	pF
Reverse Recovery Time	trr	I_F = I_R = 10mA, Irr= 0.1 x I_R, R_L = 100Ω				5.0	ns
Rectification Efficiency	ηv	R_L= 15Ω, C_L=300pF, f = 45MHz , V_{RF} = 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.

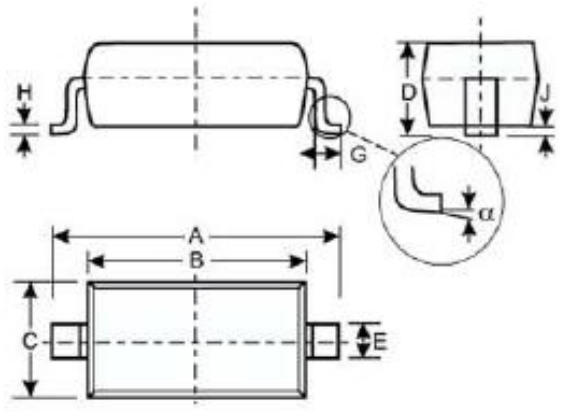
TYPICAL CHARACTERISTICS

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
α	0°	8°

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