



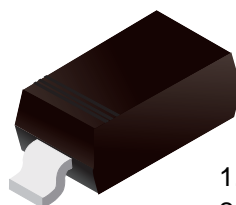
# THE DATASHEET OF BAT42W



## SCHOTTKY DIODE

### ■ Features

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion



1.Cathode  
2.Anode

### ■ Simplified outline(SOD-123)

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$	30	V
DC Blocking Voltage	$V_R$	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current (Note 1)	$I_{FM}$	500	mA
Repetitive Peak Forward Current (Note 1) @ $t < 1.0\text{s}$	$I_{FRM}$	200	mA
Non-Repetitive Peak Forward Surge Current @ $t < 10\text{ms}$	$I_{FSM}$	4	A
Power Dissipation	$P_d$	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to + 150	$^\circ\text{C}$

Note 1

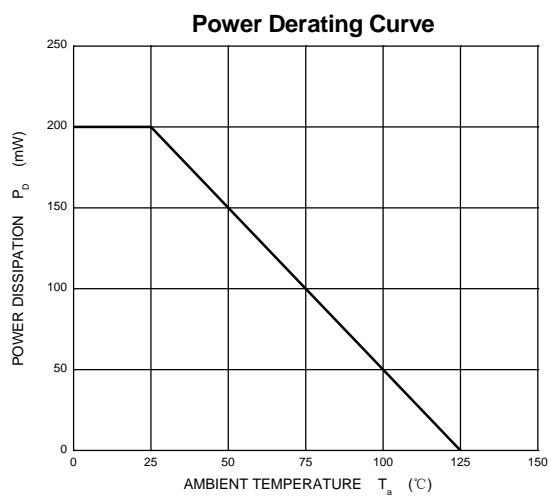
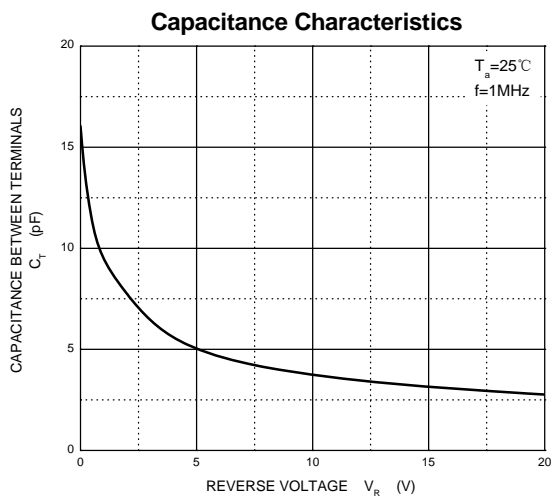
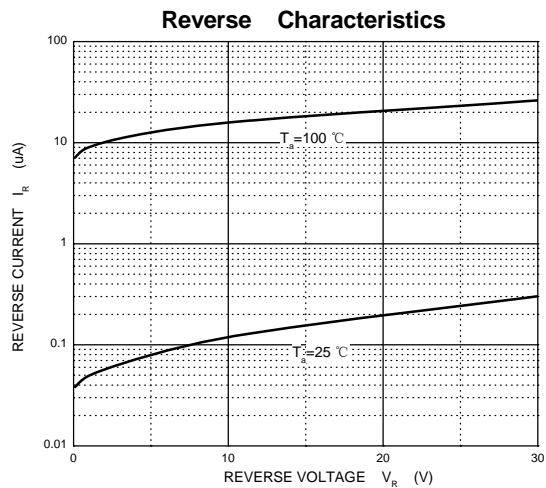
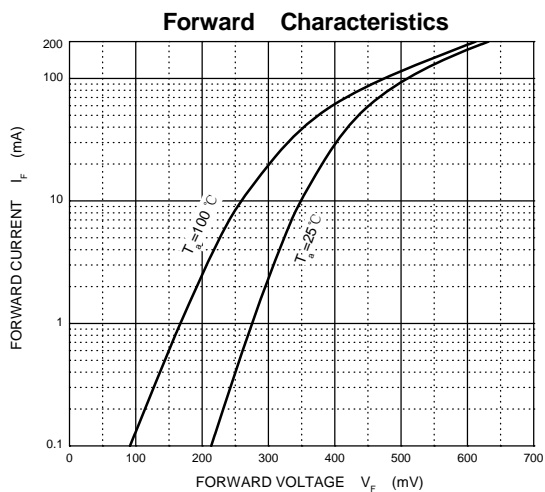
1. Part mounted on FR-4 board with recommended pad layout

### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

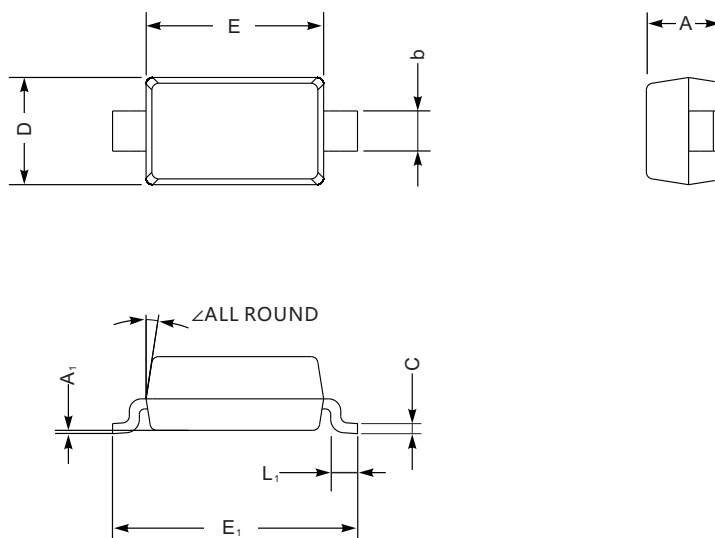
Parameter	Symbol	Conditions	Min	Max	Unit
Reverse Breakdown Voltage (Note 2)	$V_R$	$I_R = 100 \mu\text{A}$	30		V
Forward Voltage Drop (Note 2) BAT42W	$V_{RM}$	$I_F = 10 \text{mA}$		0.4	V
		$I_F = 50 \text{mA}$		0.65	
Forward Voltage Drop (Note 2) BAT43W	$V_{RM}$	$I_F = 2.0 \text{mA}$	0.26	0.33	V
		$I_F = 15 \text{mA}$		0.45	
Peak Reverse Current (Note 2)	$I_{RM}$	$V_R = 25\text{V}$		500	nA
		$V_R = 25 \text{V}, T_j = 100^\circ\text{C}$		100	$\mu\text{A}$
Total Capacitance	$C_T$	$V_R = 1.0 \text{V}, f = 1.0\text{MHz}$		10	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10 \text{mA}$ , $I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$		5.0	ns
Rectification Efficiency	$\eta_V$	$R_L = 15 \Omega, C_L = 300\text{pF}$ , $f = 45\text{MHz}, V_{RF} = 2.0\text{V}$	80		%

Note

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



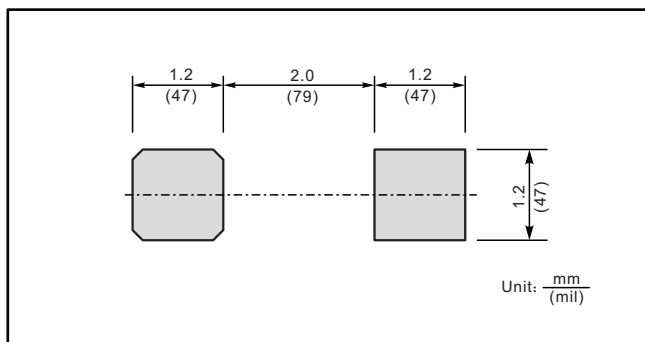
## ■ SOD-123



SOD-123 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	L <sub>1</sub>	b	A <sub>1</sub>	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

## ■ The recommended mounting pad size



## Looking for pricing, stock, or lifecycle information?

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