

### FEATURES

- | Low Forward Voltage Drop
- | Fast Switching Time

SOD-123



Marking	
BAT42W	BAT43W
S7	S8

### Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

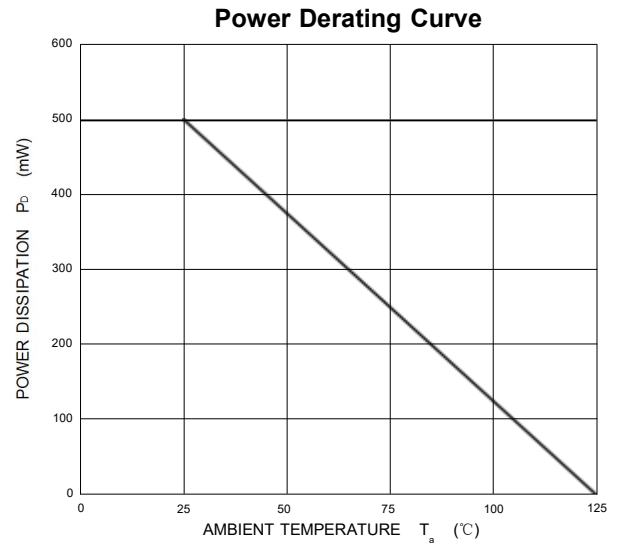
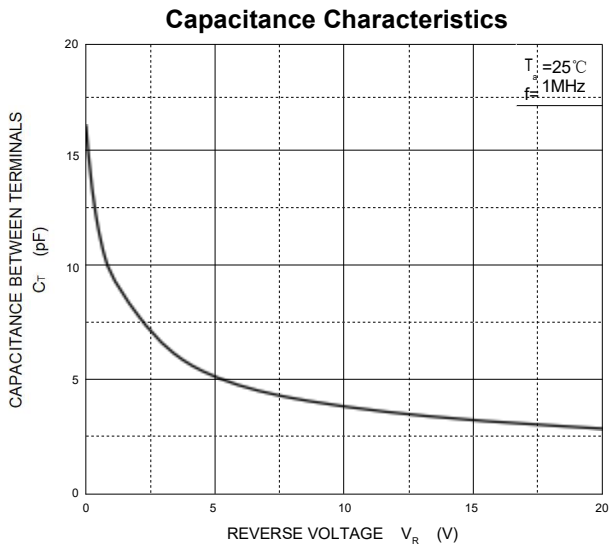
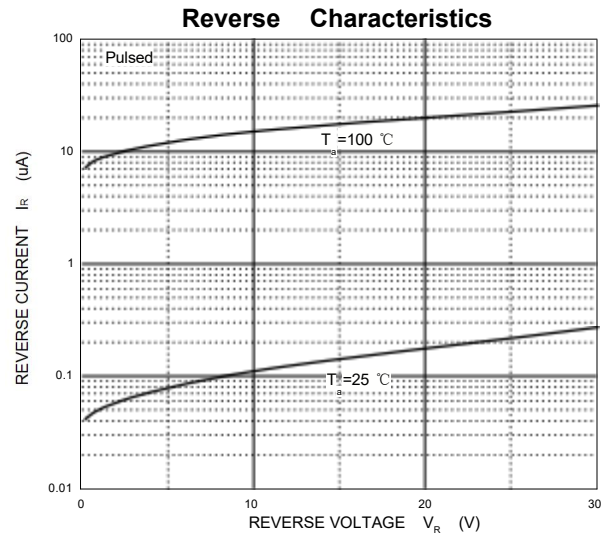
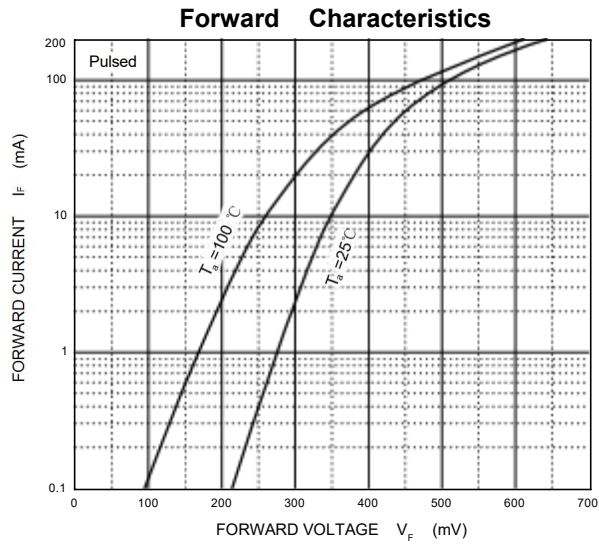
Parameter	Symbol	BAT42W/BAT43W	Unit
Peak Repetitive Peak Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	$I_{FM}$	200	mA
Repetitive Peak Forward Current @t<1.0s	$I_{FRM}$	500	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	$I_{FSM}$	4.0	A
Power Dissipation	$P_D$	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	°C/W
Operating Junction Temperature Range	$T_J$	-40 ~ +125	°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150	°C

### Electrical Ratings @Ta=25°C

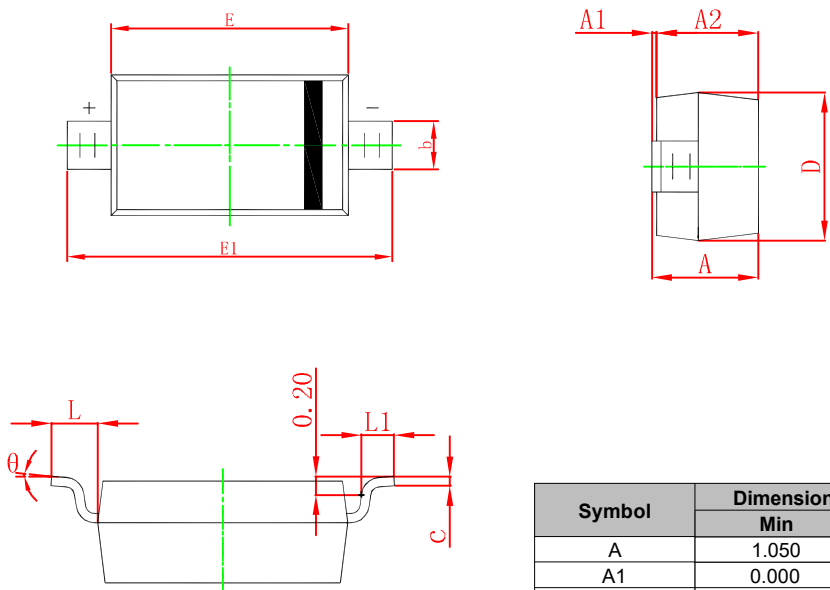
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)}$	30			V	$I_R=10\mu A$
Forward voltage	All Types	$V_F$		1.0	V	$I_F=200mA$
	BAT42W	$V_F$		0.4	V	$I_F=10mA$
	BAT42W	$V_F$		0.65	V	$I_F=50mA$
	BAT43W	$V_F$	0.26	0.33	V	$I_F=2mA$
	BAT43W	$V_F$		0.45	V	$I_F=15mA$
Reverse current	$I_R$			0.5	$\mu A$	$V_R=25V$
Capacitance between terminals	$C_T$			10	pF	$V_R=1.0V, f=1.0MHz$
Reverse recovery time	$t_{rr}$			5	ns	$I_F=I_R=10mA$ $I_{rr}=0.1I_R, R_L=100\Omega$

**Typical Characteristics**

**BAT43W**

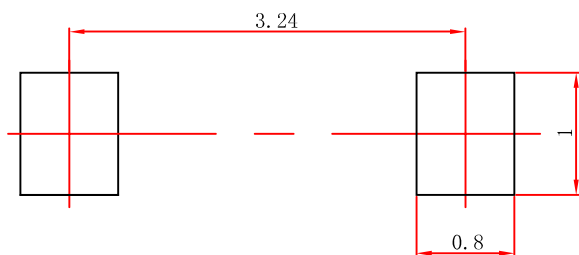


**SOD-123 Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

**SOD-123 Suggested Pad Layout**



**Note:**  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.