



Features

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



SOD-123



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
BAT42W	SOD-123	S7	3000
BAT43W	SOD-123	S8	3000

Maximum Ratings (Ta=25 unless otherwise noted)

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	/W
Junction temperature	T_J	125	°C
Storage Temperature	T_{STG}	-55~+150	°C

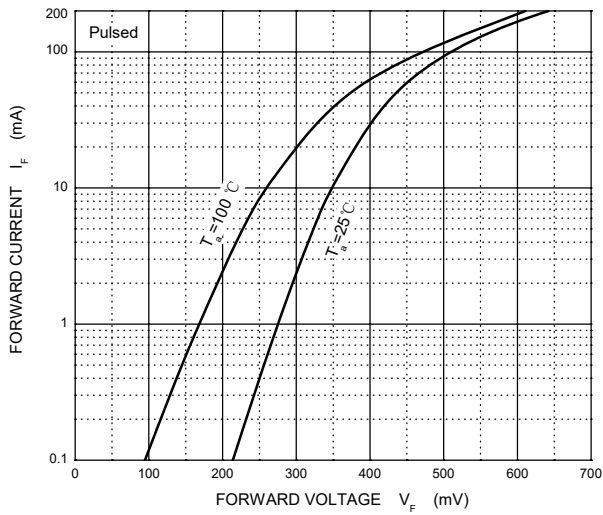
Electrical Characteristics (Ta=25 unless otherwise specified)

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

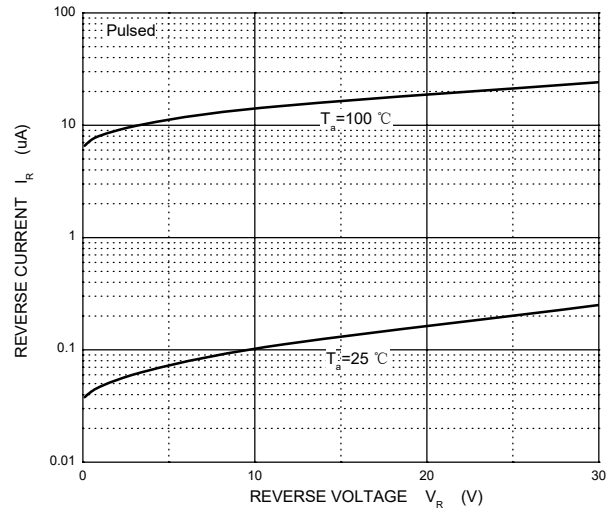


Typical Characteristics

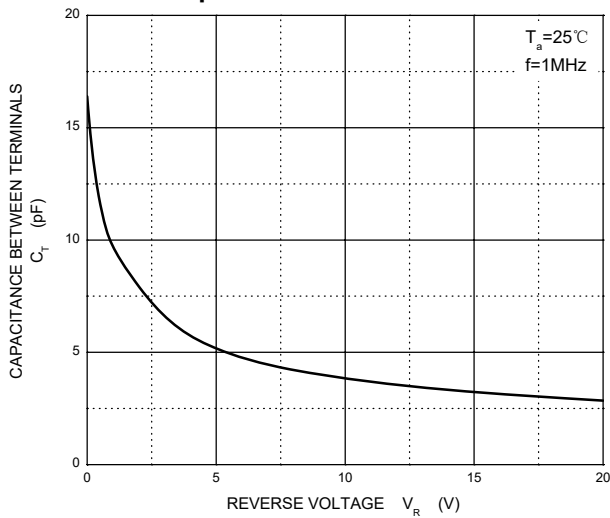
Forward Characteristics



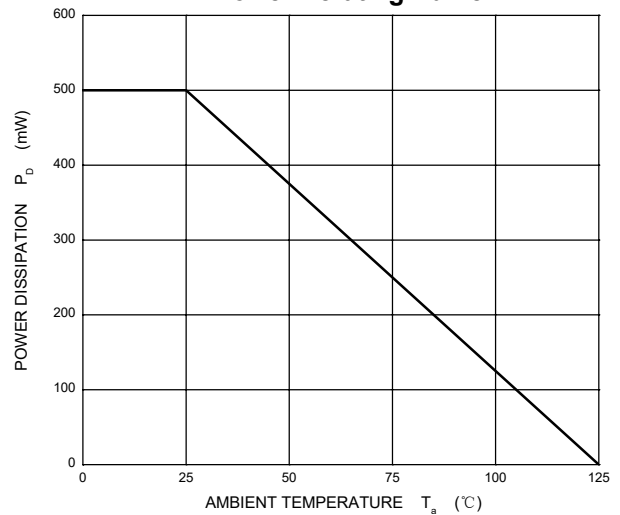
Reverse Characteristics



Capacitance Characteristics

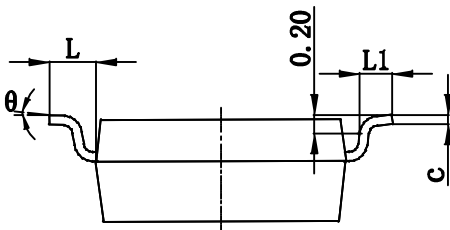
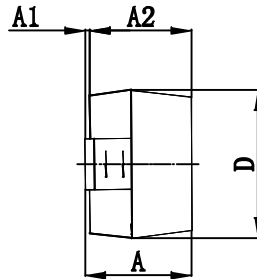
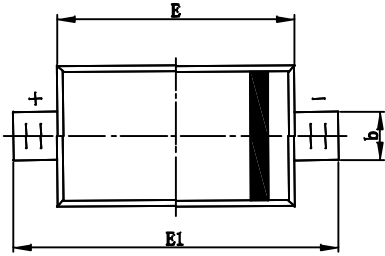


Power Derating Curve



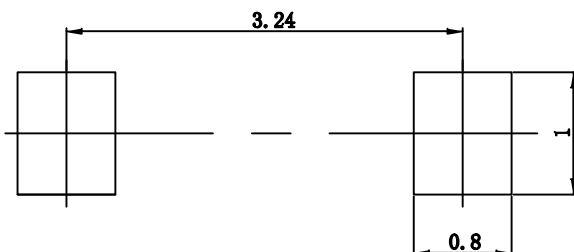


SOD-123 Package Outline Dimensions



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.



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