

Features

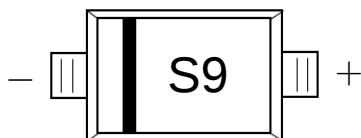
- Small Current Rectification
- Low turn-on voltage
- Guard ring construction for transient protection



SOD-123 top view



Schematic diagram



Marking and pin assignment



Pb-Free



RoHS



Halogen-Free

Halogen-Free

Maximum Ratings($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	100	V
V_{RWM}	Working Peak Reverse Voltage		
I_F	Forward continuous current	150	mA
I_{FRM}	Repetitive peak forward current (Note 1) @ $t_p < 1.0\text{s}$, Duty Cycle $< 50\%$	350	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current@ $t=8.3\text{ms}$	750	mA
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	$^{\circ}\text{C/W}$
T_J	Operating Junction Temperature Range	$-40 \sim +125$	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	$-55 \sim +150$	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

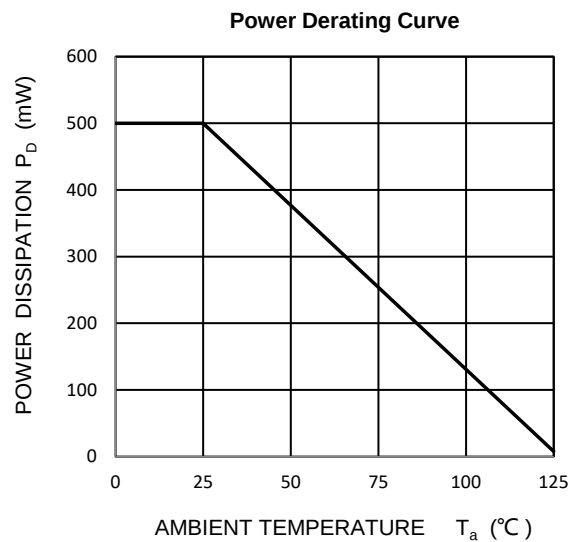
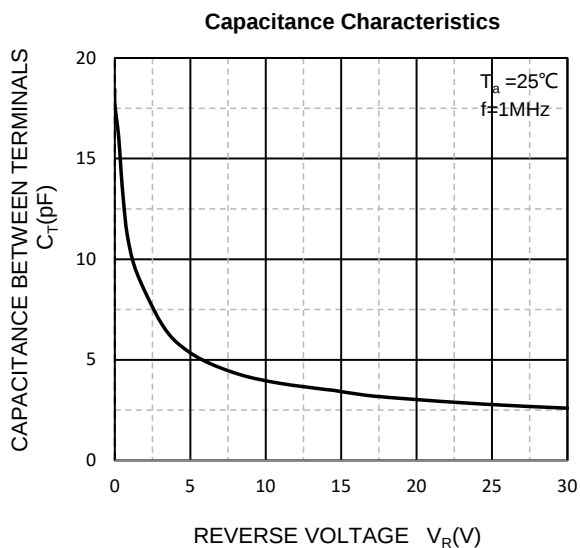
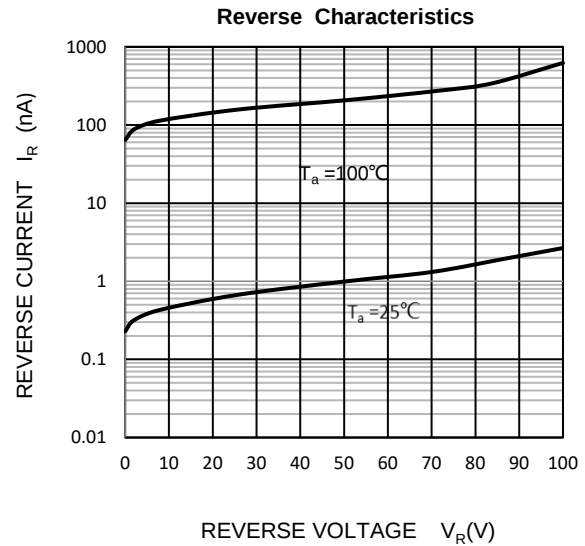
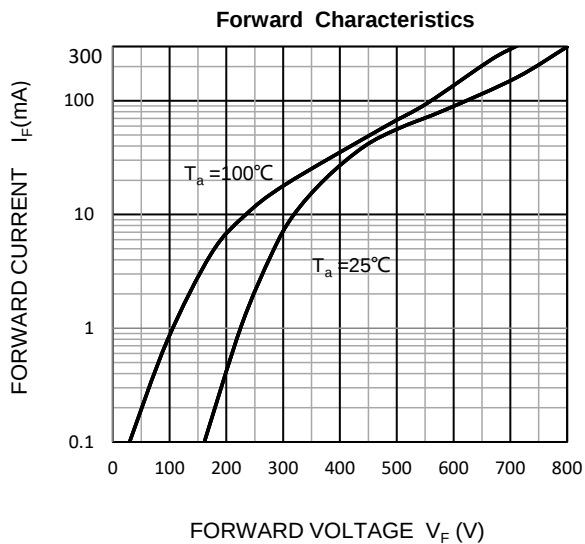
Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _R	Reverse breakdown voltage（Note 2、3）	I _R =100μA	100			V
I _R	Reverse voltage leakage current （Note 2、3）	V _{R1} =1.5V	--	--	0.3	μA
I _R T _J =60℃		V _{R2} =10V	--	--	0.5	
		V _{R3} =50V	--	--	1	
		V _{R4} =75V	--	--	2	
	V _{R1} =1.5V	--	--	12	μA	
V _{R2} =10V	--	--	20			
V _{R3} =50V	--	--	44			
V _{R4} =75V	--	--	80			
V _F	Forward voltage（Note 2、3）	I _{F1} =0.1mA	--	--	0.25	V
		I _{F2} =10mA	--	--	0.45	
		I _{F3} =250mA	--	--	1	
C _{tot}	Diode capacitance	V _R =0,f=1MHz		20	--	pF
		V _R =1V,f=1MHz	--	12	--	

Notes: 1. Part mounted on FR-4 board with recommended pad layout.
 2. Short duration pulse test used to minimize self-heating effect.
 3. pulsed $t_p \leq 300\mu\text{s}$; $\delta \leq 0.02$.

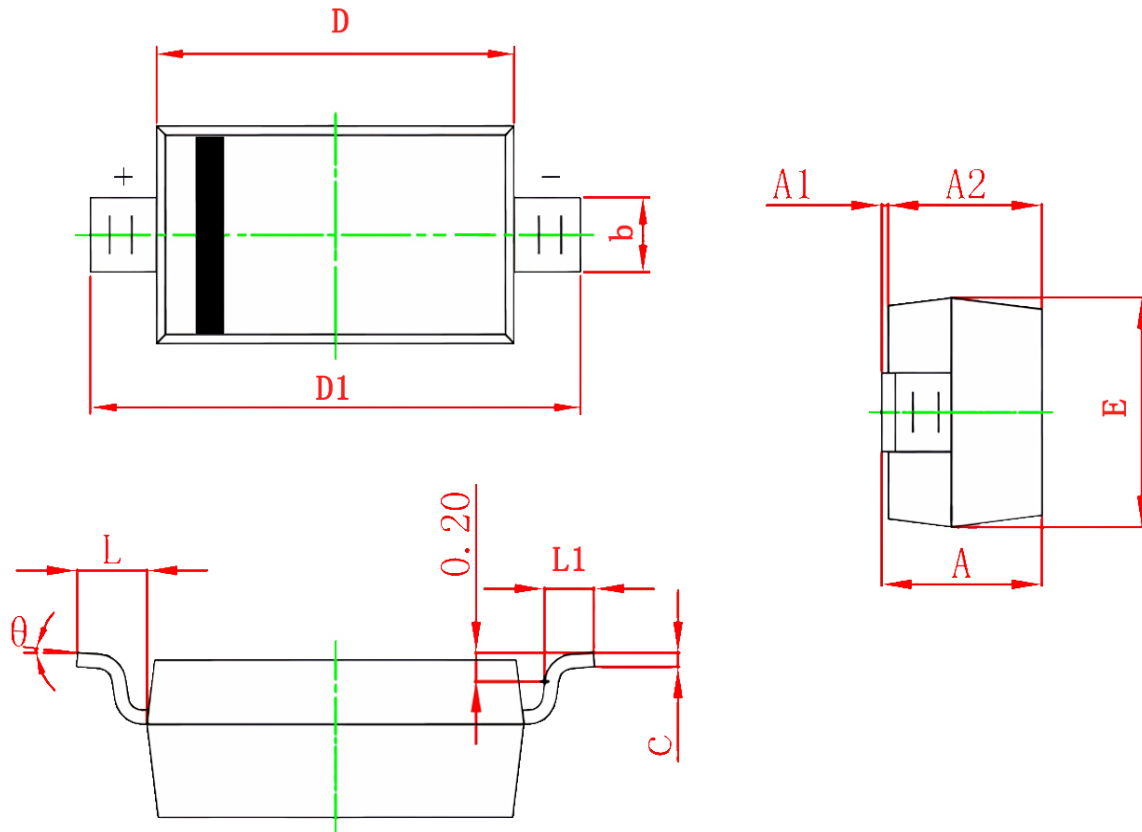
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BAT46W	SOD-123	S9	3,000	45,000	180,000	7"reel

Typical Characteristics



SOD-123 Package information



Symbol	Dimensions in Millimeters(mm)		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	2.600	2.800	0.102	0.110
D1	3.550	3.850	0.140	0.152
E	1.500	1.700	0.059	0.067
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°