

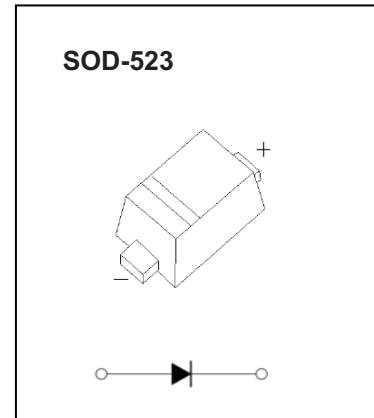
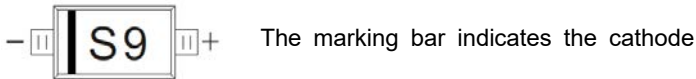
SOD-523 Plastic-Encapsulate Diodes

BAT46X SCHOTTKY BARRIER DIODE

FEATURES

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection

MARKING: S9



Maximum Ratings @T_a=25°C

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	V _{RRM}	100	V
Working peak reverse voltage	V _{RWM}		
Forward continuous current	I _F	150	mA
Repetitive peak forward current (Note 1) @ t _p < 1.0s, Duty Cycle < 50%	I _{FRM}	350	mA
Non-repetitive Peak Forward surge current @ t = 8.3ms	I _{FSM}	750	mA
Power dissipation	P _D	150	mW
Thermal resistance junction to ambient air	R _{θJA}	667	°C/W
Operating Junction Temperature Range	T _J	-40 ~ +125	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

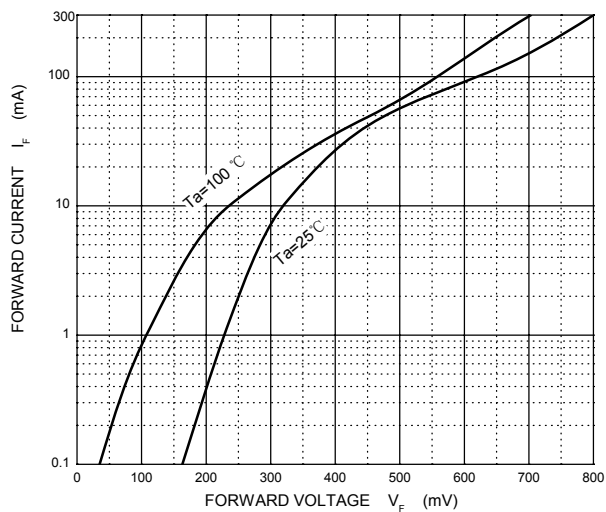
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	V _R	I _R = 100μA	100			V
Reverse voltage leakage current	I _R	V _{R1} =1.5V			0.3	μA
		V _{R2} =10V			0.5	
		V _{R3} =50V			1	
		V _{R4} =75V			2	
Forward voltage(Note 2)	V _F	I _{F1} =0.1mA			0.25	V
		I _{F2} =10mA			0.45	
		I _{F3} =250mA			1	
Diode capacitance	C _T	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.

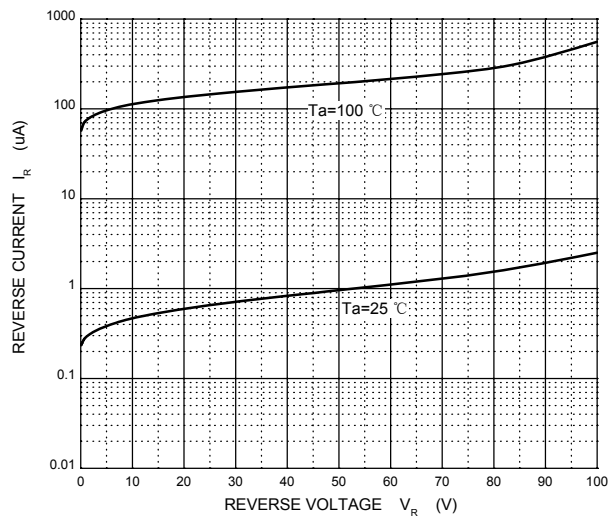
2. Short duration pulse test used to minimize self-heating effect.

Typical Characteristics

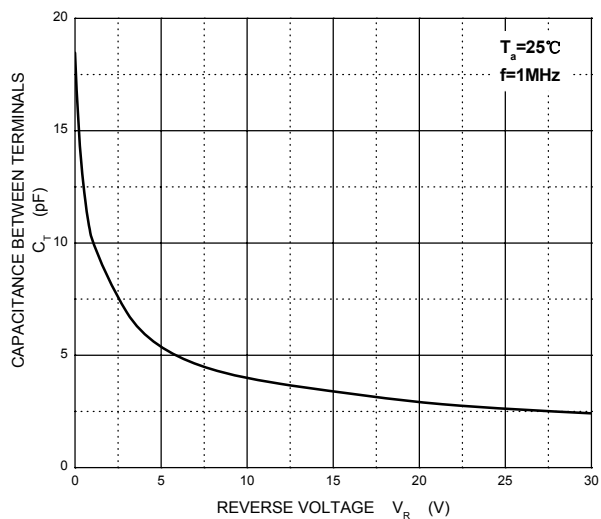
Forward Characteristics



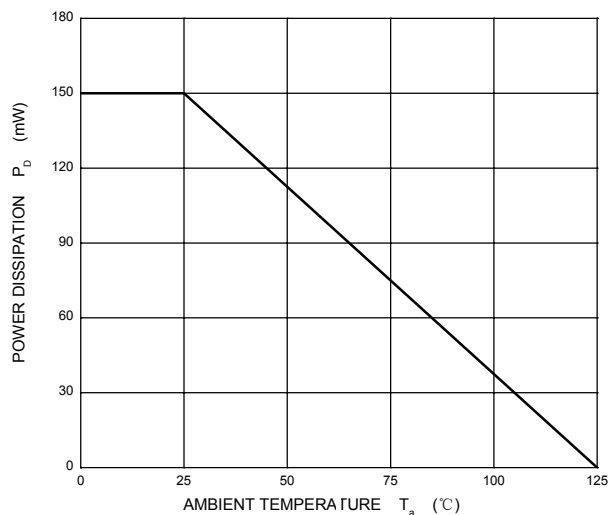
Reverse Characteristics



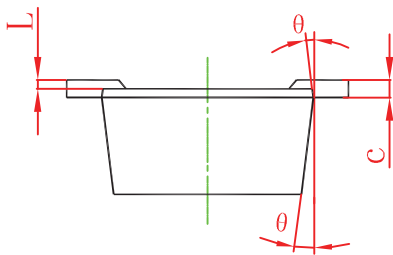
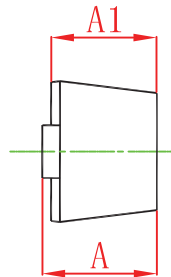
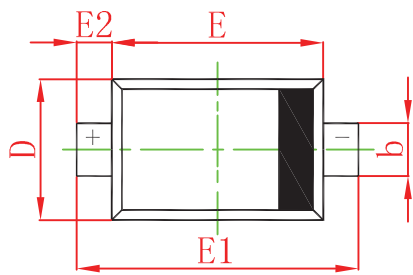
Capacitance Characteristics



Power Derating Curve

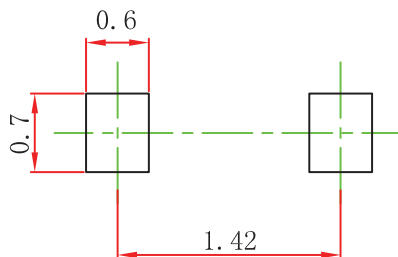


SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

SOD-523 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.