BORN SEMICONDUCTOR

BAT46X

Schottky Barrier Diode

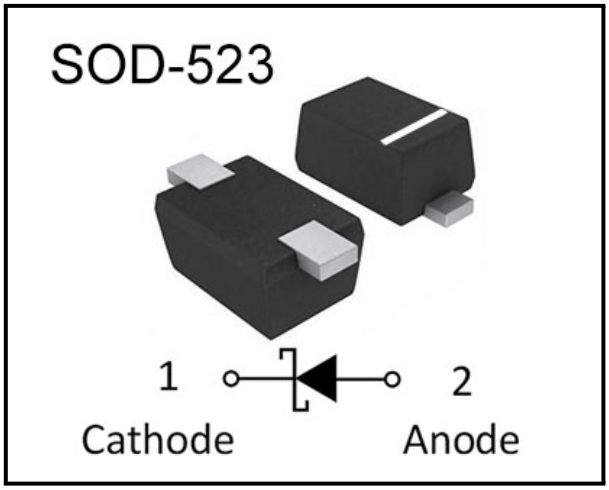
Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Epitaxial construction

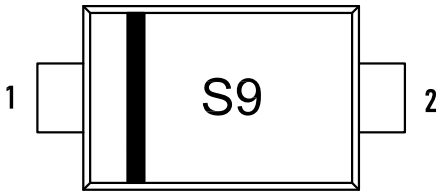
General Description

- Case: molded plastic
- Polarity: Color band denotes cathode
- Package: SOD-523 Plastic Package

Package



Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
BAT46X	SOD-523	S9	3K	Tape and reel

Maximum Ratings@T_A=25°C unless otherwise noted

Symbol	Parameters	Value	Unit
V_{RRM}	Repetitive Peak Reverse voltage	100	V
V_{RWM}	Working Peak Reverse Voltage		
$I_{F(AV)}$	Maximum average forward rectified current	150	mA
I_{FRM}	Repetitive peak forward current @tp<1.0s,Duty Cycle<50%	350	mA
I_{FSM}	Non-repetitive peak forward surge current 8.3ms singlehalf sine-wave	750	mA
P_d	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	667	°C/W
T_j	Operating junction temperature range	-40 to +125	°C
T_{STG}	Storage temperature range	-55 to +150	°C

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Electrical Characteristics@T_A=25°C unless otherwisenoted

Symbol	Parameters	Test conditions	Min	Typ	Max	Unit
$V_{(BR)}$	Reverse breakdown voltage	I_R=100uA	100	–	–	V
$V_{F(1)}$	Forward voltage	I_F=0.1mA	–	–	0.25	V
$V_{F(2)}$		I_F=10mA	–	–	0.45	
$V_{F(3)}$		I_F=250mA	–	–	1.00	
I_R	Reverse voltage leakage current	V_R=1.5V	–	–	0.3	μA
		V_R=10V	–	–	0.5	
		V_R=50V	–	–	1.0	
		V_R=75V	–	–	2.0	
C_T	Diode capacitance	V_R=0V,f=1MHz	–	20	–	pF
		V_R=1V,f=1MHz	–	12	–	

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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1: Forward Characteristics

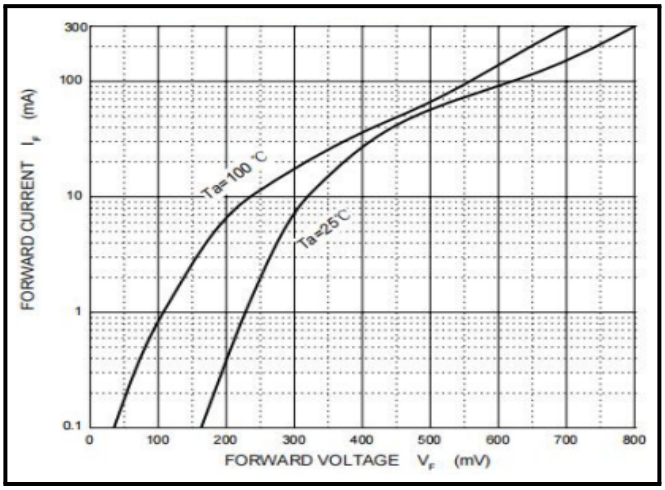


Figure 2:Reverse Characteristics

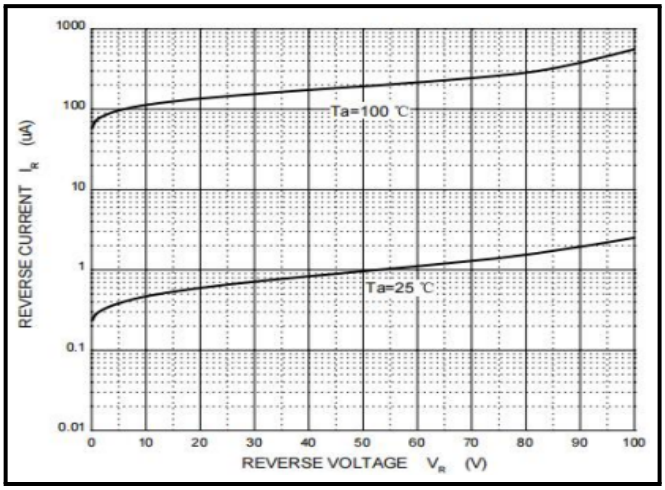


Figure 3:Capacitance Characteristics

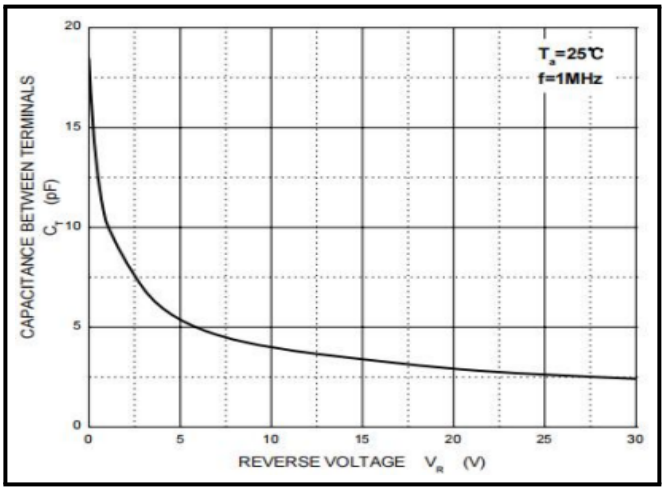
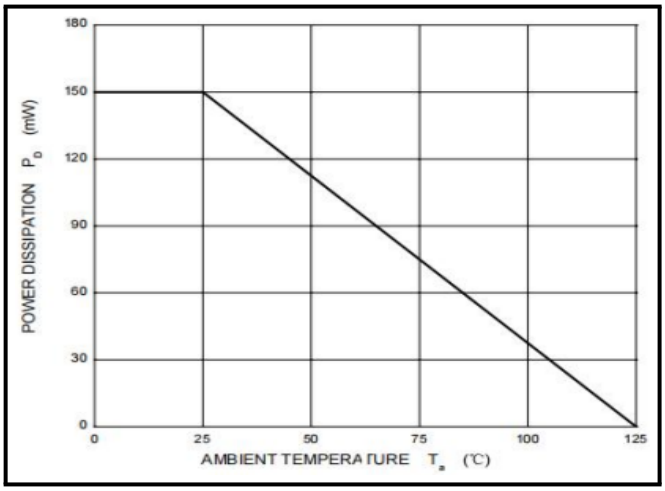


Figure 4:Power Derating Curve



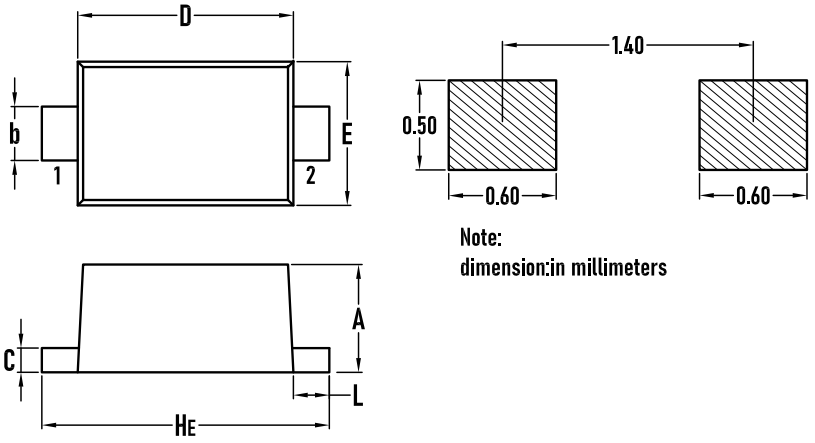
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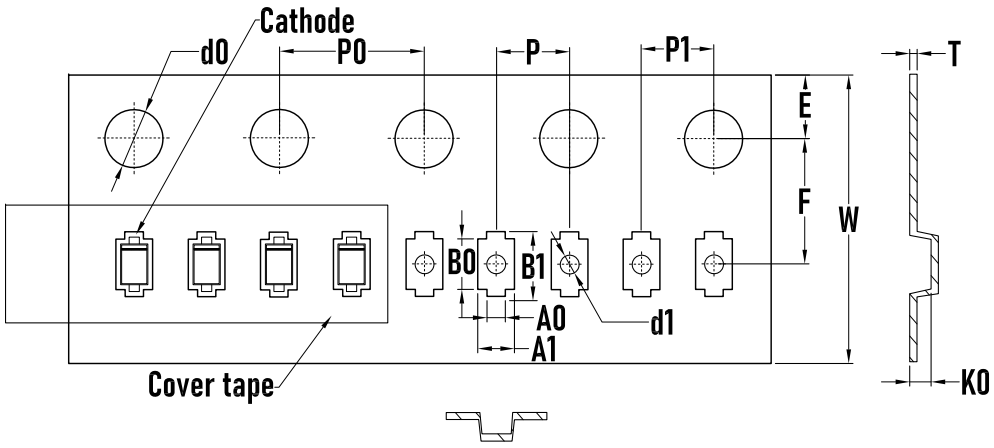
Schottky Barrier Diode

Outline Drawing - SOD-523



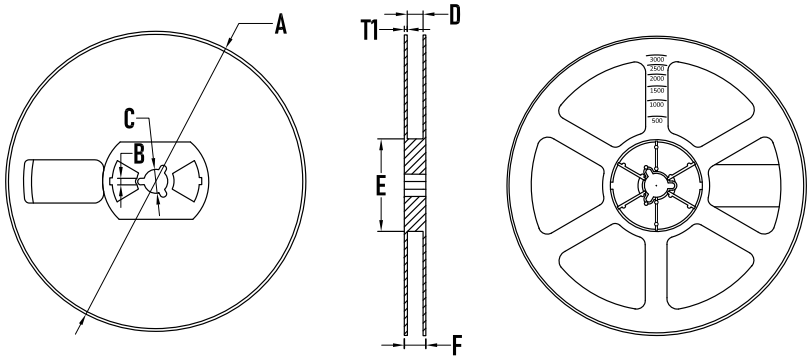
SYMBOL	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H_E	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

Packaging Tape - SOD-523



SYMBOL	MILLIMETER
A0	0.50±0.10
A1	1.00±0.10
B0	1.30±0.10
B1	1.80±0.10
d0	1.55±0.10
d1	0.50±0.05
E	1.75±0.10
F	3.50±0.10
K0	0.65±0.10
P	2.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.2 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	5000PCS

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