

SOD-523 Plastic-Encapsulate Diodes

BAT54X

Schottky Barrier Diode

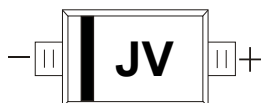
SOD-523



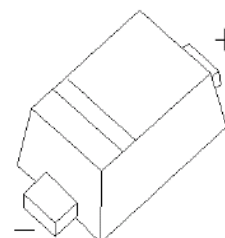
FEATURES

- Extremely Fast Switching Speed
- Low Forward Voltage

MARKING:JV



The marking bar indicates the cathode



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

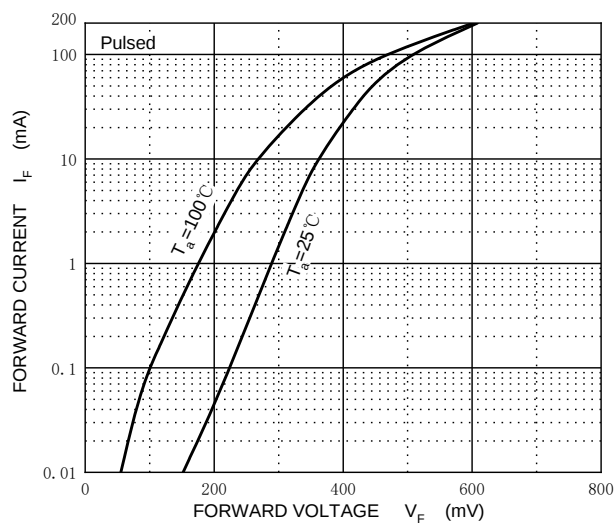
Parameter	Symbol	Limit	Unit
Non-repetitive peak reverse voltage	V_{RM}	30	V
DC blocking voltage	V_R	21	V
Average rectified output current	I_O	100	mA
Forward continuous current	I_F	200	mA
Repetitive peak forward current	I_{FRM}	300	mA
Non-repetitive Peak Forward surge current @ $t=8.3\text{ms}$	I_{FSM}	600	mA
Power dissipation	P_d	150	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	667	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	$-40 \sim +125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^{\circ}\text{C}$

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

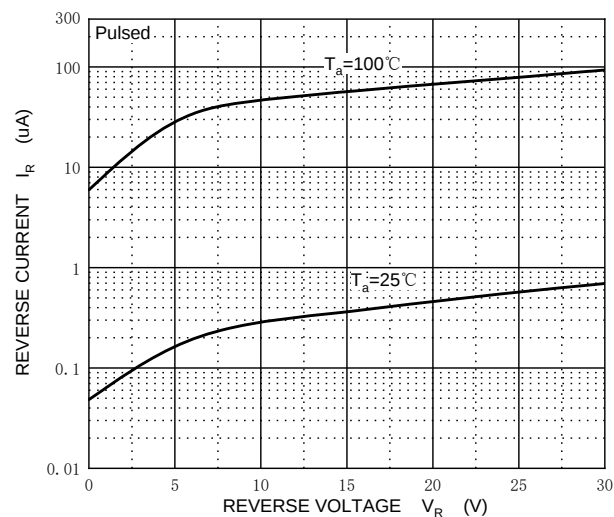
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Forward voltage	V_{F1}	$I_F=0.1\text{mA}$			240	mV
	V_{F2}	$I_F=1.0\text{mA}$			320	mV
	V_{F3}	$I_F=10\text{mA}$			400	mV
	V_{F4}	$I_F=30\text{mA}$			500	mV
	V_{F5}	$I_F=100\text{mA}$			1000	mV
Reverse current	I_R	$V_R=25\text{V}$			2.0	μA
Reverse recovery time	t_{rr}	$I_F=10\text{mA}$, $I_R=10\text{mA}$ to 1mA , $R_L=100\Omega$			5.0	ns
Capacitance between terminals	C_T	$V_R=1\text{V}$, $f=1\text{MHz}$			10	pF

Typical Characteristics

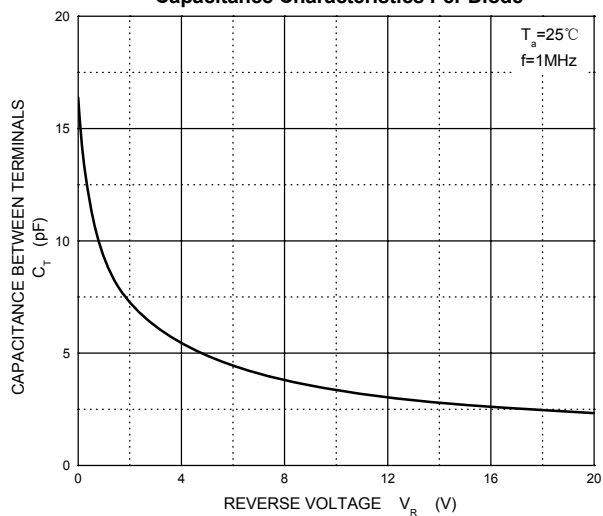
Forward Characteristics



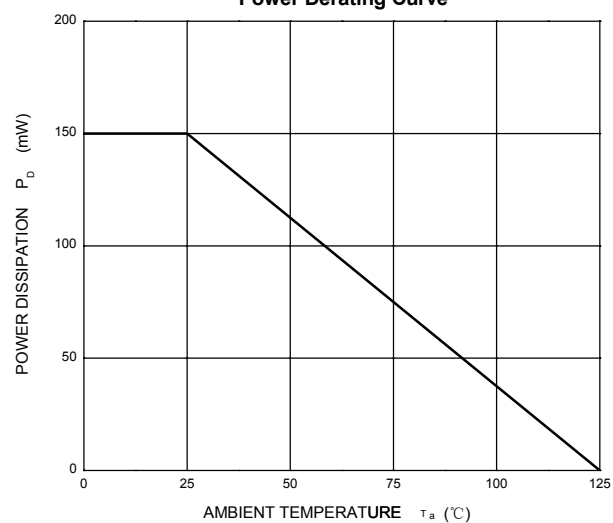
Reverse Characteristics



Capacitance Characteristics Per Diode

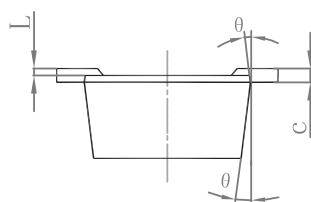
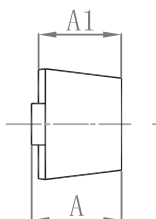
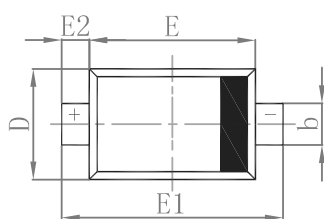


Power Derating Curve



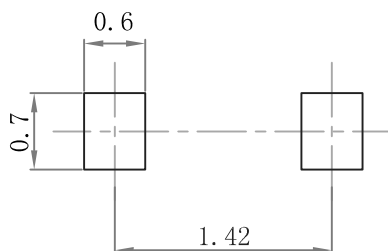
Outline Drawing

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	0.770	0.020	0.031
b	0.250	0.400	0.010	0.016
c	0.080	0.150	0.003	0.006
D	0.750	1.000	0.030	0.040
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.150	0.250	0.006	0.010
L	0.000	0.070	0.000	0.003
K	0°	8°	0°	8°

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.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-523	7'	178	3000	190*190*190	45,000	400*400*220	180,000

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