

SOD-523 Plastic-Encapsulate Diodes

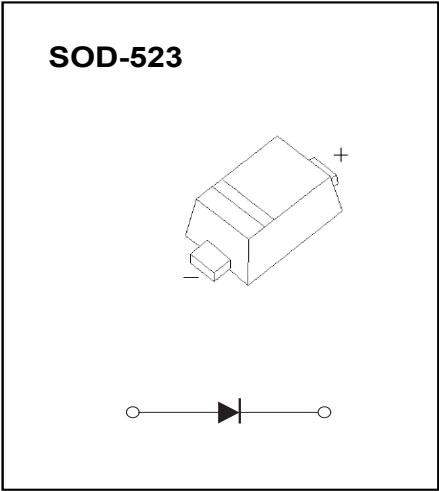
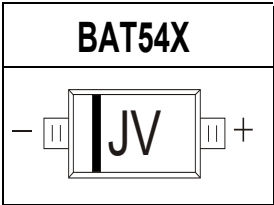
BAT54X

SCHOTTKY BARRIER DIODE

FEATURES

- Low Forward Voltage Drop
- Extremely Fast Switching Speed

MARKING



MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

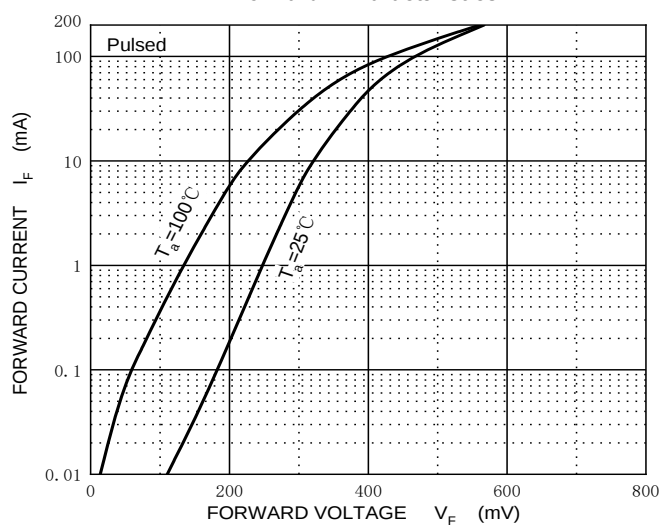
Parameter	Symbol	Limit	Unit
Non-repetitive peak reverse voltage	V_{RM}	30	V
DC blocking voltage	V_R	21	V
Average rectified output current	I_O	100	mA
Forward continuous current	I_F	200	mA
Repetitive peak forward current	I_{FRM}	300	mA
Non-repetitive Peak Forward surge current @t=8.3ms	I_{FSM}	600	mA
Power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

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

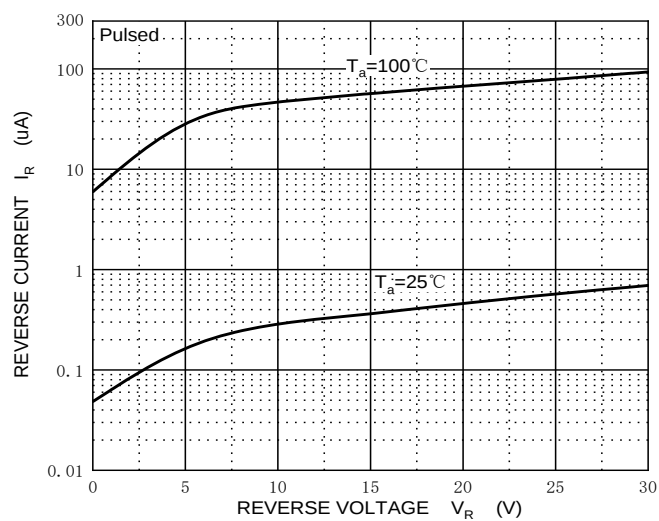
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	30			V
Forward voltage	V_{F1}	$I_F=0.1mA$			240	mV
	V_{F2}	$I_F=1.0mA$			320	mV
	V_{F3}	$I_F=10mA$			400	mV
	V_{F4}	$I_F=30mA$			500	mV
	V_{F5}	$I_F=100mA$			1000	mV
Reverse current	I_R	$V_R=25V$			2.0	uA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

Typical Characteristics

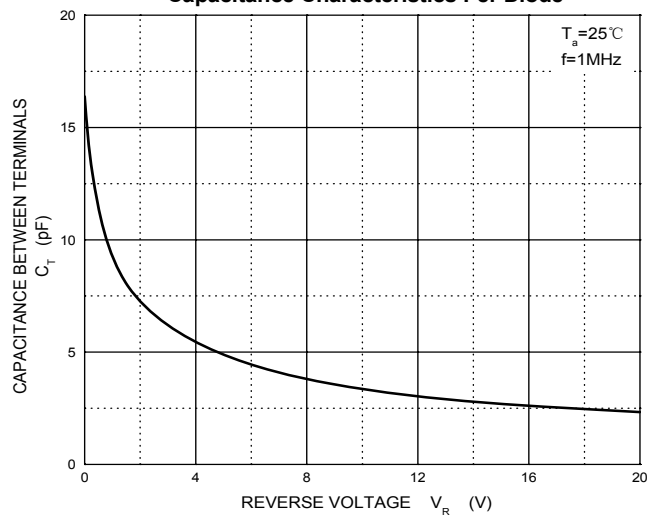
Forward Characteristics



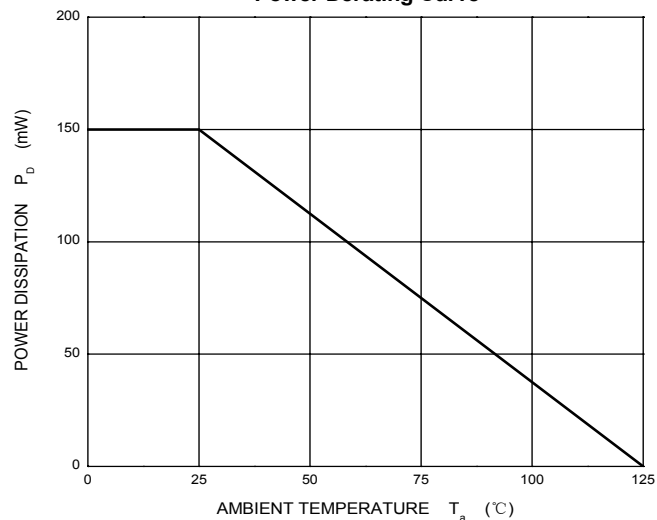
Reverse Characteristics



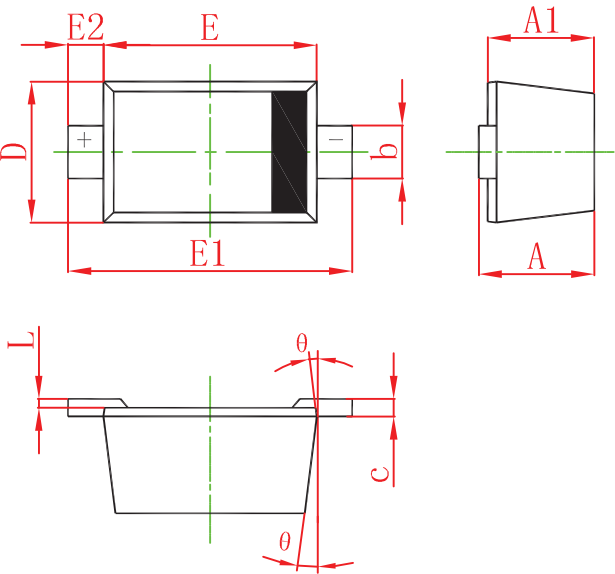
Capacitance Characteristics Per Diode



Power Derating Curve

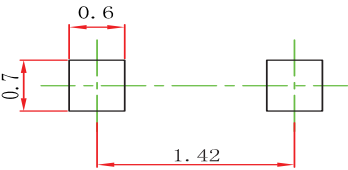


Package Outline Dimensions (SOD-523)



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	

Suggested Pad Layout (SOD-523)



- Note:
- 1.Controlling dimension:in millimeters.
 - 2.General tolerance:± 0.05mm.
 - 3.The pad layout is for reference purposes only.