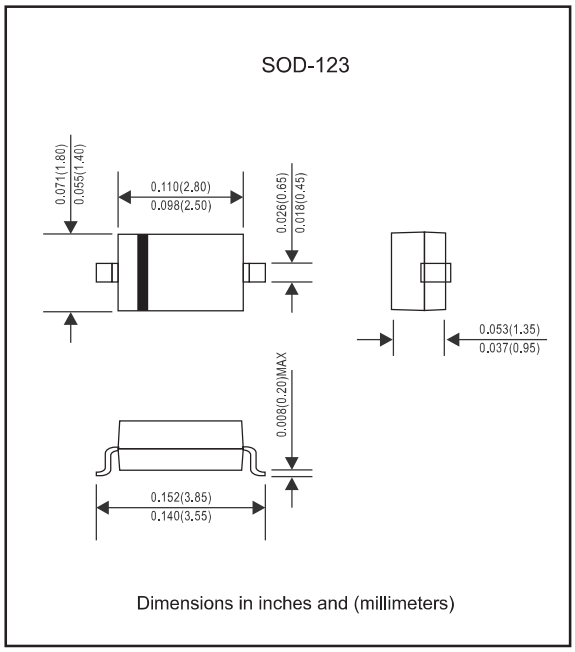
B0520LW

SCHOTTKY BARRIER DIODE

Package outline



FEATURES

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

MARKING:SD

Maximum Ratings @Ta=25℃

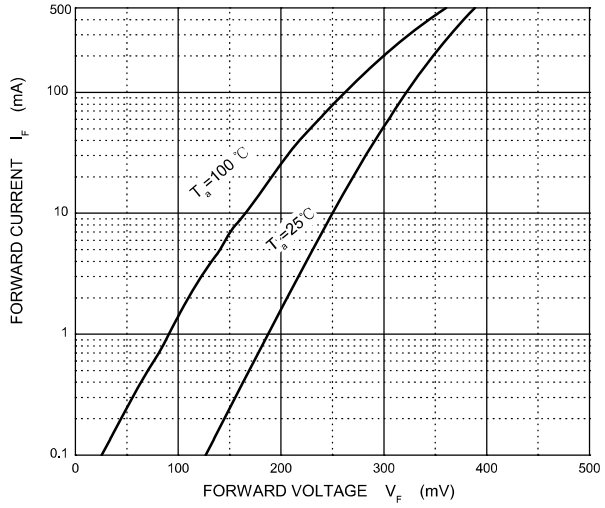
Parameter	Symbo	Value	Unit
Peak repetitive peak reverse voltage **Working peak reverse voltage** **DC blocking voltage**	V_{RRM} V_{RWM} V_R	20	V
RMS reverse voltage reverse voltage (DC)	$V_{R(RMS)}$	14	V
Average rectified output current	I_o	0.5	A
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	5.5	A
Power dissipation	P_D	500	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	200	℃/W
Operating Junction Temperature Range	T_j	-40 ~ +125	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃
Voltage rate of change	dv/dt	1000	V/μs

Electrical Characteristics @Ta=25℃

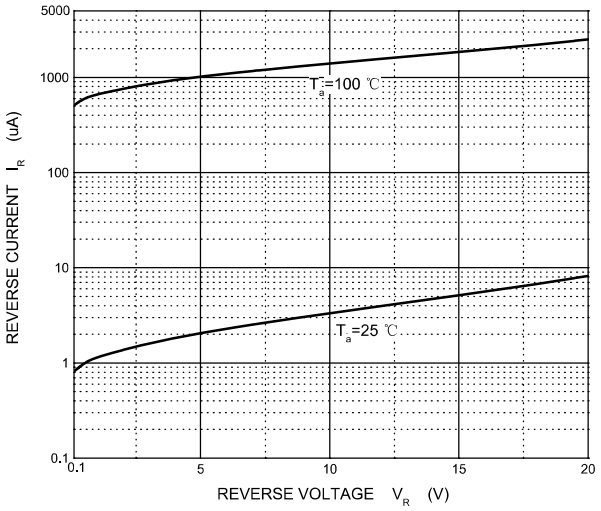
	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	I_R=250uA	20			V
Reverse current	I_R	V_R=10V			75	uA
		V_R=20V			250	
Forward voltage	V_F	I_F=0.1A			0.33	V
		I_F=0.5A			0.39	
Capacitance between terminals	C_T	V_R=1V,f=1MHz		170		pF

Typical Characteristics

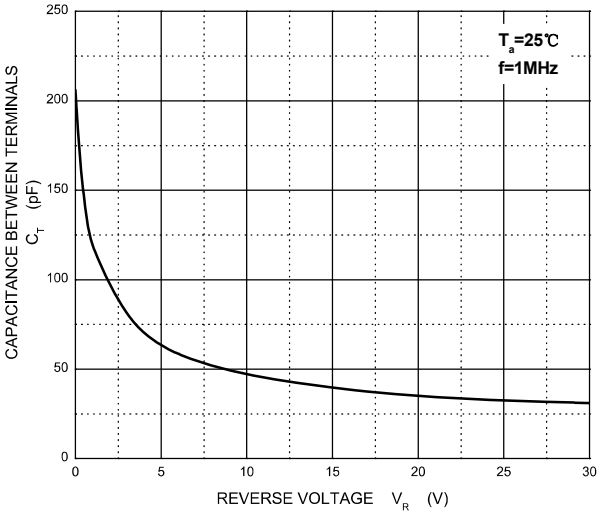
Forward Characteristics



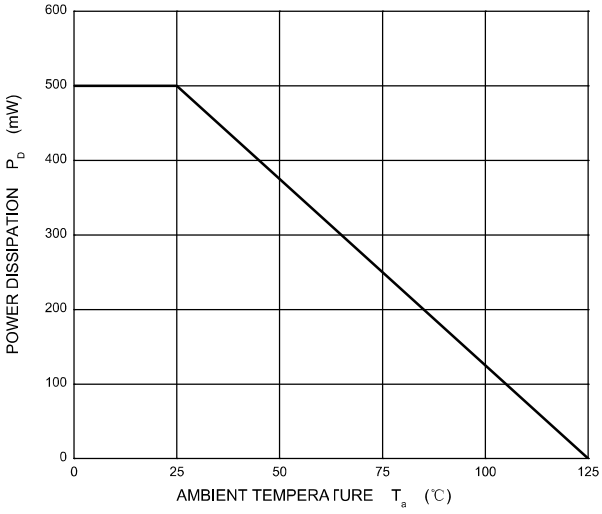
Reverse Characteristics



Capacitance Characteristics



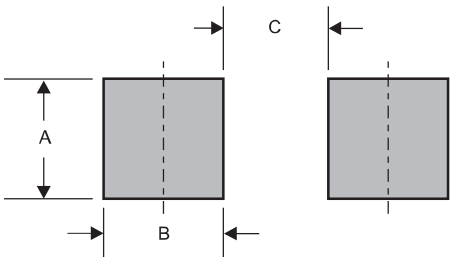
Power Derating Curve



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Suggested solder pad layout

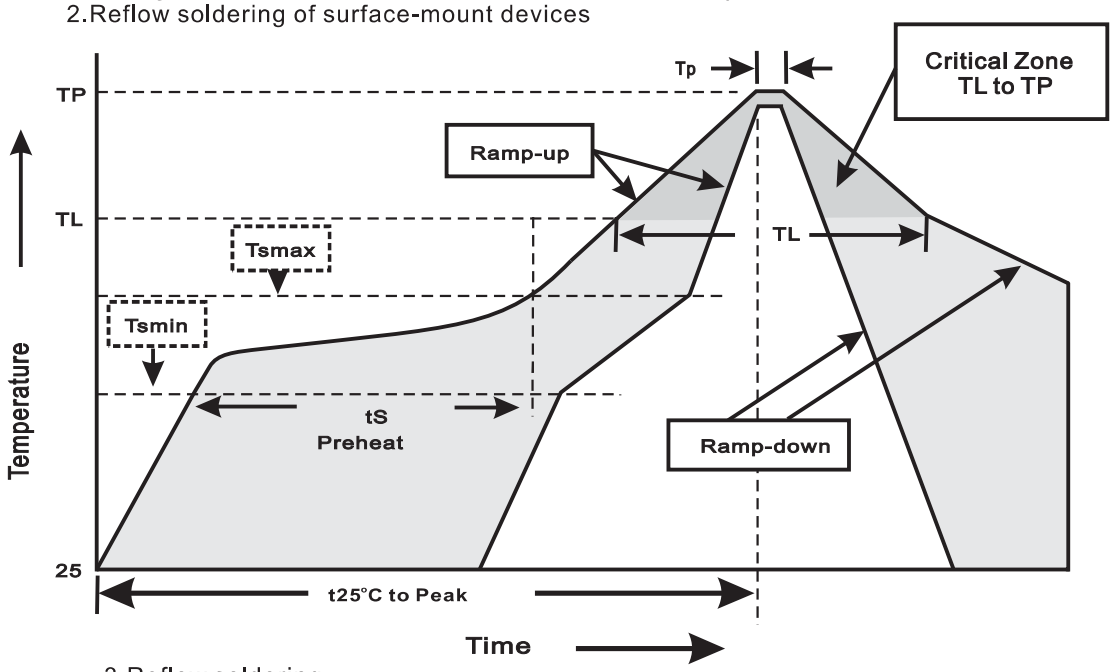


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.048 (1.22)	0.036 (0.91)	0.093 (2.36)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes