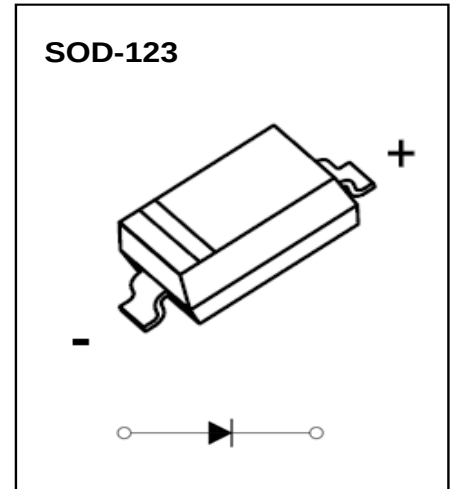


SOD-123 Plastic-Encapsulate Diodes**MBR0520/0530/0540/0560/0580****SCHOTTKY BARRIER DIODE****FEATURES**

- Extremely Low Thermal Resistance
- For Surface Mount Application and High Current Capability

MARKING

MBR0520	MBR0530	MBR0540	MBR0560	MBR0580

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

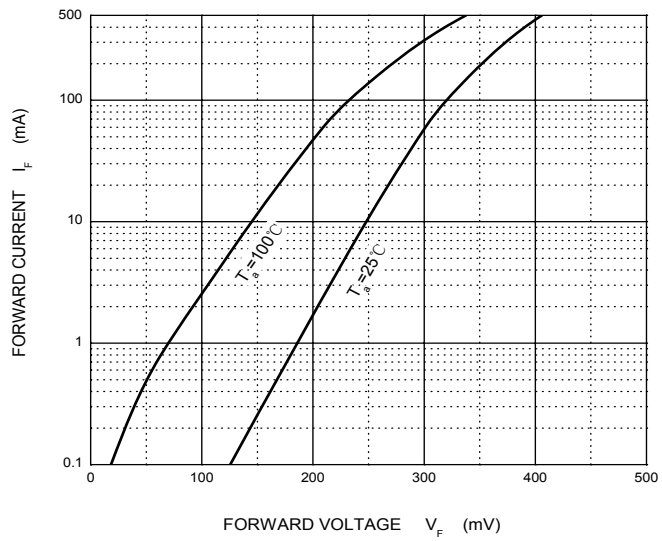
Parameter	Symbol	MBR 0520	MBR 0530	MBR 0540	MBR 0560	MBR 0580	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	20	30	40	60	80	V
Maximum RMS voltage	V_{RMS}	14	21	28	42	56	
Mean rectifying current	I_O	0.5					A
Non-repetitive Peak forward surge current @ $t=8.3\text{ms}$	I_{FSM}	5.5					A
Power Dissipation	P_d	410					mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	244					$^{\circ}\text{C}/\text{W}$
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)

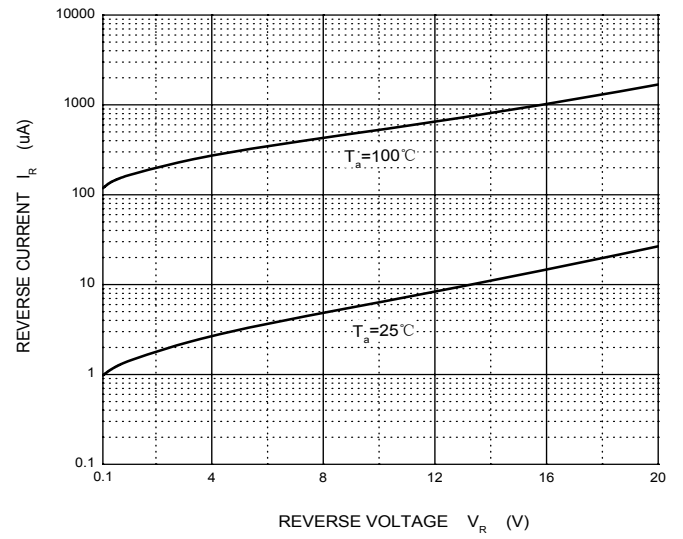
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage MBR0520 MBR0530 MBR0540 MBR0560 MBR0580	V_F			0.45 0.55 0.55 0.70 0.80	V	$I_F=500\text{mA}$
Reverse current MBR0520 MBR0530 MBR0540 MBR0560 MBR0580	I_R			80	μA	$V_R=20\text{V}$ $V_R=30\text{V}$ $V_R=40\text{V}$ $V_R=60\text{V}$ $V_R=80\text{V}$
Capacitance between terminals	C_T		30		pF	$V_R=4\text{V}$, $f=1\text{MHZ}$

Typical Characteristics

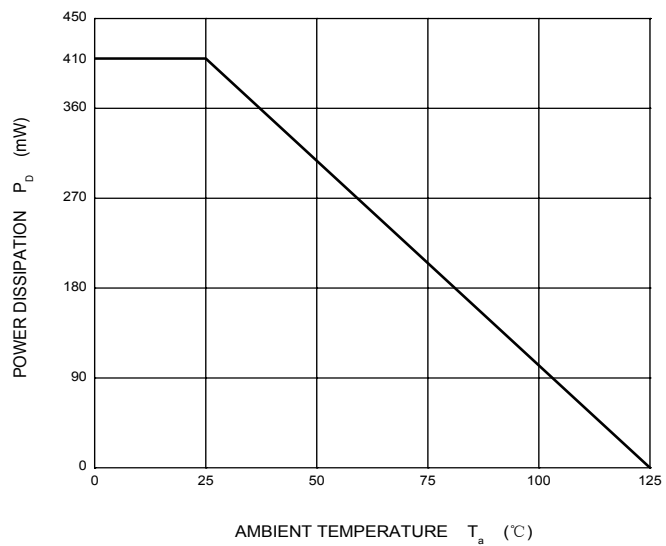
Forward Characteristics



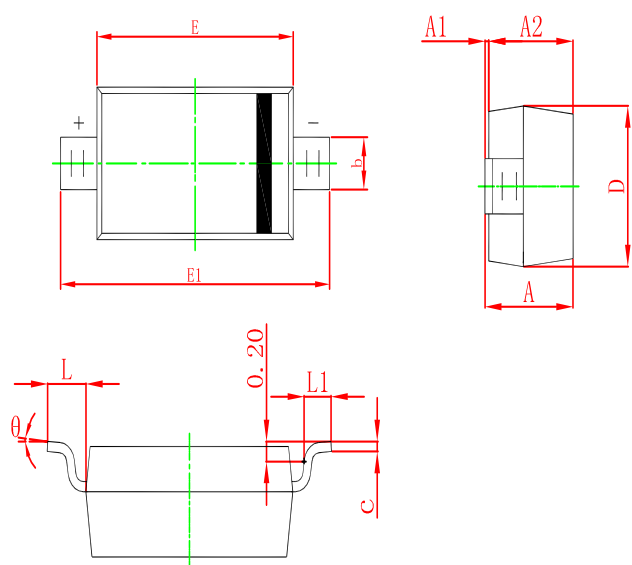
Reverse Characteristics



Power Derating Curve

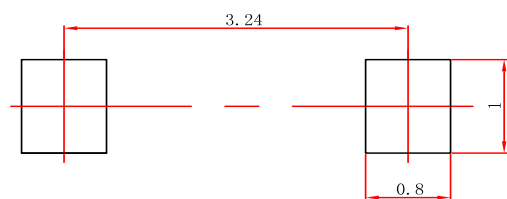


Package Outline Dimensions (SOD-123)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout (SOD-123)



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