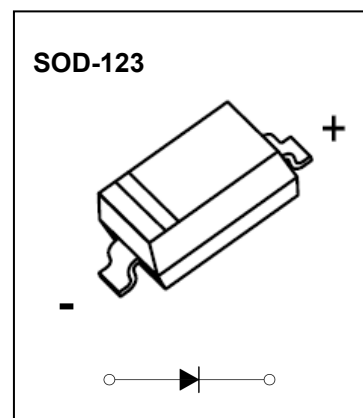


## SOD-123 Plastic-Encapsulate Diodes

### FEATURES

- Lead Free Finish/RoHS Compliant
- Extremely Low Thermal Resistance
- For Surface Mount Application and High Current Capability



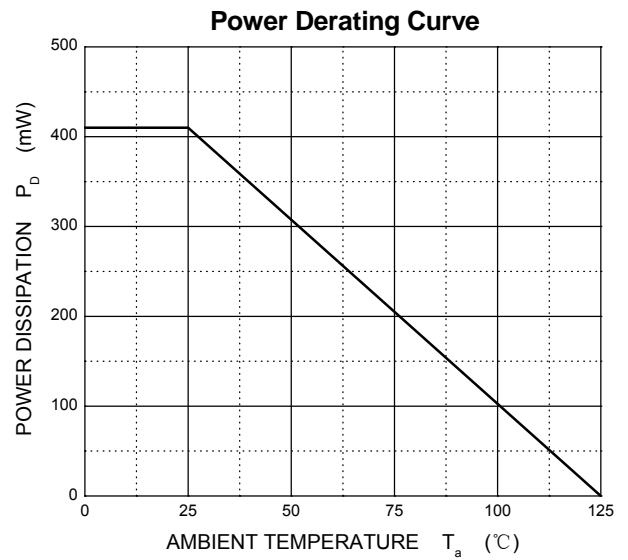
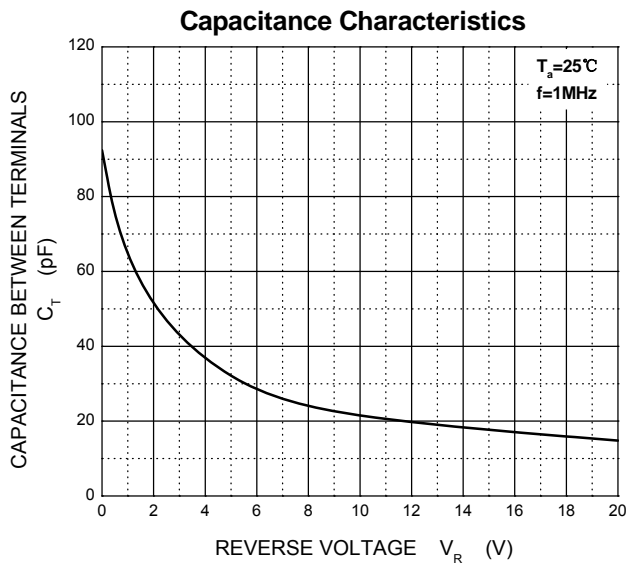
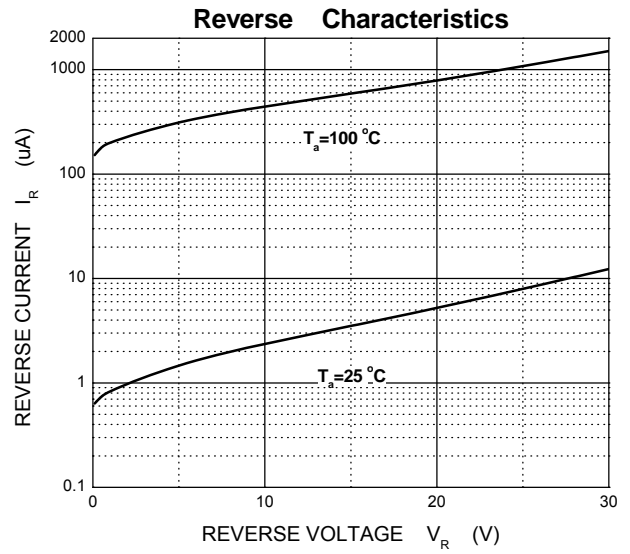
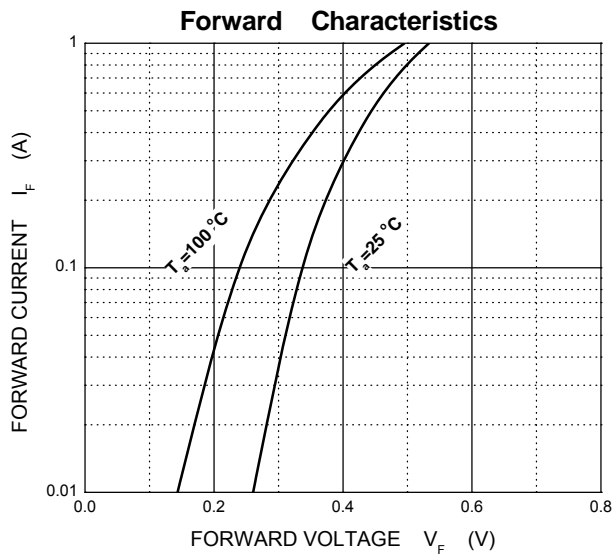
### Maximum Ratings @T<sub>a</sub>=25°C

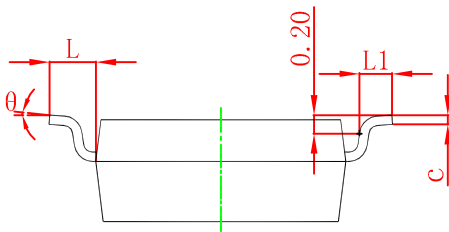
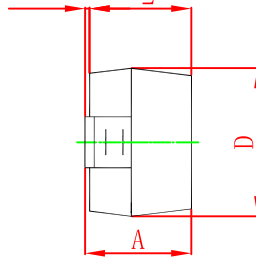
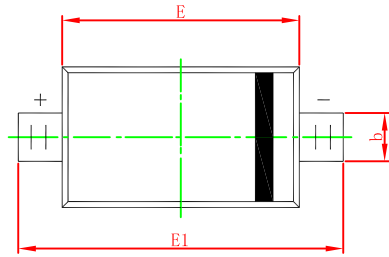
Parameter	Symbol	MBR	MBR	MBR	MBR	MBR	Unit
		0520	0530	0540	0560	0580	
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	20	30	40	60	80	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	42	56	
Mean rectifying current	I <sub>O</sub>	0.5					A
Non-repetitive Peak forward surge current @t=8.3ms	I <sub>FSM</sub>	5.5					A
Power Dissipation	P <sub>D</sub>	410					mW
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	244					°C/W
Junction temperature	T <sub>j</sub>	125					°C
Storage temperature	T <sub>stg</sub>	-55~+150					°C

**ELECTRICAL CHARACTERISTICS**
**T<sub>a</sub>=25 °C unless otherwise specified**

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

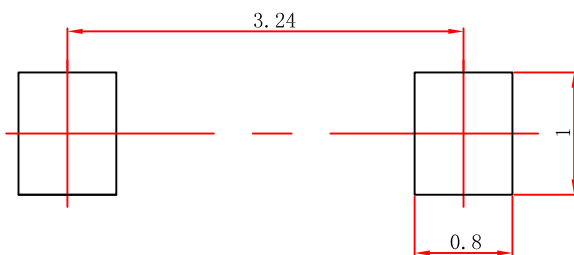
## Typical Characteristics





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°

## SOD-123 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.