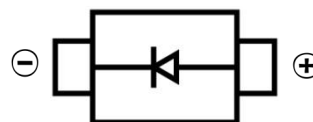


SCHOTTKY BARRIER DIODE
FEATURES

- Low Forward Voltage
- High conductance
- Small Surface Mount device
- PN Junction Guard Ring for Transient and ESD Protection

SOD-123

MECHANICAL DATA

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.005 grams (approximate)

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

Parameter	Symbol	MBR0520L	MBR0530L	MBR0540L	Unit
Peak Reverse Voltage	V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	
Maximum DC Blocking Voltage	V_{RM}	20	30	40	
Average rectified output current	I_O	500			mA
Non-Repetitive Peak Forward Surge Current@ $t=8.3\text{ms}$	I_{FSM}	5.5			A
Power Dissipation	P_D	410			mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	305			$^\circ\text{C/W}$
Junction Temperature	T_J	125			$^\circ\text{C}$
Storage Temperature	T_{STG}	$-55 \sim +150$			$^\circ\text{C}$

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

Parameter	Symbol	MBR0520L	MBR0530L	MBR0540L	Unit	Conditions
Maximum Forward voltage	V_F	0.300	0.375	0.510	V	$I_F=100\text{mA}$
		0.385	0.430	0.620		$I_F=500\text{mA}$
Minimum Reverse voltage	V_R	20	30	40	V	$I=I_R$
Maximum Reverse voltage leakage current@Rated DC Blocking Voltage	I_R	75	20	10	μA	$V=1/2V_R$
		250	130	20		$V=V_R$
Typical Junction capacitance	C_J	170			pF	$V_R=0\text{V}, f=1\text{MHz}$

MARKING:

MBR0520L	MBR0530L	MBR0540L
SD	SE	SF

Typical Characteristics

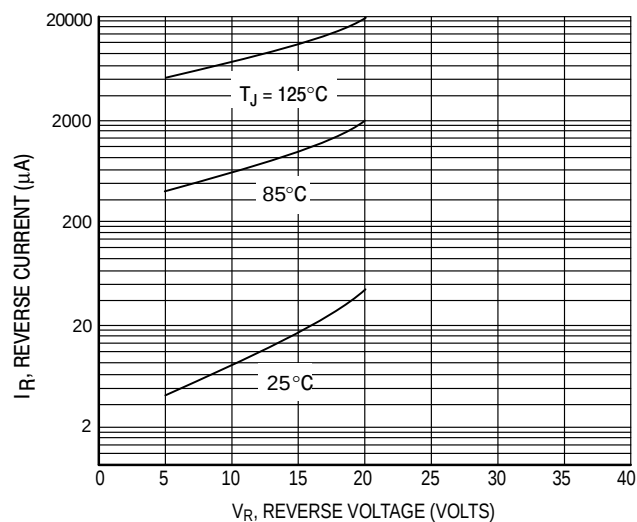


Figure 1. Typical Reverse Current of MBR0520L

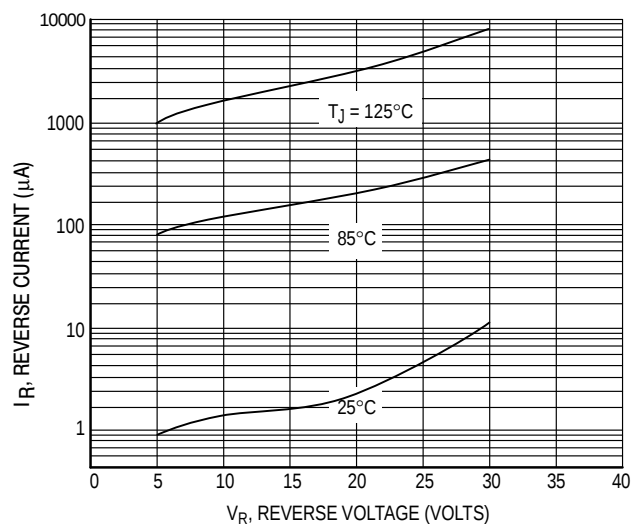


Figure 2. Typical Reverse Current of MBR0530L

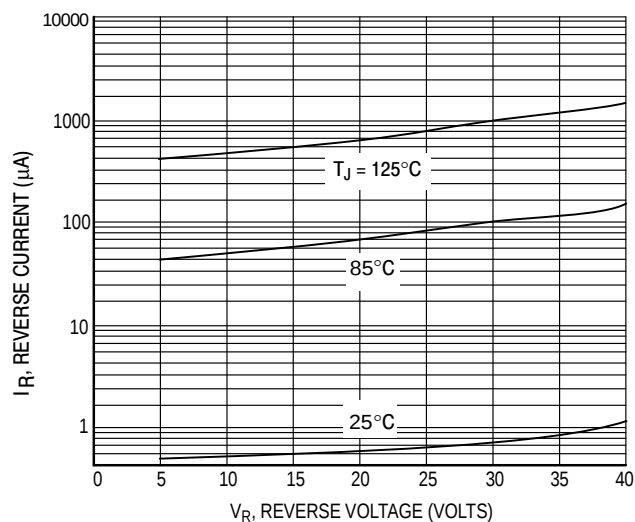
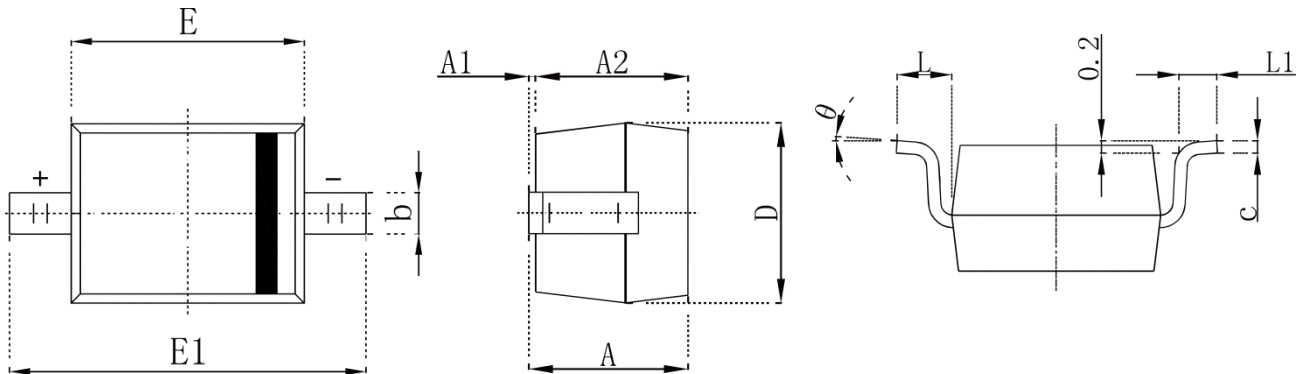
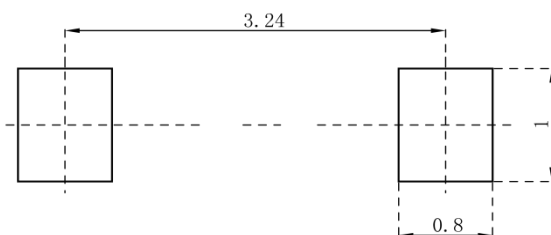


Figure 3. Typical Reverse Current of MBR0540L

SOD-123 Package Outline Dimensions


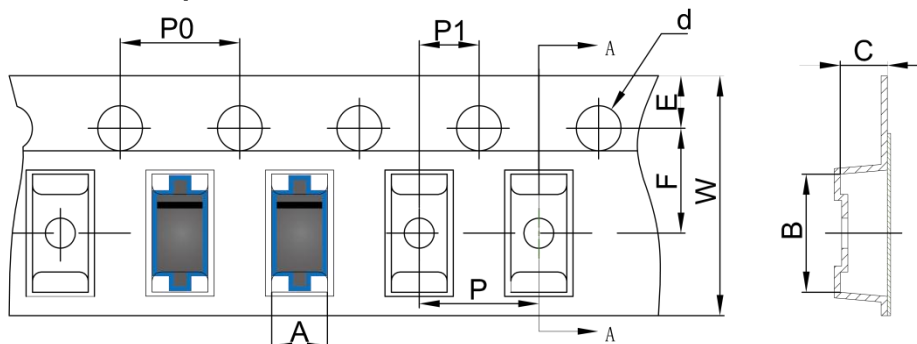
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500REF		0.020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

SOD-123 Tape and Reel

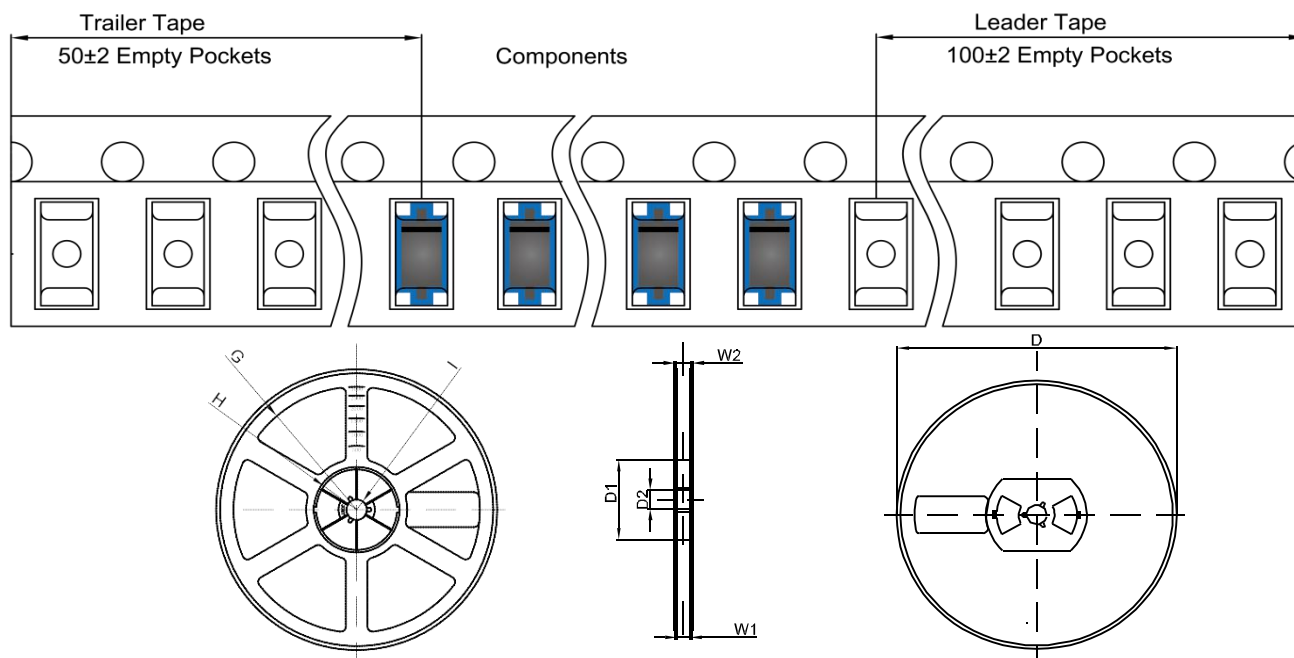
SOD-123 Embossed Carrier Tape



SOD-123 Tape Leader and Trailer

DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOD-123 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1