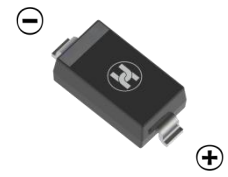


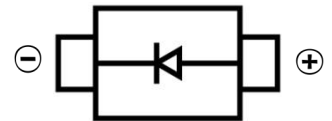
SCHOTTKY BARRIER DIODE

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

SCHOTTKY BARRIER DIODE

Typical Characteristics

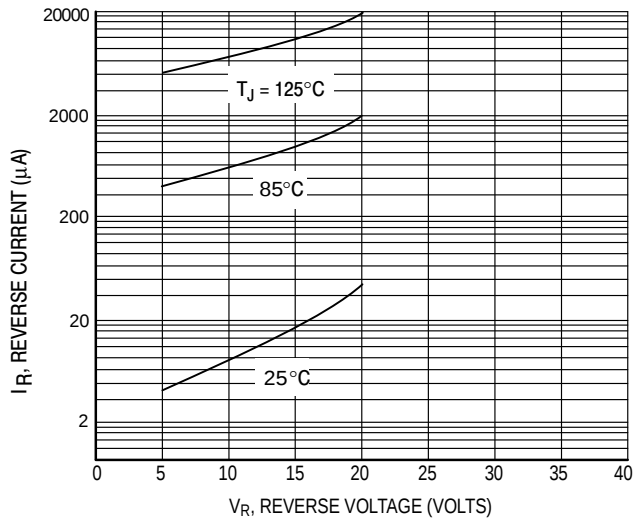


Figure 1. Typical Reverse Current of MBR0520L

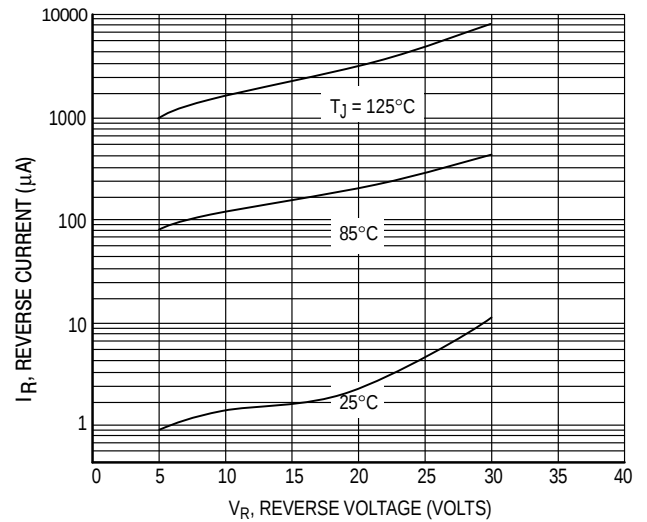


Figure 2. Typical Reverse Current of MBR0530L

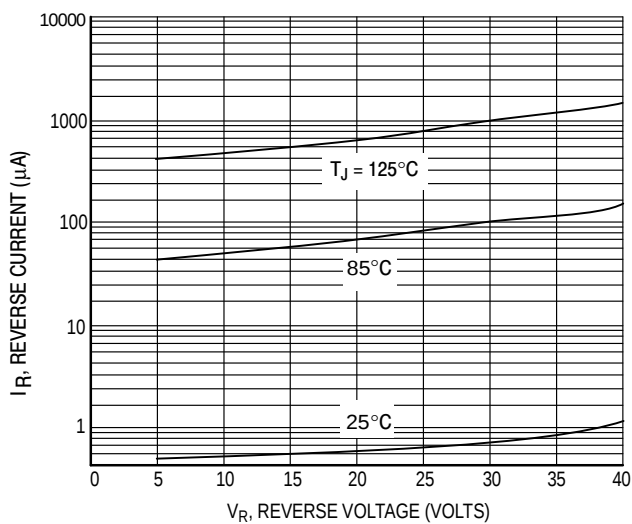
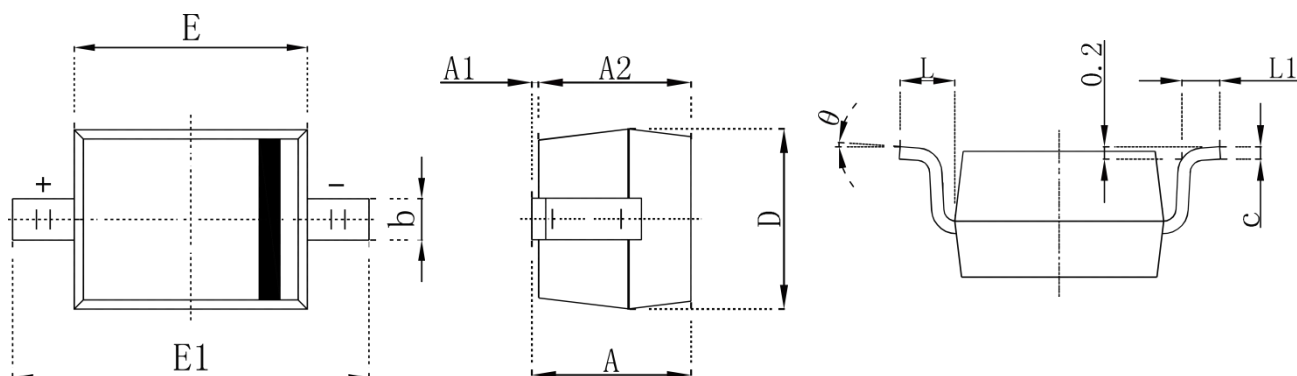
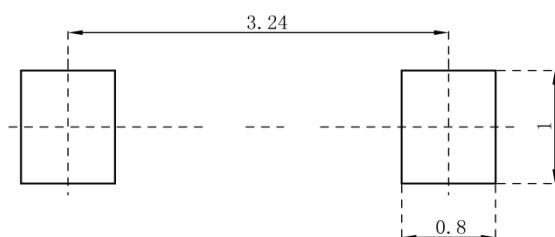


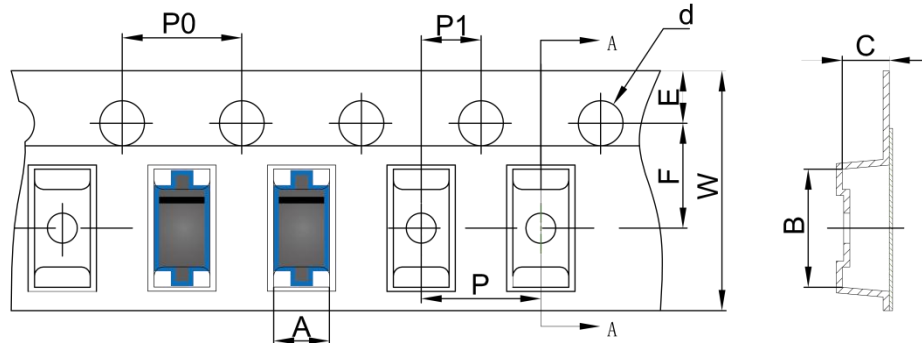
Figure 3. Typical Reverse Current of MBR0540L

SCHOTTKY BARRIER DIODE
SOD-123 Package Outline Dimensions


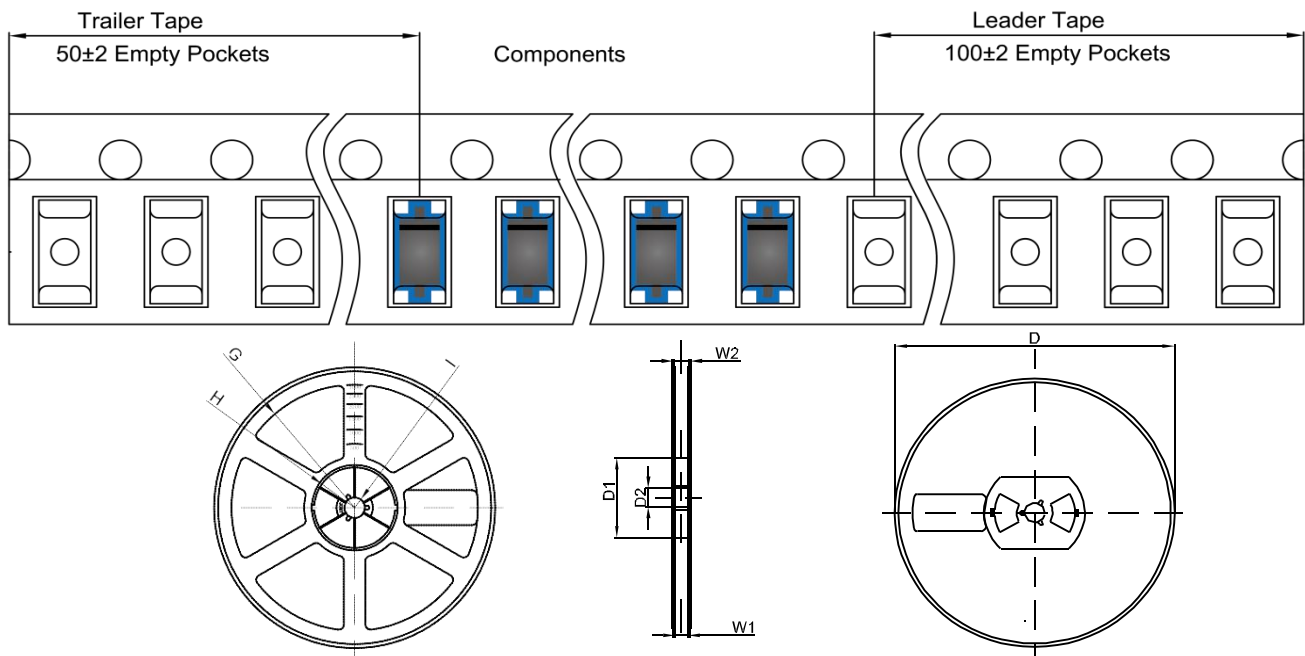
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500REF		0.020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

SCHOTTKY BARRIER DIODE
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