

Features

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



SOD-123 top view



Schematic diagram

Marking:R2	Marking:R3	Marking:R4	Marking:R6	Marking:R8



Halogen-Free

Maximum Ratings($T_a=25^{\circ}\text{C}$ unless otherwise noted)

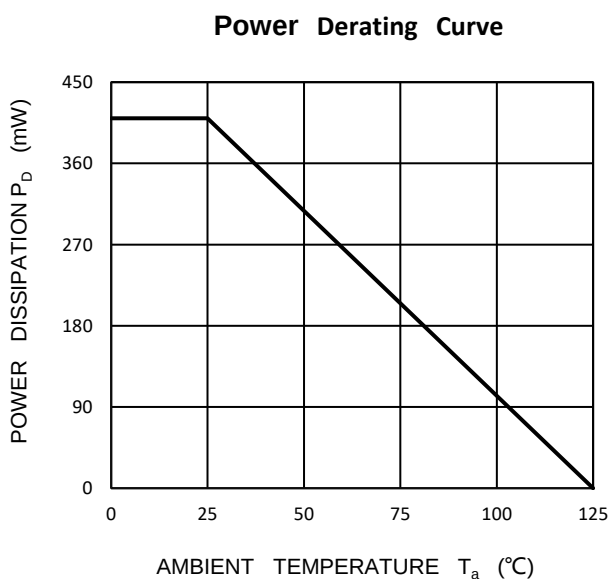
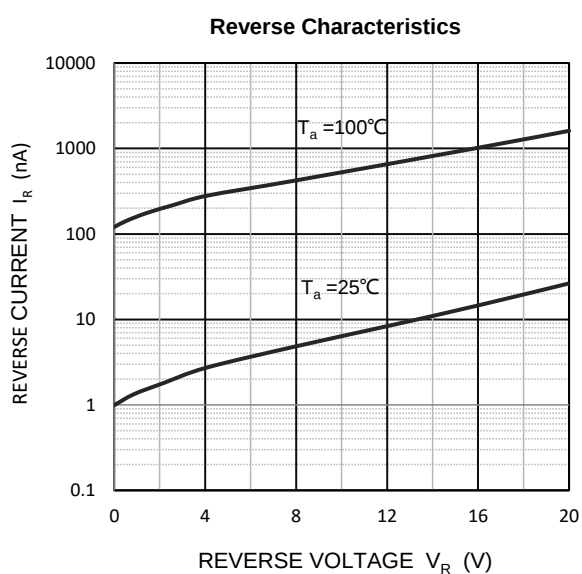
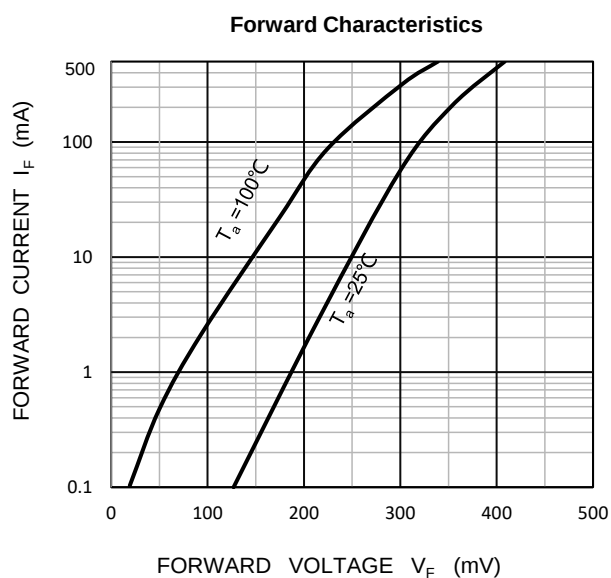
Symbol	Parameter	MBR 0520	MBR 0530	MBR 0540	MBR 0560	MBR 0580	Unit
V_{RRM}	Maximum recurrent peak reverse voltage	20	30	40	60	80	V
$V_{R(RMS)}$	Maximum RMS voltage	14	21	28	42	56	
I_O	Mean rectifying current	0.5					A
I_{FSM}	Non-repetitive Peak Forward Surge Current@t= 8.3ms	5.5					A
P_D	Power Dissipation	410					mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	244					$^{\circ}\text{C/W}$
T_J	Operating Junction Temperature Range	-40~+125					$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~+150					$^{\circ}\text{C}$

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

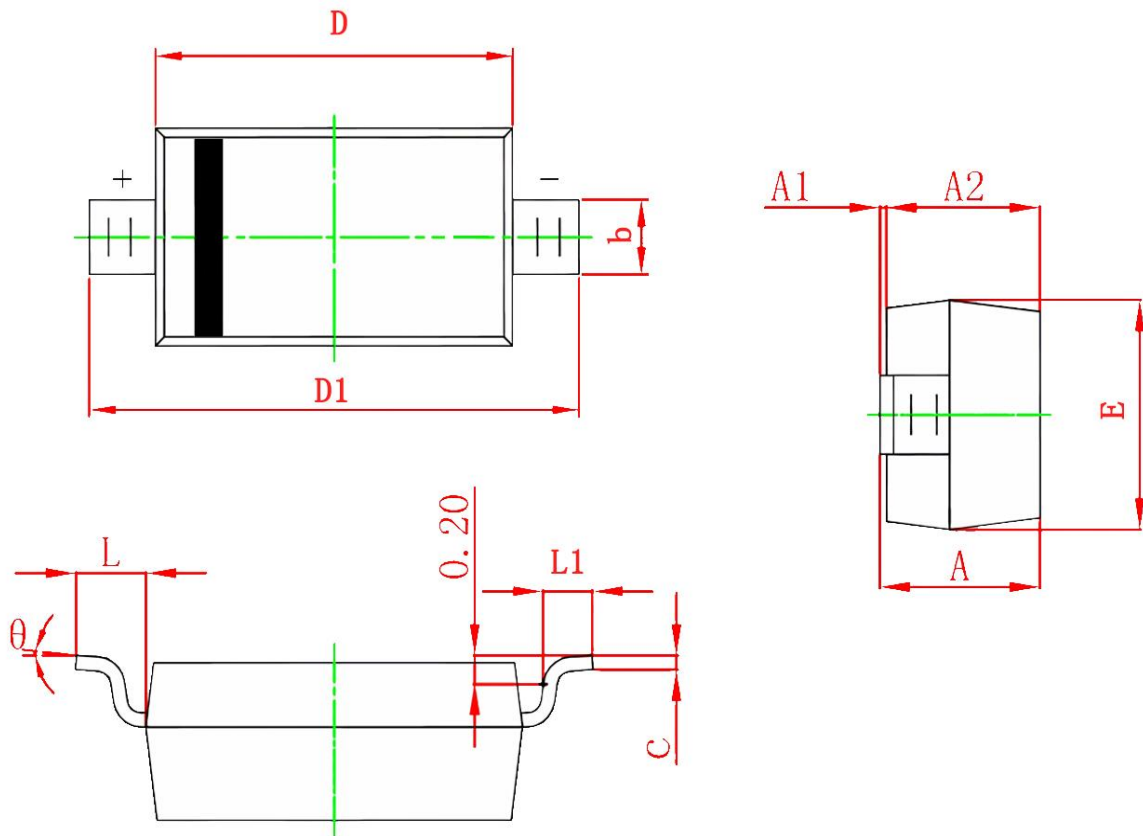
Symbol	Parameter	Condition	Min	Typ	Max	Unit
I_R	Reverse current MBR0520 MBR0530 MBR0540 MBR0560 MBR0580	$V_R=20\text{V}$	--	--	80	μA
		$V_R=30\text{V}$	--	--		
		$V_R=40\text{V}$	--	--		
		$V_R=60\text{V}$	--	--		
		$V_R=80\text{V}$	--	--		
			--	--		
V_F	Forward voltage MBR0520 MBR0530 MBR0540 MBR0560 MBR0580	$I_F=500\text{mA}$	--	--	0.45	V
			--	--	0.55	
			--	--	0.55	
			--	--	0.7	
			--	--	0.8	
			--	--	0.8	
C_T	Capacitance between terminals	$V_R=4\text{V}, f=1\text{MHZ}$	--	30	--	pF

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(	Delivery Mode
MBR0520	SOD-123	R2	3,000	45,000	180,000	7"reel
MBR0530		R3	3,000	45,000	180,000	7"reel
MBR0540		R4	3,000	45,000	180,000	7"reel
MBR0560		R6	3,000	45,000	180,000	7"reel
MBR0580		R8	3,000	45,000	180,000	7"reel

Typical Operating Characteristics


SOD-123 Package information



Symbol	Dimensions in Millimeters(mm)		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	2.600	2.800	0.102	0.110
D1	3.550	3.850	0.140	0.152
E	1.500	1.700	0.059	0.067
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°