



# MBR0560 THRU MBR0580

## SCHOTTKY BARRIER DIODE

### 1. Features

SOD-123

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

### 2. Mechanical Data

- Case:Molded Plastic,SOD-123.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:MBR0560:R6 ; MBR0580:R8
- Marking:marked on body.



### 3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Reverse Voltage MBR0560 MBR0580	$V_R$	60	V
		80	V
Average Forward Rectified Current	$I_{F(AV)}$	0.5	A
Non-Repetitive Peak Forward Current $t = 8.3 \text{ ms}$	$I_{FSM}$	5.5	A
Power Dissipation	$P_{tot}$	410	mW
Operating Temperature Range	$T_J$	-55 to+125	°C
Storage Temperature Range	$T_{stg}$	-55 to+150	°C

### 4. Electrical Characteristics ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Forward Voltage MBR0560 MBR0580	$V_F$	$I_F = 0.5\text{A}$	-	-	0.7	V
		$I_F = 0.5\text{A}$	-	-	0.8	V
Reverse Current MBR0560 MBR0580	$I_R$	$V_R = 60\text{V}$	-	-	80	$\mu\text{A}$
		$V_R = 80\text{V}$	-	-	-	$\mu\text{A}$
Total Capacitance	$C_{tot}$	$V_R = 4 \text{ V}, f = 1 \text{ MHz}$	-	30	-	pF



### 5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

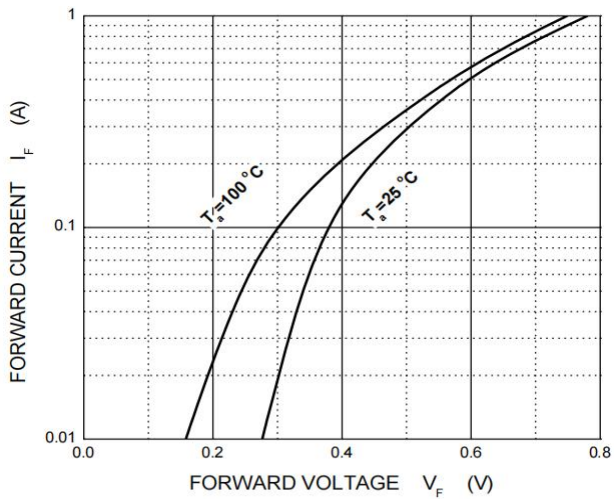


Fig.2 Reverse Characteristics

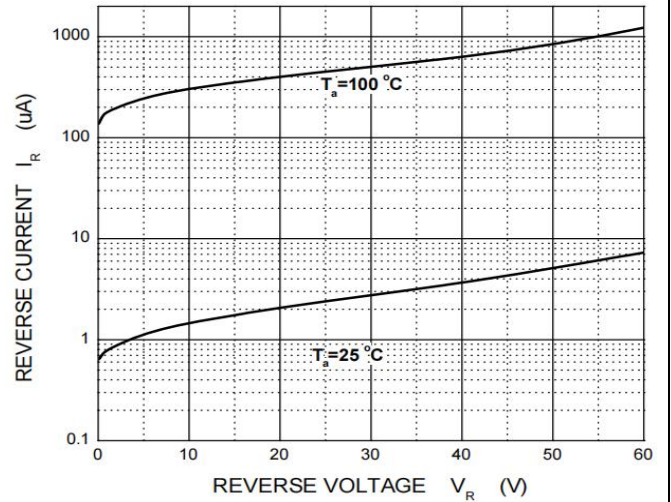


Fig.3 Capacitance Characteristics

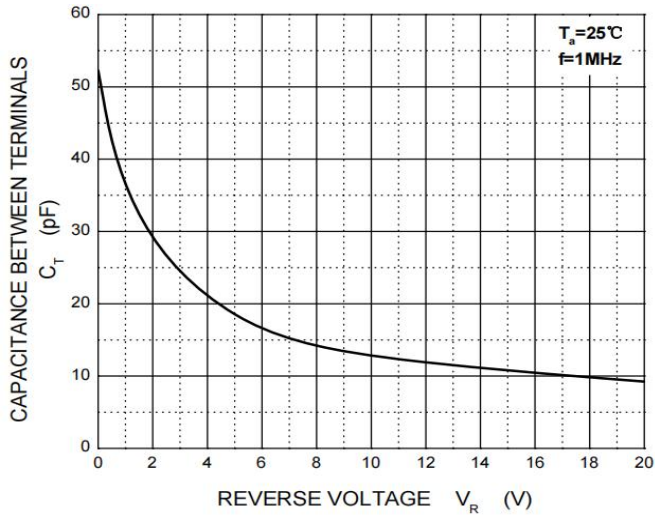
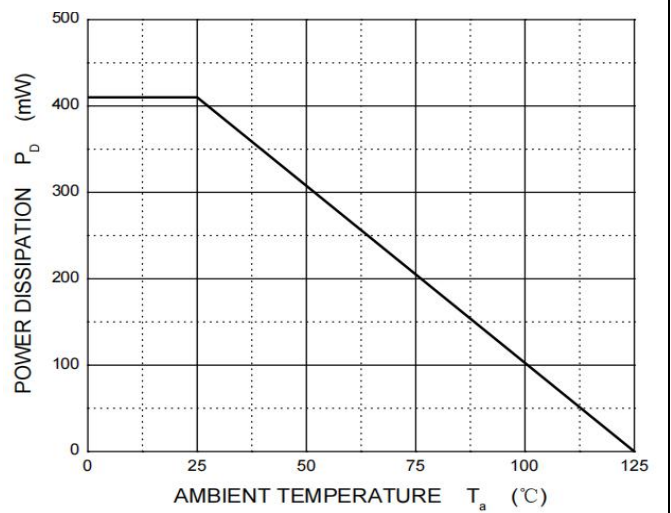


Fig.4 Power Derating Curve

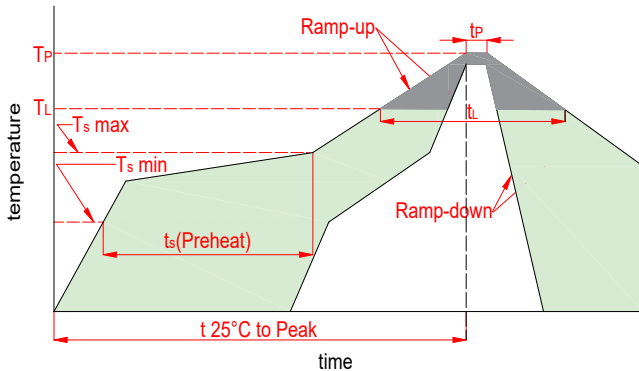




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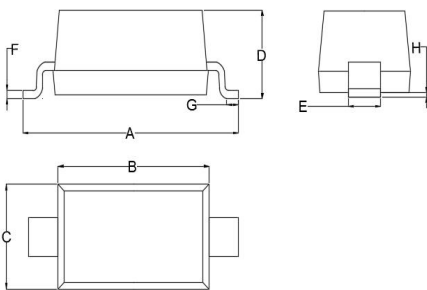
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### 6. Soldering Parameters



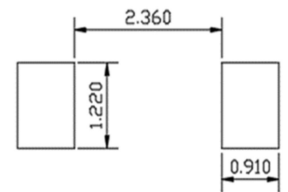
Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150°C
	Temp. max( $T_s$ (min))	200°C
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3°C/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3°C/s max
Reflow	Temp.( $T_L$ )(Liquidus)	217°C
	Temp.( $t_L$ )(Liquidus)	60~150s
Peak Temp.( $T_P$ )		260 <sup>+0/-5</sup> °C
Time within actual peak Temp.( $t_p$ )		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe.( $T_p$ )		8 minutes max
Do not exceed		260°C

### 7. Dimensions

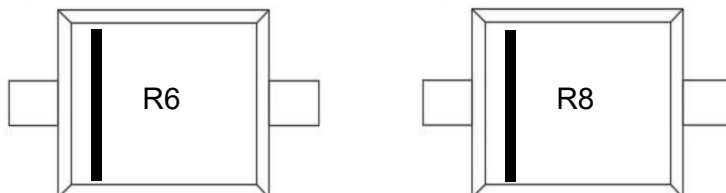


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



### 8. Part Marking System



### 9. Package Information

Package	Type	Marking	Tape Width(mm)	Quantity(pcs)
SOD-123	MBR0560	R6	8	3000
SOD-123	MBR0580	R8	8	3000



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