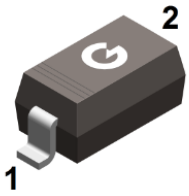
Schottky Barrier Diode
MBR160H

Features

- Low reverse current
- Low power loss
- High efficiency
- Low stored charge, majority carrier conduction
- Highly stable oxide passivated junction
- RoHS compliant with Halogen-free

HF





SOD-123

Mechanical Data

- Case: SOD-123
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MBR160H	SOD-123	3000 pcs / Tape & Reel	160H

Maximum Ratings (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	60	V
Working Peak Reverse Voltage	V_{RWM}	60	V
DC Reverse Voltage	V_R	60	V
RMS Reverse Voltage	V_{RMS}	42	V
Maximum Average Forward Output Current	$I_{F(AV)}$	1	A
Peak Repetitive Forward Current (rated V_R, sq. wave 2.0 KHz)	I_{FRM}	2	A
Peak Forward Surge Current (8.3ms single half sine-wave)	I_{FSM}	20	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_A = 25°C)	P_D	0.35	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	300	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	150	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	160	°C/W
Operating Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Note 1: The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper

Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	I_R = 100μA	60	-	-	V
Forward Voltage	V_F	I_F = 1mA	-	0.235	0.27	V
		I_F = 10mA	-	0.3	0.34	V
		I_F = 100mA	-	0.39	0.45	V
		I_F = 200mA	-	0.42	0.46	V
		I_F = 0.7A	-	0.55	0.58	V
		I_F = 1A	-	0.62	0.65	V
		I_F = 3A	-	0.92	1.00	V
Maximum Peak Reverse Current *1	I_R	V_R = 60V, T_J = 25°C	-	1.2	10	μA
		V_R = 60V, T_J= 125°C	-	0.85	5	mA
Diode capacitance	C_J	V_R = 1V, f = 1MHz	-	71	-	pF
		V_R = 10V, f = 1MHz	-	27	-	pF

Ratings and Characteristic Curves (@ T_A = 25℃ unless otherwise specified)

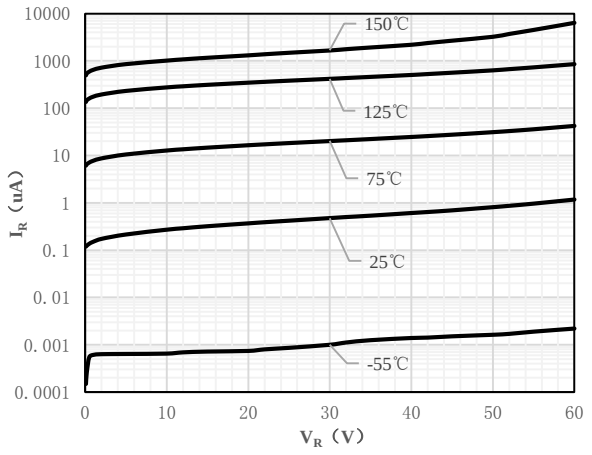


Fig 1 Typical Reverse Characteristic

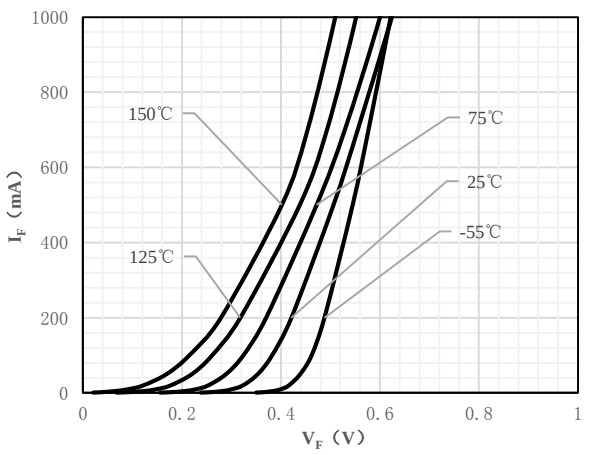


Fig 2 Typical Forward Characteristics

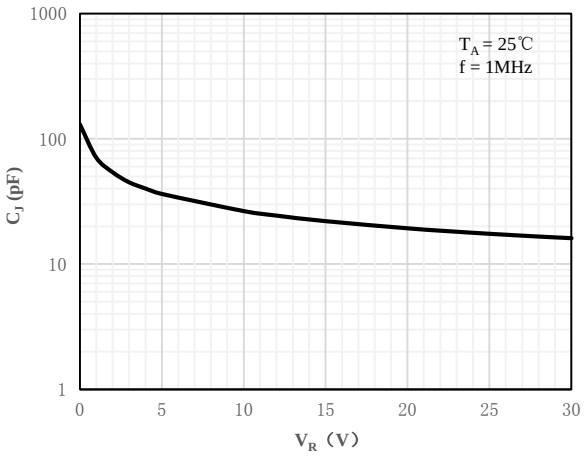


Fig 3 Capacitance vs. Reverse Voltage

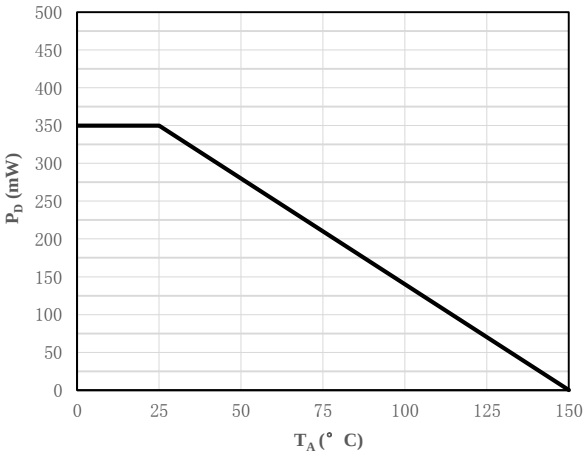
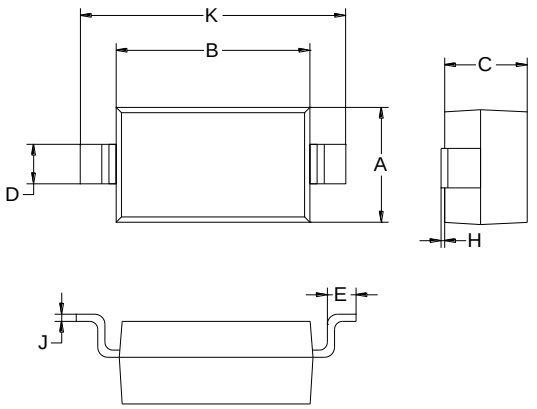


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



SOD-123		
Dimension	**Min.**	**Max.**
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

Package Outline Dimensions (Unit: mm)

SOD-123

