

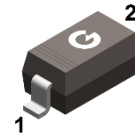
Features

- Extremely fast switching
- Very low forward voltage
- RoHS compliant with Halogen-free

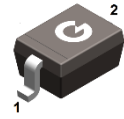
HF

Mechanical Data

- Case: SOD-123, SOD-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOD-123



SOD-323



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MBR0520	SOD-123	3000 pcs / Tape & Reel	R2
MBR0520S	SOD-323	3000 pcs / Tape & Reel	R2

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	20	V
RMS Reverse Voltage	V _{RMS}	14	V
Maximum Average Forward Output Current	I _{F(AV)}	0.5	A
Peak Forward Surge Current (8.3ms single half sine-wave)	I _{FSM}	10	A

Thermal Characteristics

Parameter	Symbol	MBR0520	MBR0520S	Unit
Power Dissipation	P _D	500	250	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	250	310	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	137	170	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	146	188	°C/W
Operating junction Temperature	T _J	-55 ~ +150		°C
Storage Temperature Range	T _{STG}	-55 ~ +150		°C

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 500\mu\text{A}$	20	-	-	V
Forward Voltage	V_F	$I_F = 0.1\text{A}$	-	-	0.375	V
		$I_F = 0.5\text{A}$	-	-	0.44	
Maximum Peak Reverse Current	I_R	$V_R = 20\text{V}$	-	-	20	μA

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

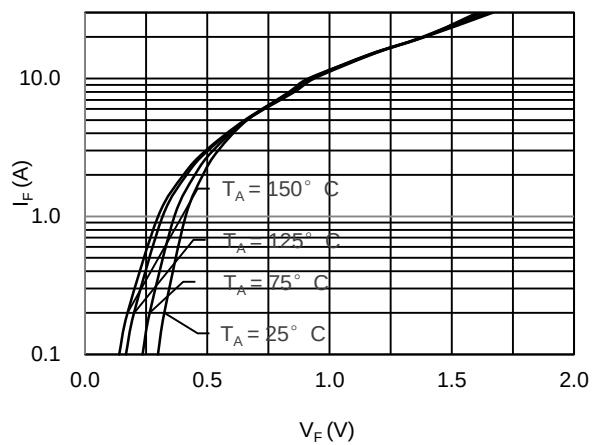


Fig. 1 Forward Characteristics

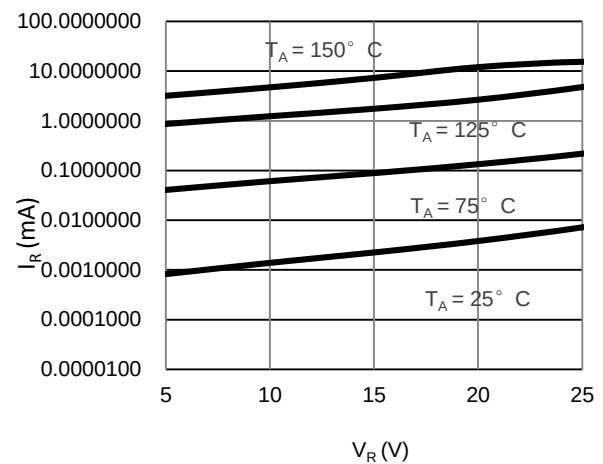
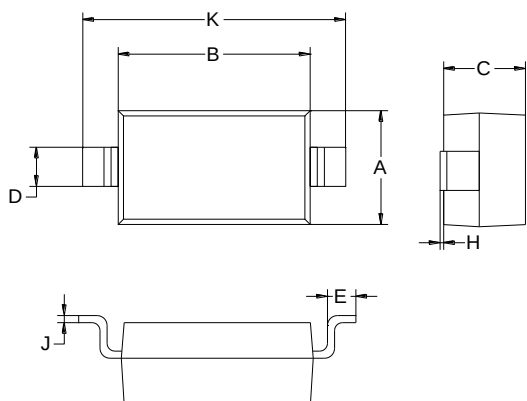
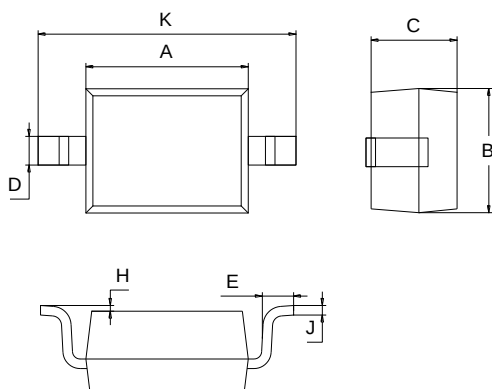


Fig. 2 Typical Reverse Characteristic

Package Outline Dimensions (Unit: mm)



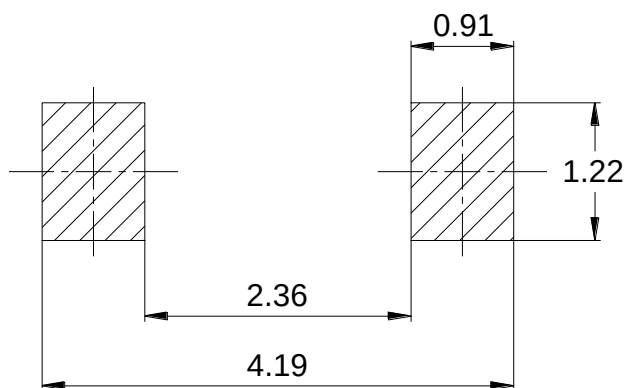
SOD-123		
Dimension	Min.	Max.
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85



SOD-323		
Dimension	Min.	Max.
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

Mounting Pad Layout (Unit: mm)

SOD-123



SOD-323

