

Features

- Low Reverse Current and Low Forward Voltage
- High Reliability
- Small Surface Mounting type

HF

Typical Applications

- For General Purpose Applications

Mechanical Data

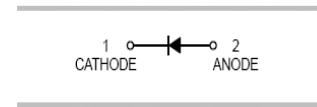
- Case: SOD-123, SOD-323
- Molding Compound, UL Flammability Classification Rating 94V-0
- Terminals: Tin Plated Leads, Solderable Per MIL-STD-202, Method 208



SOD-123



SOD-323



Ordering Information

Part Number	Package	Shipping	Marking Code
MBR120	SOD-123	3000 pcs / Tape & Reel	L2V
MBR120S	SOD-323	3000 pcs / Tape & Reel	L2V

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

Parameter	Symbol	Value	Units
Peak Repetitive Reverse Voltage	V _{RRM}	20	V
RMS Reverse Voltage	V _{RMS}	14	V
Maximum Average Forward Output Current	I _{F(AV)}	1	A
Peak Forward Surge Current, 8.3ms Single Half-sine-wave	I _{FSM}	20	A

Thermal Characteristics

Parameter	Symbol	MBR120	MBR120S	Units
Power Dissipation	P _D	500	250	mW
Typical Thermal Resistance Per Leg	R _{θJA} *	200	400	°C/W
Operating Junction Temperature Range	T _J	-55 to +125		°C
Storage Temperature Range	T _{STG}	-55 to +125		°C

* Part mounted on FR-4 board with recommended pad layout

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

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F^*	$I_F=1\text{A}$	-	-	0.50	V
		$I_F=3\text{A}$	-	-	0.75	
Maximum Peak Reverse Current	I_R^{**}	$V_R=20\text{V}$	-	-	1	mA
Capacitance Between Terminals	C_T	$V_R=4\text{V}, f=1\text{MHz}$	-	-	120	pF

*Pulse width $\leq 380\text{ }\mu\text{S}$, Duty cycle $< 2\%$

**pulse test , $t_p \leq 5\text{ms}$

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

FIG 1.TYPICAL REVERSE CHARACTERISTIC

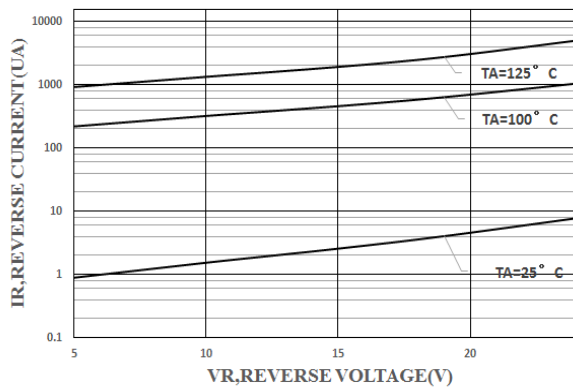


FIG 2.TYPICAL FORWARD CHARACTERISTIC

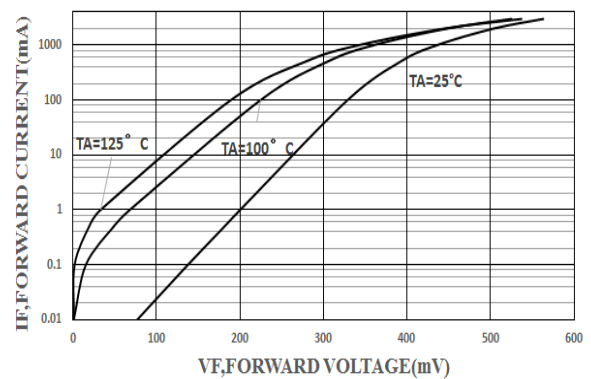


FIG 3.CAPACITANCE VS REVERSE VOLTAGE

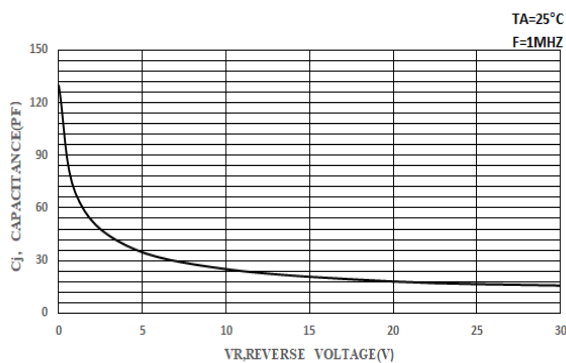
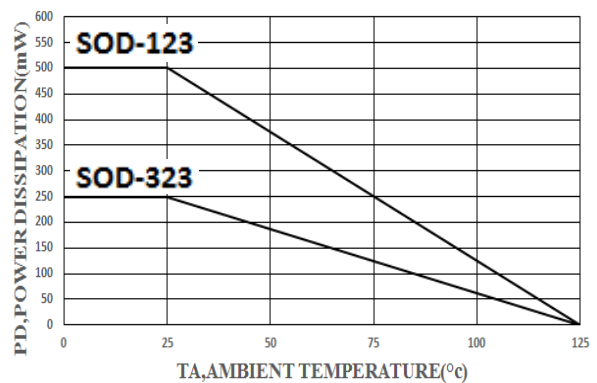
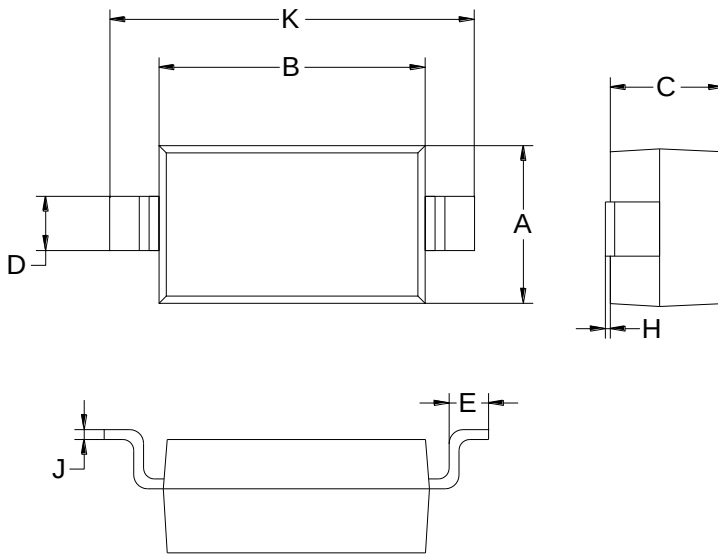


FIG 4.DERATING CURVE(P_d - T_A)



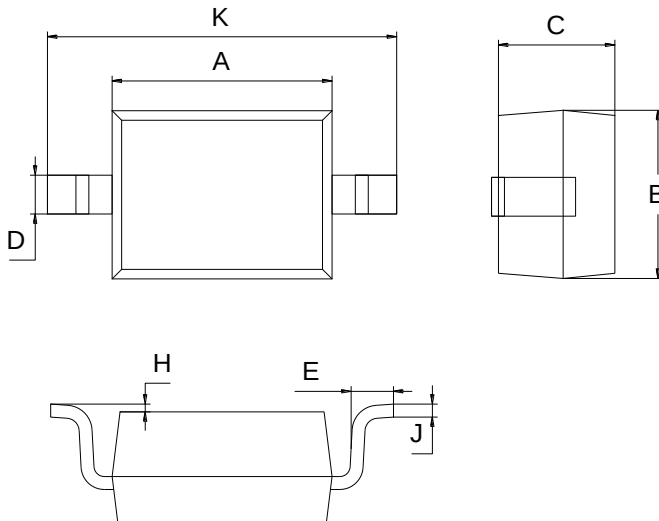
Package Outline Dimensions(unit:mm)

SOD-123



SOD-123		
Dim	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

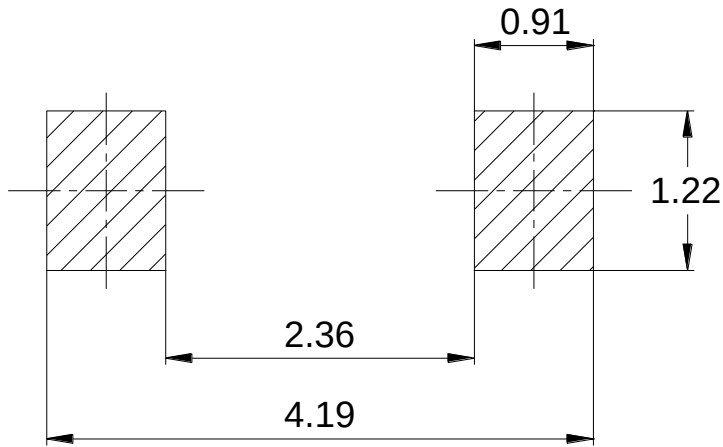
SOD-323



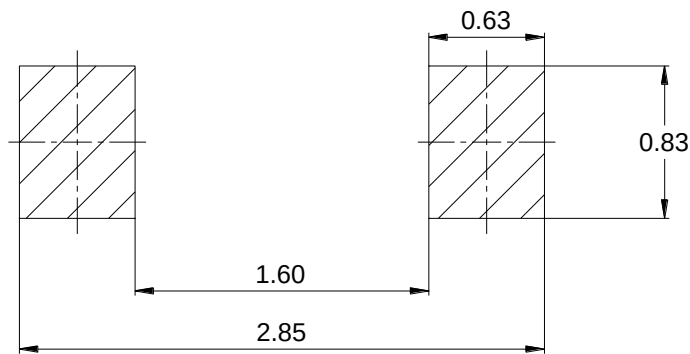
SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

Mounting Pad Layout(unit:mm)

SOD-123



SOD-323



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