



Features

- Low reverse current and low forward voltage
- High reliability
- Small surface mounting type

Typical Applications

- For general purpose applications

Mechanical Data

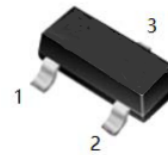
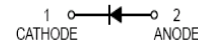
- Case: SOD-123, SOD-323, SOT-23
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208.



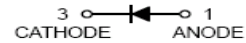
SOD-123



SOD323



SOT-23



Ordering Information

Part Number	Package	Shipping	Marking Code
MBR140	SOD-123	3000/Tape Reel	L4F
MBR140S	SOD323	3000/Tape Reel	L4FS
MBR140CA	SOT-23	3000/Tape Reel	L4F

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

Parameter	Symbol	MBR140	Units
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
RMS Reverse Voltage	V _{RMS}	28	V
Maximum Average Forward Output Current	I _{F(AV)}	1	A
Peak Forward Surge Current, 8.3ms Single Half-sine-wave	I _{FSM}	15	A

Thermal Characteristics

Parameter	Symbol	MBR140	MBR140S	MBR140CA	Units
Power Dissipation	P _D	500	250	500	mW
Typical Thermal Resistance per leg	R _{θJA} *	250	500	250	°C /W
Operating Junction Temperature Range	T _J	150			°C
Storage Temperature Range	T _{STG}	-55 to +150			°C

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

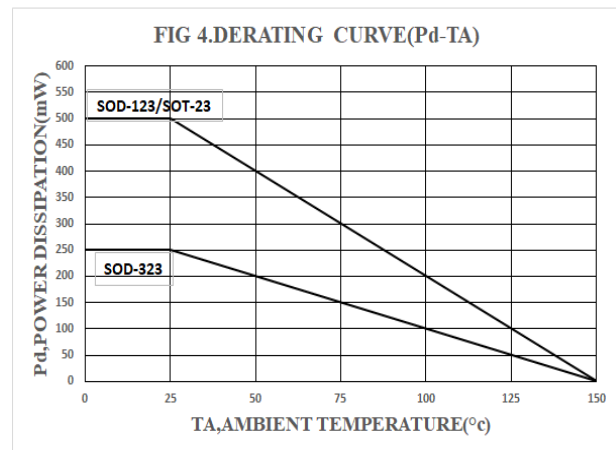
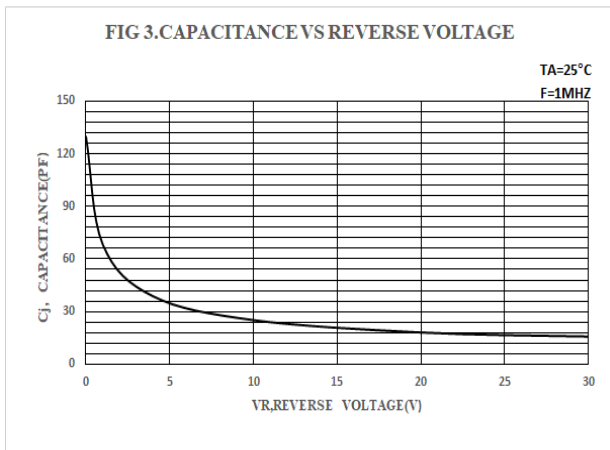
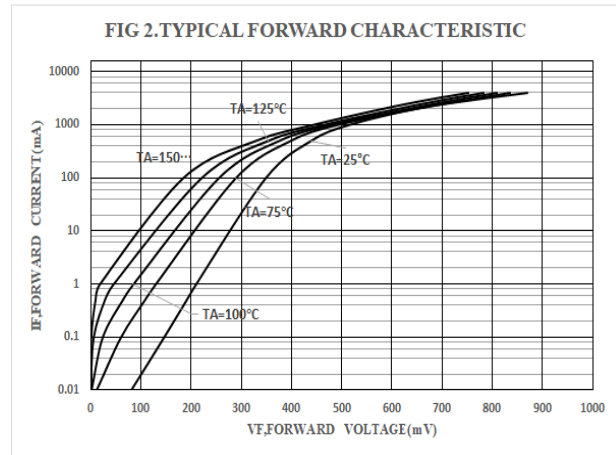
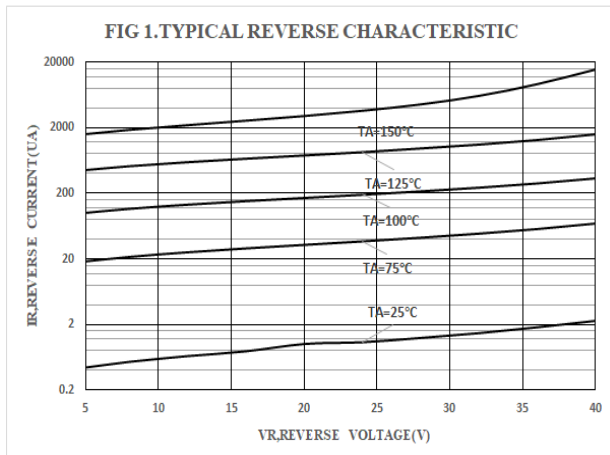


Electrical Characteristics (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F^*	$I_F=0.1\text{A}$	-	-	0.40	V
		$I_F=1\text{A}$	-	-	0.56	
		$I_F=3\text{A}$	-	-	0.85	
Maximum Peak Reverse Current	I_R^{**}	$V_R=20\text{V}$	-	-	0.15	mA
		$V_R=40\text{V}$	-	-	0.5	
Capacitance Between Terminals	C_T	$V_R=4\text{V}, f=1\text{MHz}$	-	39	50	pF

*Pulse width $\leq 380\mu\text{s}$, Duty cycle $< 2\%$
 **pulse test, $t_p \leq 5\text{ms}$

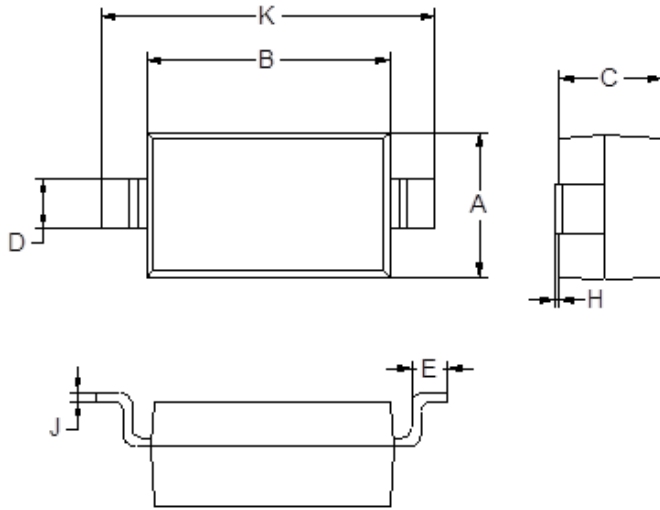
Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)





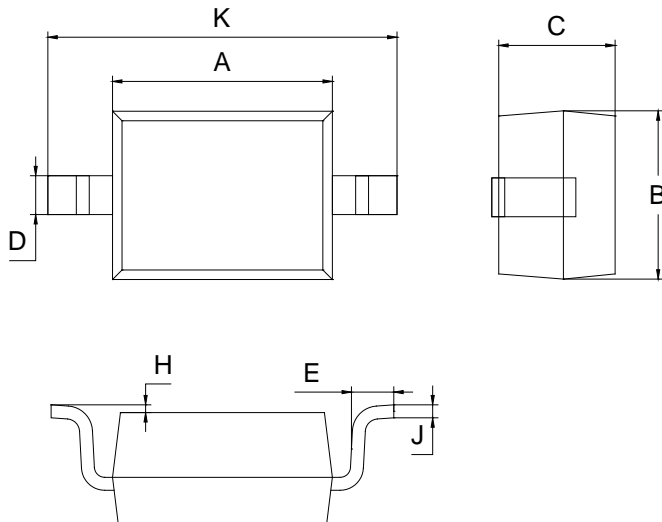
Package Outline Dimensions(unit:mm)

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

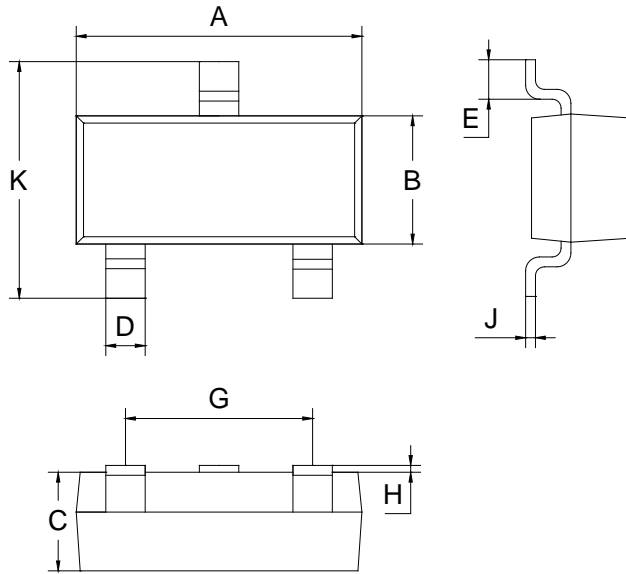
SOD-323



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



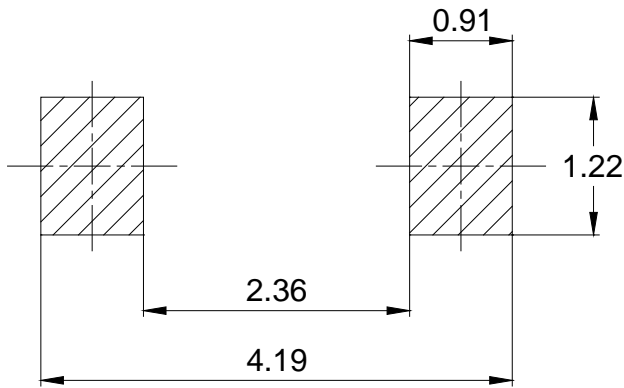
SOT-23



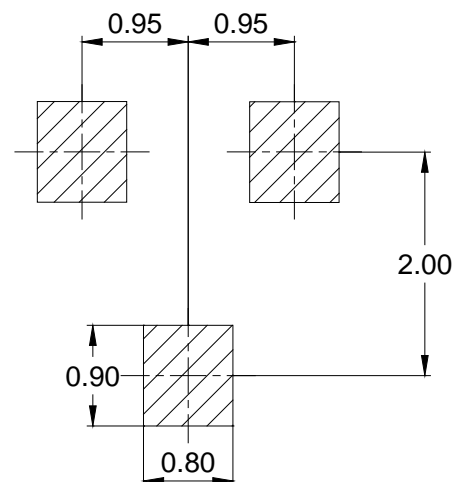
SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Mounting Pad Layout(unit:mm)

SOD-123



SOT-23



SOD-323

