MBR0520 thru MBR0560

Crownpo Technology

LIZ Electronics(Kunshan)

Schottky Barrier Rectifier

Reverse Voltage : 20 to 60 V

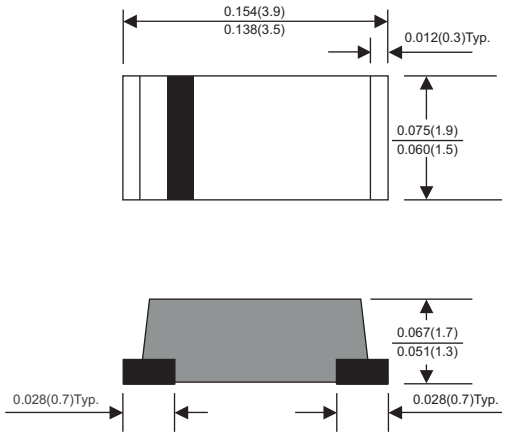
Forward Current : 0.5 Amp

Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Tiny plastic SMD package.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Package outline

SOD-123



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123 / MINI SMA
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position :Any
- Weight :Approximated 0.018 gram

Maximum ratings (AT T_A=25 °C unless otherwise noted)

	Symbols	MBR0520	MBR0530	MBR0540	MBR0550	MBR0560	Units
Maximum Recerrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length	$I_{F(AV)}$	0.5					A
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	5.5					A
Maximum Forward Voltage at 5.0A DC and 25℃	V_F	0.55			0.70		V
Maximum Reverse Current at T_A= 25℃	I_R	0.2					mA
at Rated DC Blocking Voltage T_A=100℃		50					
Typical Junction Capacitance (Note 1)	C_J	30					pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	25					℃/W
Operating and Storage Temperature Range	T_J,Tstg	-55 to +125			-55 to +150		℃

Rating and characteristic curves

FIG.1-TYPICALFORWARD CURRENTDERATING CURVE

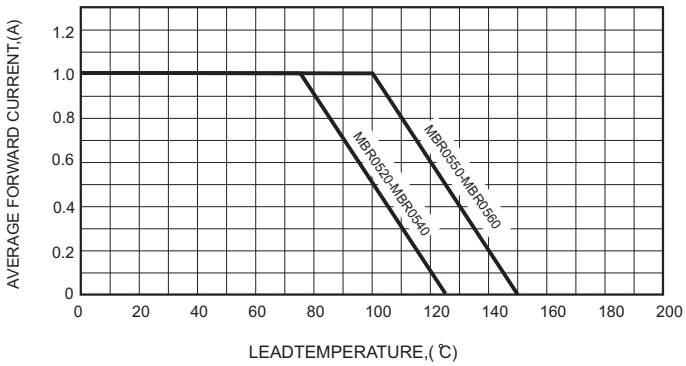
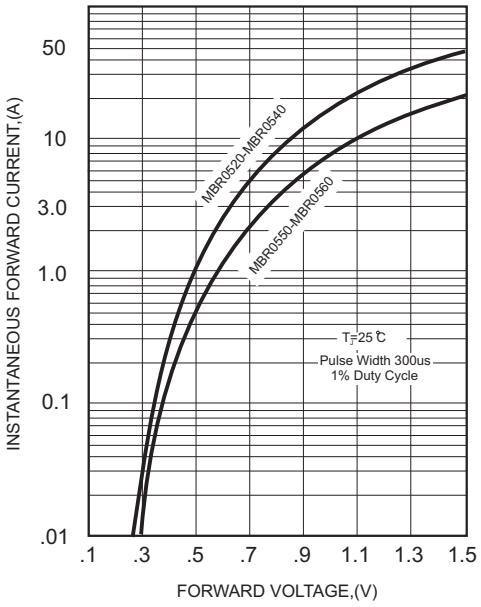


FIG.2-TYPICALFORWARD CHARACTERISTICS



SURGE CURRENT

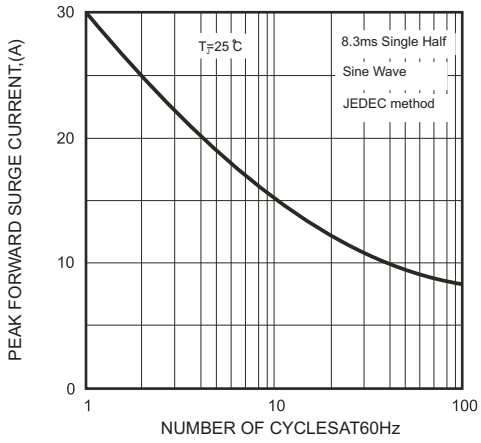


FIG.4-TYPICALJUNCTION CAPACITANCE

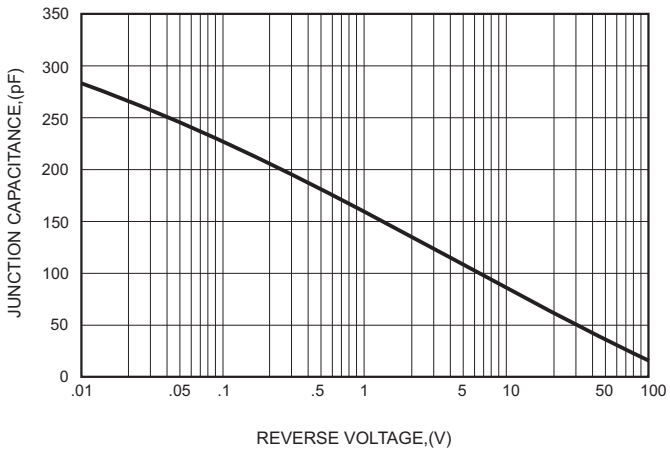
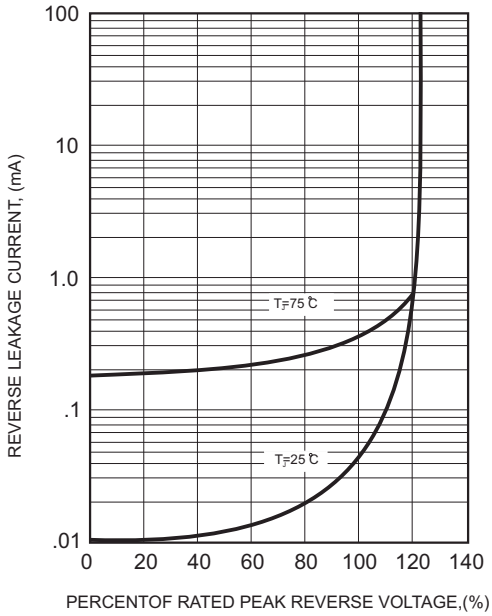


FIG.5 -TYPICALREVERSE CHARACTERISTICS



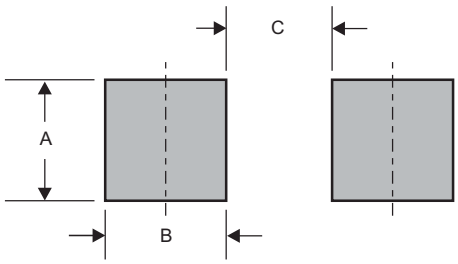
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
MBR0520	12
MBR0530	13
MBR0540	14
MBR0550	15
MBR0560	16

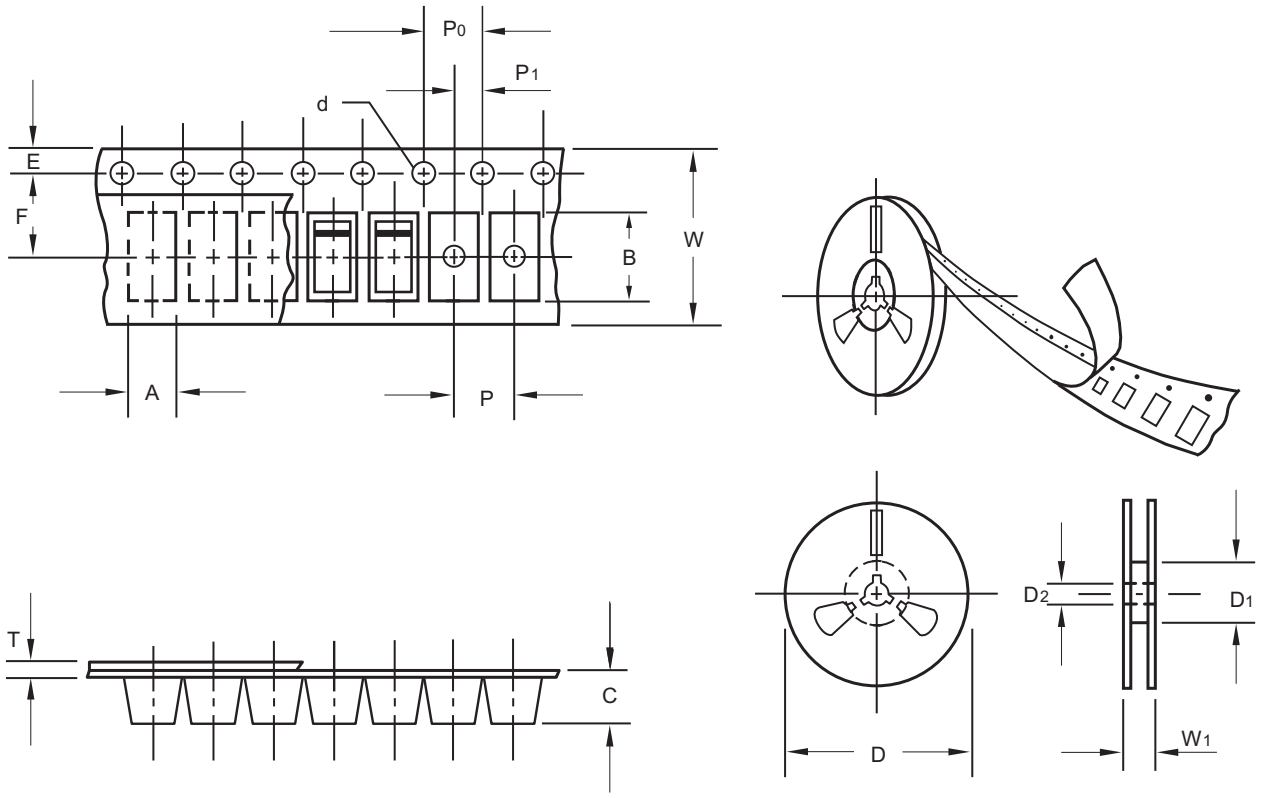
Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

Packing information



unit:mm

Item	Symbol	Tolerance	SOD-123
Carrier width	A	0.1	1.90
Carrier length	B	0.1	3.90
Carrier depth	C	0.1	1.68
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D_1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W_1	1.0	11.40

Note:Devices are packed in accor dance with EIAstandar RS-481-Aand specifications listed above.