



**DESCRIPTION**

The MBR0520~MBR0540 is available in SOD-123 package.

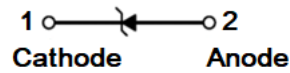
**FEATURES**

- Low Forward Voltage
- Low Thermal Resistance
- For Surface Mount Application

**ORDERING INFORMATION**

Package Type	Part Number
SOD-123 SPQ: 3,000pcs/Reel	MBR0520
	MBR0530
	MBR0540
Note	V: Halogen free Package R: Tape & Reel
AiT provides all RoHS products	

**PIN DESCRIPTION**



SOD-123	Symbol
1	Cathode
2	Anode



## ABSOLUTE MAXIMUM RATINGS

T<sub>A</sub>=25°C

V <sub>RRM</sub> , Peak Repetitive Reverse Voltage	MBR0520	20V
	MBR0530	30V
	MBR0540	40V
V <sub>R</sub> , Reverse Voltage	MBR0520	20V
	MBR0530	30V
	MBR0540	40V
I <sub>F(AV)</sub> , Average Forward Rectified Current		350mA
I <sub>FSM</sub> , Non-Repetitive Peak Forward Surge Current at t=1s		2A
P <sub>tot</sub> , Power Dissipation		40mW
T <sub>j</sub> , T <sub>stg</sub> , Operating and Storage Temperature Range		-65 ~ +125°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## Recommended Operating Conditions

V <sub>IN</sub> , Input Voltage	2.5~5.5V
T <sub>j</sub> , Junction Temperature	-40~+125°C

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub>=25°C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units	
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	MBR0520	I <sub>R</sub> =10μA	20	-	-	V
		MBR0530		30	-	-	
		MBR0540		40	-	-	
Reverse Leakage Current	I <sub>R</sub>	MBR0520, V <sub>R</sub> =10V	-	-	5	μA	
		MBR0530, V <sub>R</sub> =20V	-	-	5		
		MBR0540, V <sub>R</sub> =30V	-	-	5		
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20 mA	-	-	0.37	V	
		I <sub>F</sub> = 200 mA	-	-	0.6		
Total Capacitance	C <sub>T</sub>	V <sub>R</sub> = 0 V, f = 1 MHz	-	50	-	pF	
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =200mA, I <sub>rr</sub> =0.1 I <sub>R</sub> , R <sub>L</sub> =100Ω	-	10	-	ns	



## TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Power Derating Curve

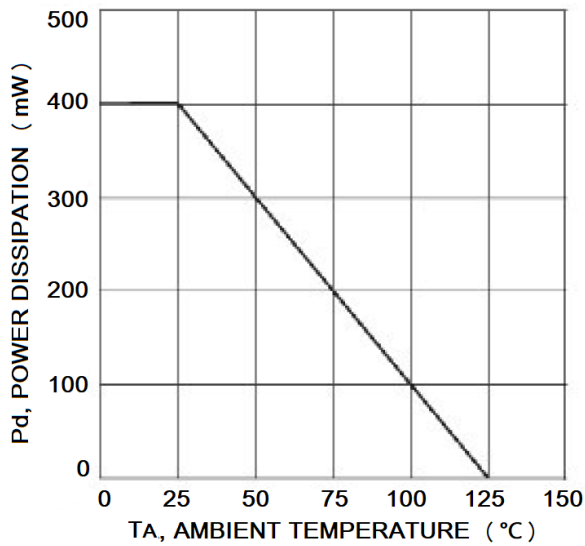


Fig 2. Typical Forward Characteristics

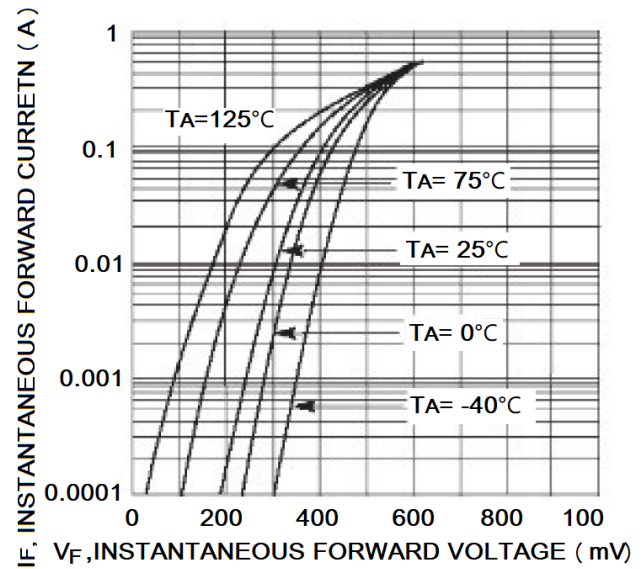


Fig 3. Typical Reverse Characteristics

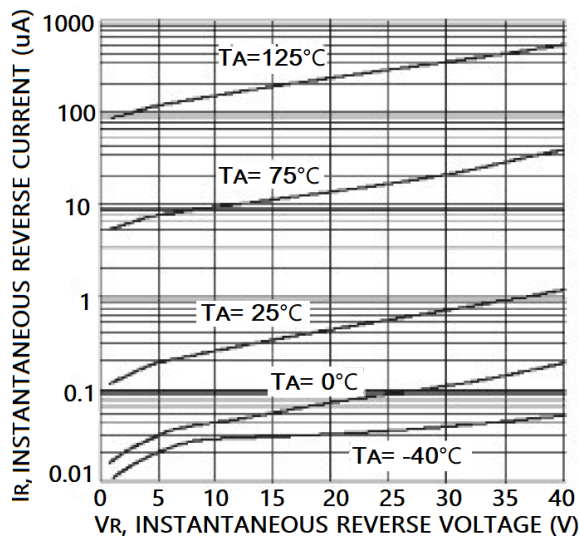
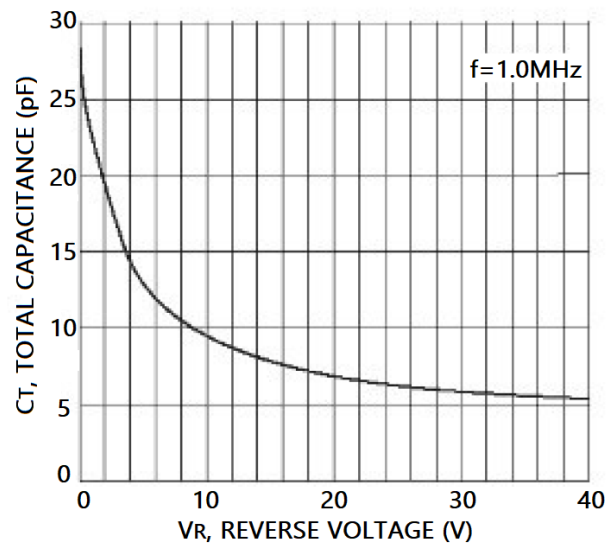


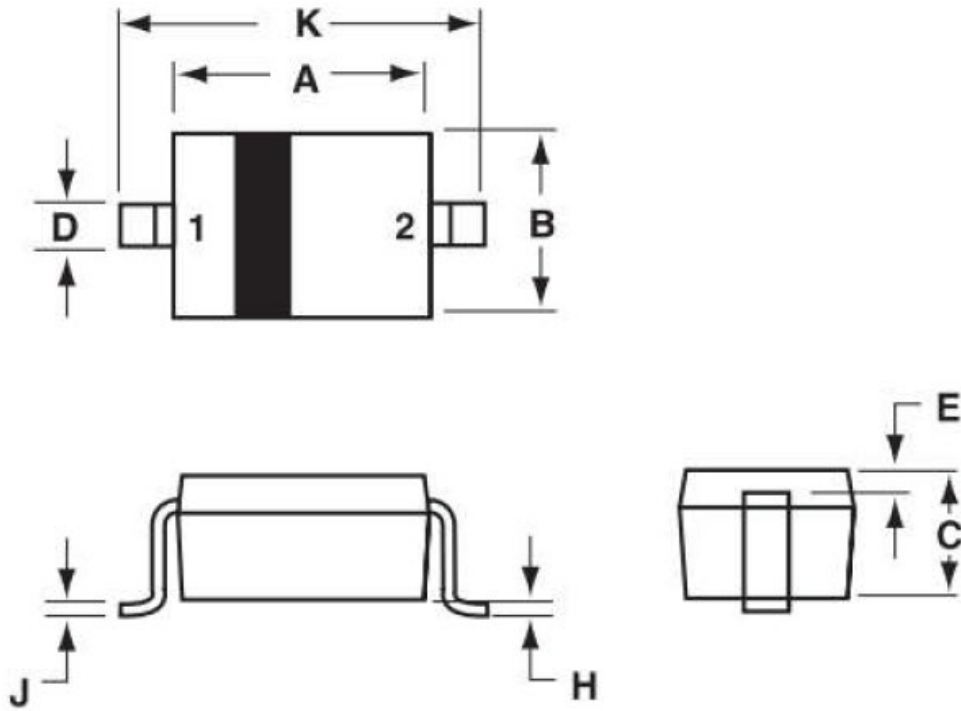
Fig 4. Total Capacitance vs. Reverse Voltage





## PACKAGE INFORMATION

Dimension in SOD-123 (Unit: mm)



Symbol	Min.	Max.
A	2.550	2.850
B	1.400	1.800
C	0.950	1.350
D	0.500	0.700
E	0.300 REF	
H	-	0.100
J	-	0.150
K	3.550	3.850



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