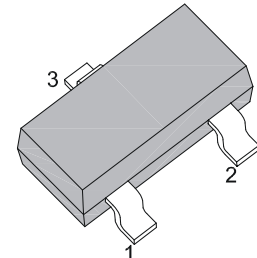


## Three Terminals SMD Switching Diodes

### Features

- Fast switching speed
- High conductance
- High reverse breakdown voltage rating
- Surface mount package ideally suited for automatic insertion
- RoHS compliant

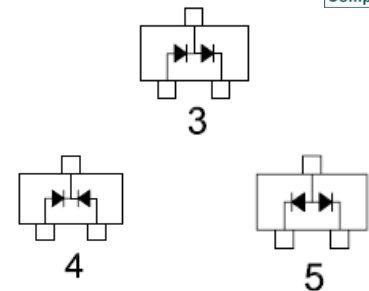


SOT-23



### Mechanical Data

<b>Case:</b>	SOT-23, Plastic Case
<b>Terminals:</b>	Solderable per MIL-STD-750, Method 2026
<b>Weight:</b>	Approx. 0.008 gram



### Maximum Ratings *(T<sub>Ambient</sub>=25°C unless noted otherwise)*

Symbol	Description	MMBD3004A	MMBD3004C	MMBD3004S	Unit	Conditions
	Pinout Figure	5	4	3		
	Marking Code	P11	P12	P13		
<b>V<sub>RWM</sub></b>	Working Peak Reverse Voltage DC Blocking Voltage	300			V	
<b>V<sub>RRM</sub></b>	Peak Reverse Voltage	350			V	
<b>V<sub>R(RMS)</sub></b>	RMS Reverse Voltage	212			V	
<b>I<sub>F</sub></b>	Forward Continuous Current	225			mA	Note 1
<b>I<sub>FRM</sub></b>	Peak Repetitive Forward Current	625			mA	Note 1
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current	4			A	t=1.0μs
		1				t=1.0s
<b>P<sub>D</sub></b>	Power Dissipation	250			mW	Note 1
<b>R<sub>thJA</sub></b>	Thermal Resistance from Junction to Ambient Air	500			° C/W	Note 1

# Three Terminals SMD Switching Diodes

## MMBD3004A/C/S

Symbol	Description	MMBD3004A	MMBD3004C	MMBD3004S	Unit	Conditions
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-65 to +150			°C	

**Note:** 1. Part mounted on FR-4 board with recommended pad layout.

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Min.	Typ.	Max.	Unit	Conditions
<b>V<sub>(BR)R</sub></b>	Reverse Breakdown Voltage (Note 2)	350	-	-	V	I <sub>R</sub> =150μA
<b>V<sub>F</sub></b>	Forward Voltage (Note 2)	-	0.78	0.87	V	I <sub>F</sub> =20mA
			0.93	1.0		I <sub>F</sub> =100mA
			1.03	1.25		I <sub>F</sub> =200mA
<b>I<sub>R</sub></b>	Reverse Current (Note 2)	-	30	100	nA	V <sub>R</sub> =240V
			35	100		μA
<b>C<sub>T</sub></b>	Total Capacitance	-	1.0	5.0	pF	V <sub>R</sub> =0V, f=1MHz
<b>T<sub>rr</sub></b>	Reverse Recovery Time	-	-	50	nS	I <sub>F</sub> =30mA, I <sub>R</sub> =30mA, I <sub>rr</sub> =3.0mA, R <sub>L</sub> =100Ω

**Note:** 2. Short duration test pulse used to minimize self-heating effect.

### Typical Characteristics Curves

Fig.1- Typical Forward Characteristics

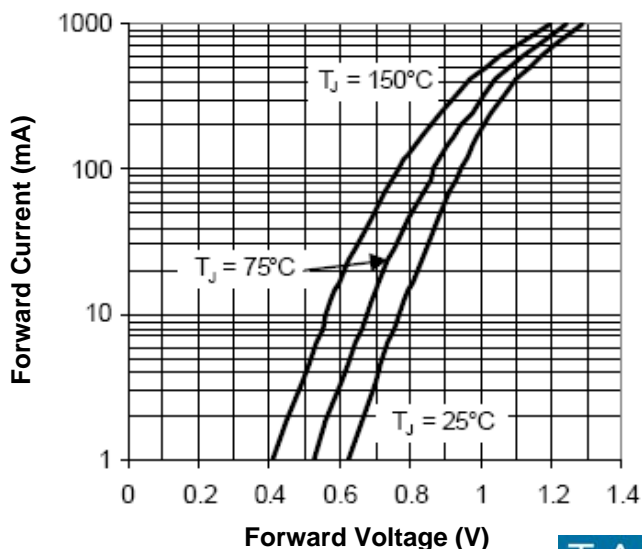
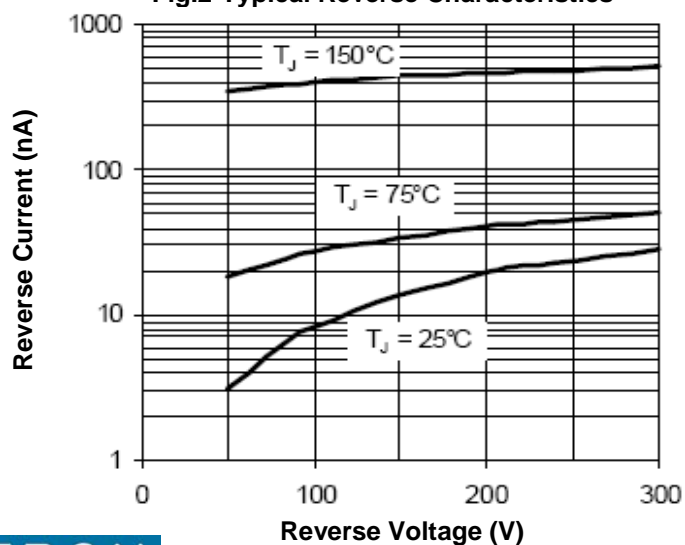


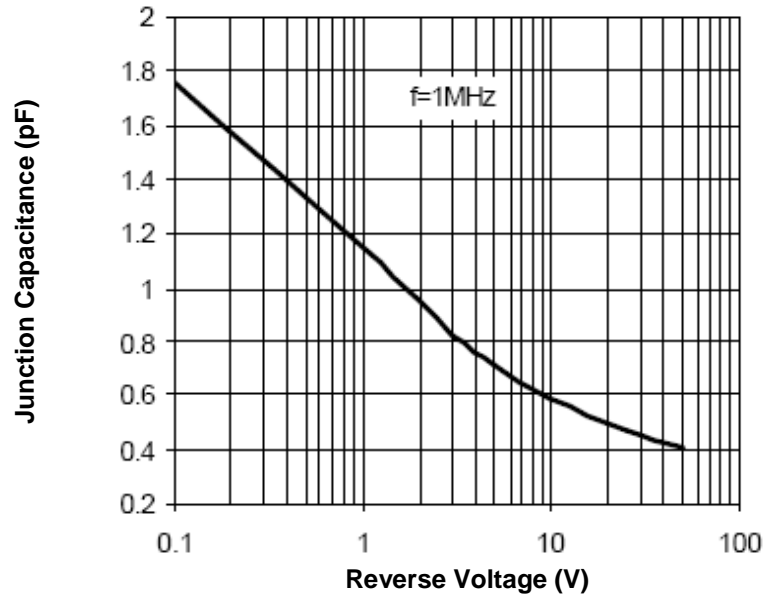
Fig.2-Typical Reverse Characteristics



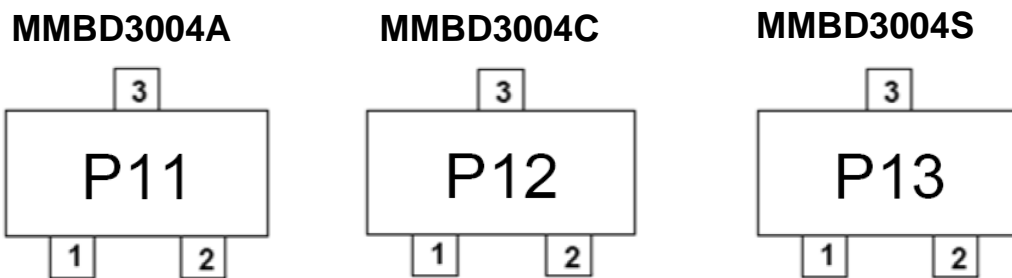
# Three Terminals SMD Switching Diodes

## MMBD3004A/C/S

Fig.3- Typical Junction Capacitance



### Marking Information:

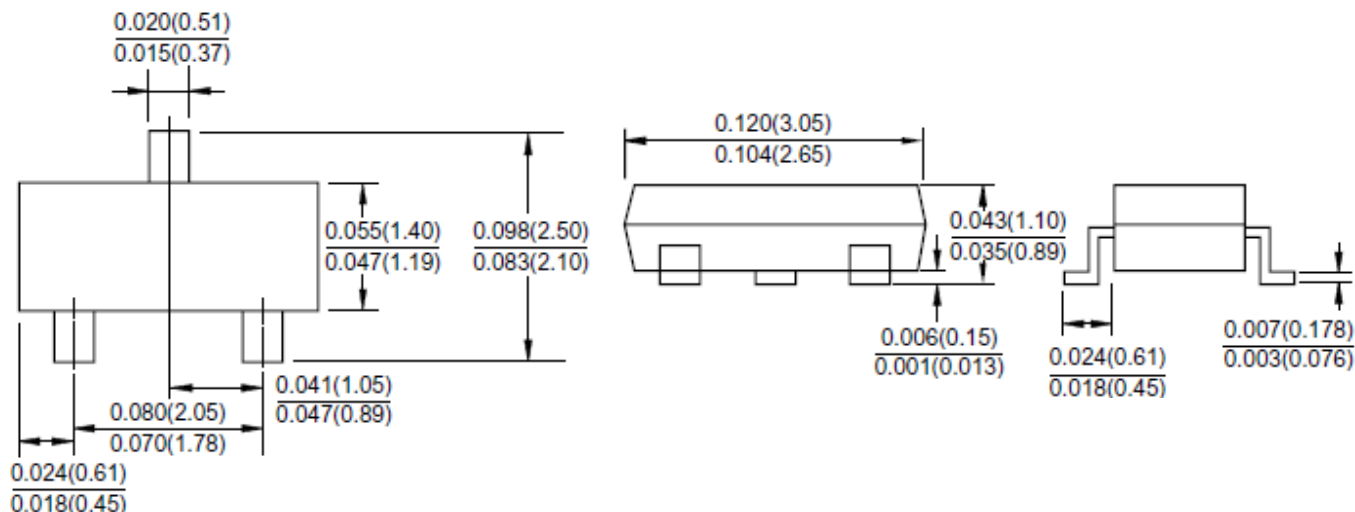


# Three Terminals SMD Switching Diodes

## MMBD3004A/C/S

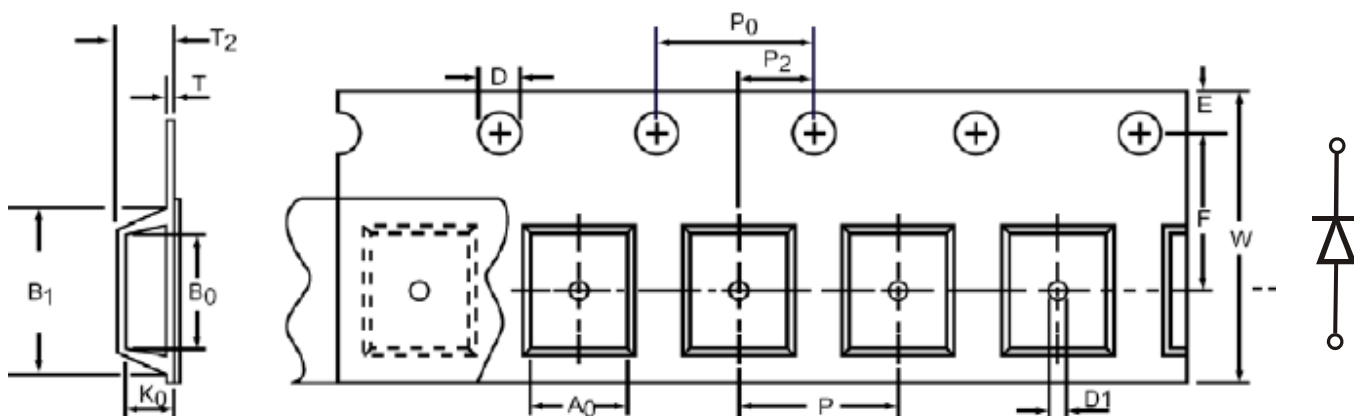
### Dimensions in inch (mm)

#### SOT-23



### Packing Information:

#### Carrier Tape Dimensions (in mm)

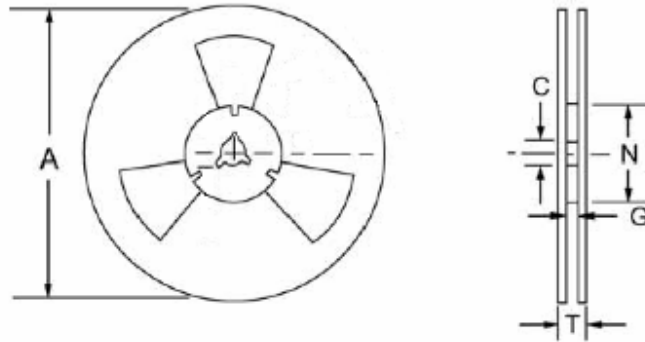


Product Type	D	P0	P	W	E	A0	B0
		1.55±0.05	4.0±0.10	4.0±0.10	8.0+0.3/-0.1	1.75±0.10	3.15±0.10
SOT- 23	B1	T	T2	D1	F	K0	P2
	4.0±0.10	0.20±0.05	1.4 max	1.0±0.05	3.5±0.05	1.0±0.10	2.0±0.05

## Three Terminals SMD Switching Diodes

### MMBD3004A/C/S

#### Reel Dimensions (in mm)



A	C	G	N	T
178.0	13.0+0.5/-0.2	9.9 max.	54.5±0.5	14.4 max.
330.0	13.0+0.5/-0.2	9.9 max.	100.0±0.5	14.4 max.

#### Packing Quantity

Quantity	PCS per Reel	PCS per Carton
TR70 Tape & Reel	3,000	240,000
TR30 Tape & Reel	12,000	144,000

#### Carton Size Information: (in mm)

Size	Cartoon Size
TR70 Tape & Reel	390x270x400
TR30 Tape & Reel	375x360x213

## Three Terminals SMD Switching Diodes

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MMBD3004A/C/S

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