



# MMBD3004A/C/S

## HIGH VOLTAGE SURFACE MOUNT SWITCHING DIODE

**VOLTAGE** 350 Volt **POWER** 410 mWatt

**SOT-23** Unit : inch(mm)

### FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- High Conductance
- High Reverse Breakdown Voltage Rating
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

Case: SOT-23, Plastic

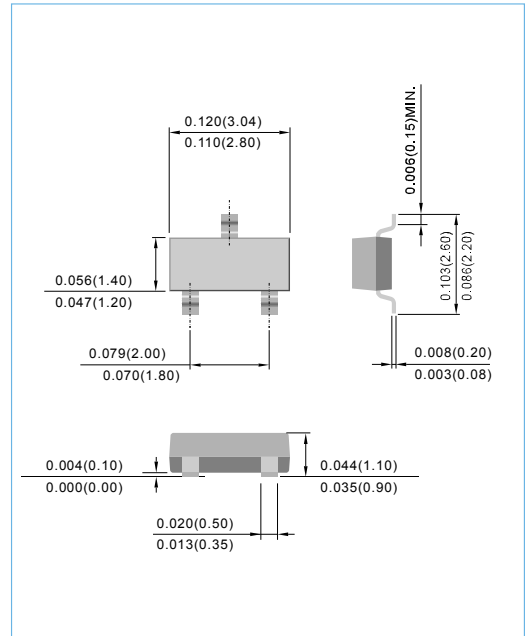
Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.0003 ounces, 0.0084 grams

Marking : MMBD3004A : P11

MMBD3004C : P12

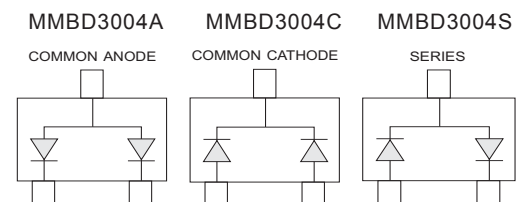
MMBD3004S : P13



### MAXIMUM RATINGS(T<sub>A</sub>=25°C, unless otherwise specified)

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	350	V
Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RFWM</sub> V <sub>R</sub>	240	V
RMS Reverse Voltage	V <sub>R(RMS)}</sub>	212	V
Forward Continuous Current (Note 1)	I <sub>F</sub>	225	mA
Peak Repetitive Forward Current (Note 1)	I <sub>FRM</sub>	625	mA
Non-Repetitive Peak Forward Surge Current @ t=0.001ms @ t=1000ms	I <sub>FSM</sub>	4.0 1.0	A
Power Dissipation (Note 1)	P <sub>d</sub>	410	mW
Typical Thermal Resistance Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	310	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150	°C

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





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## ELECTRICAL CHARACTERISTICS(T<sub>A</sub>=25°C,unless otherwise specified,per element)

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	350	-	-	V	I <sub>R</sub> =150μA
Forward Voltage (Note 2)	V <sub>F</sub>	-	0.78 0.93 1.03	0.87 1.0 1.25	V	I <sub>F</sub> =20mA I <sub>F</sub> =100mA I <sub>F</sub> =200mA
Reverse Current (Note 2)	I <sub>R</sub>	-	30	100	nA	V <sub>R</sub> =350V
Total Capacitance	C <sub>T</sub>	-	1.0	5.0	pF	V <sub>R</sub> =0V,f=1.0MHz
Reverse Recovery Time	trr	-	-	50	ns	I <sub>F</sub> =I <sub>R</sub> =30mA I <sub>tr</sub> =3.0mA,R <sub>L</sub> =100Ω

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

## ELECTRICAL CHARACTERISTICS CURVES

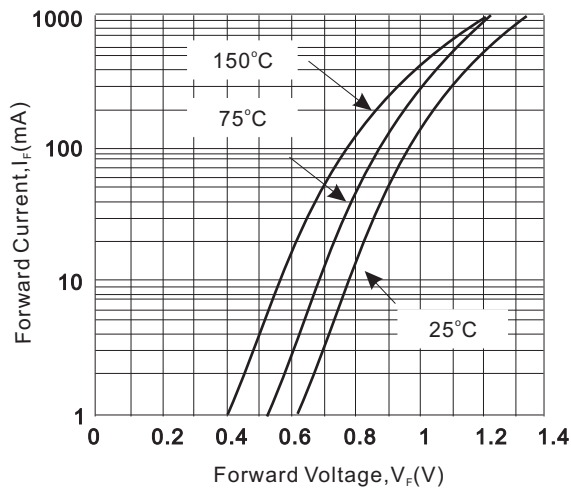


FIG.1 Typical Forward

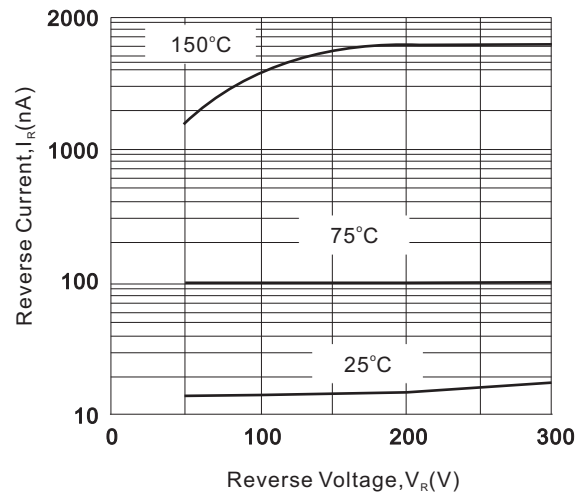


FIG.2 Typical Reverse

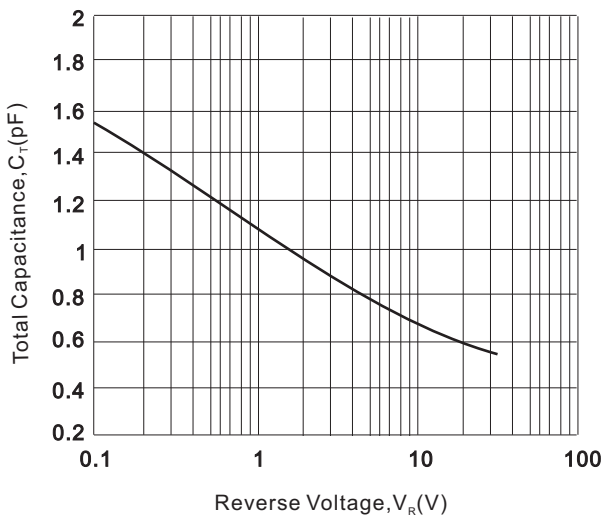


FIG.3 Typical Capacitance

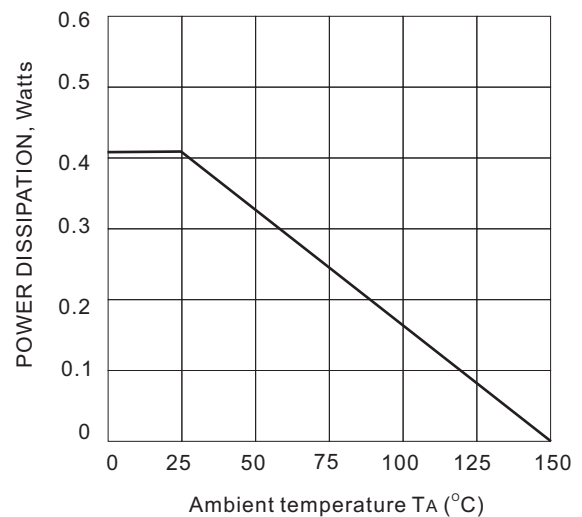
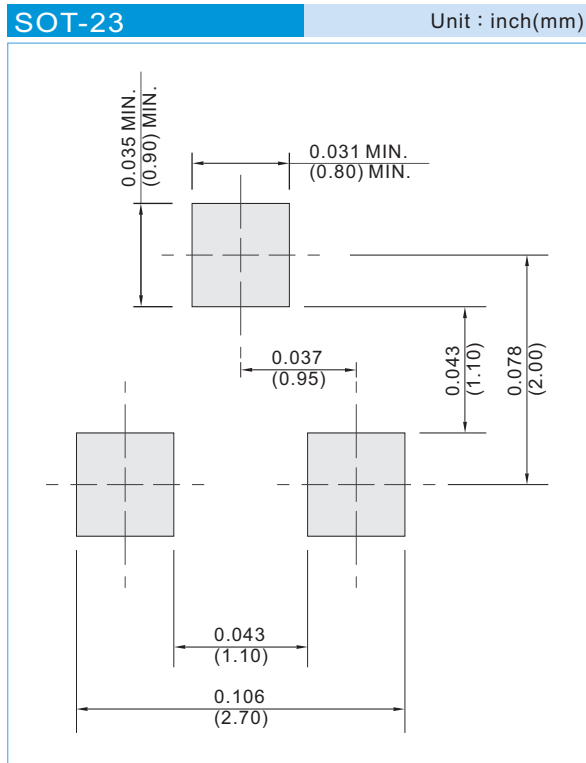


FIG.4 Forward current derating curve



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel



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### Part No\_packing code\_Version

MMBD3004A\_R1\_00001

MMBD3004A\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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