



# MMBTA06W

## NPN High Voltage Transistor

|                |            |              |              |
|----------------|------------|--------------|--------------|
| <b>Voltage</b> | <b>80V</b> | <b>Power</b> | <b>225mW</b> |
|----------------|------------|--------------|--------------|

### Features

- NPN silicon, planar design
- Collector current  $I_C = 500\text{mA}$
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std. (Halogen Free)

### Mechanical Data

- Case: SOT-323 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00018 ounces, 0.005 grams
- Marking: B06

### SOT-323 Unit : inch(mm)

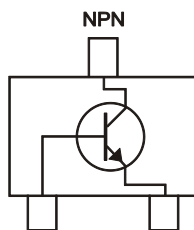
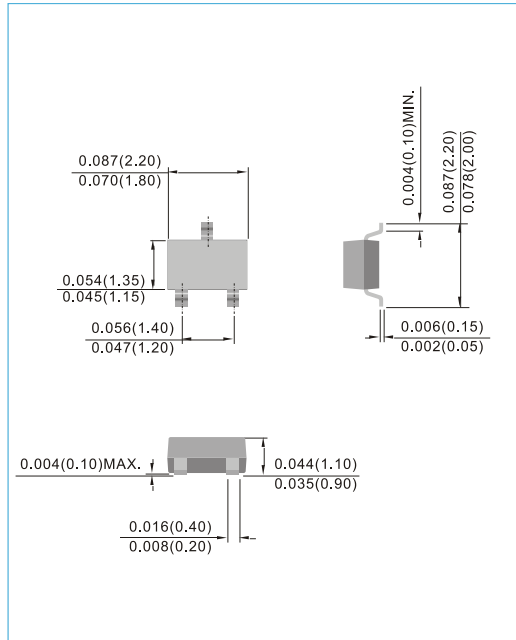


Fig.34(TOP VIEW)

## Maximum Ratings and Thermal Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER  | SYMBOL          | LIMIT       | UNITS              |
|--|-----------------|-------------|--------------------|
| Collector-Emitter Voltage                                | $V_{CBO}$       | 80          | V                  |
| Collector-Base Voltage                                   | $V_{CEO}$       | 80          | V                  |
| Emitter-Base Voltage                                     | $V_{EBO}$       | 4           | V                  |
| Collector Current-Continuous                             | $I_C$           | 500         | mA                 |
| Maximum Power Dissipation ( Note 1)                      | $P_D$           | 225         | mW                 |
| Operating Junction and Storage Temperature Range         | $T_J, T_{STG}$  | -55 to +150 | $^\circ\text{C}$   |
| Typical Junction-to Ambient Thermal Resistance ( Note 1) | $R_{\theta JA}$ | 550         | $^\circ\text{C/W}$ |

Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.



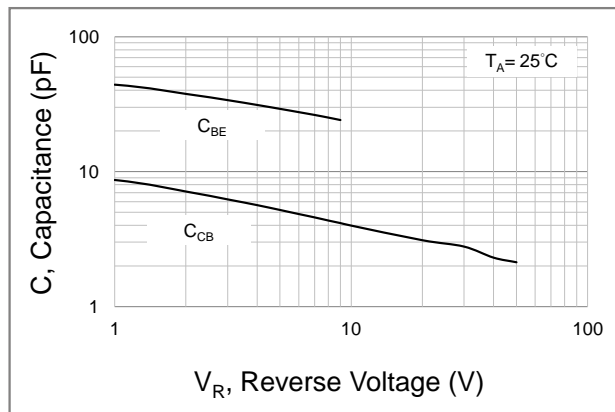
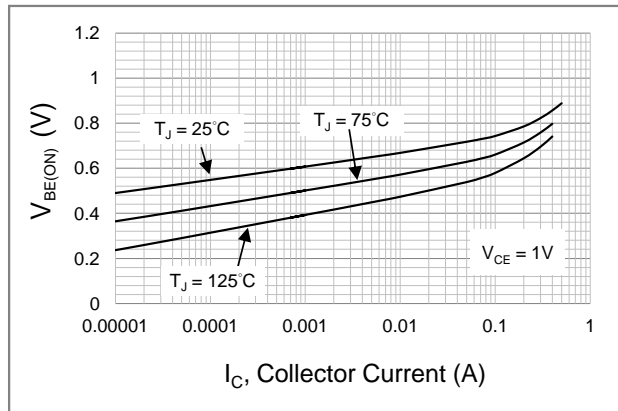
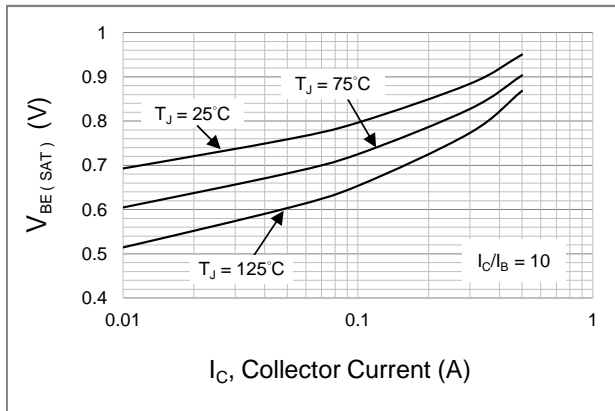
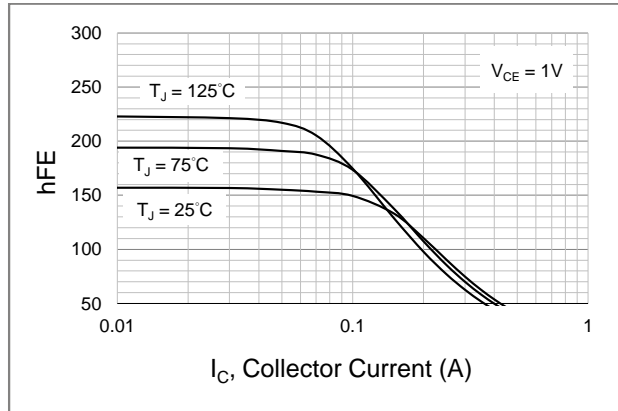
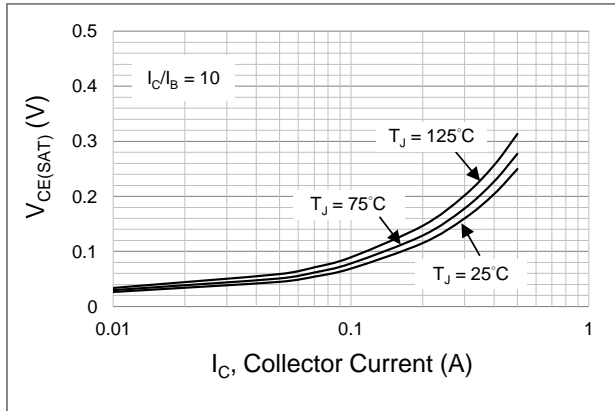
# MMBTA06W

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

| PARAMETER                            | SYMBOL        | TEST CONDITION   | MIN. | TYP. | MAX. | UNITS |
|--------------------------------------|---------------|--|------|------|------|-------|
| <b>OFF Characteristics</b>           |               |  |      |      |      |       |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$                                  | 80   | -    | -    | V     |
| Collector-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$                              | 80   | -    | -    | V     |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$                              | 4    | -    | -    | V     |
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB}=80\text{V}, I_E=0$                               | -    | -    | 100  | nA    |
| Collector Cutoff Current             | $I_{CES}$     | $V_{CE}=60\text{V}, I_B=0$                               | -    | -    | 100  | nA    |
| <b>ON characteristics</b>            |               |  |      |      |      |       |
| DC Current Gain                      | $h_{FE}$      | $V_{CE}=1\text{V}, I_C=10\text{mA}$                      | 100  | -    | -    | -     |
|                                      |               | $V_{CE}=1\text{V}, I_C=100\text{mA}$                     | 100  | -    | -    |       |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$                      | -    | -    | 0.25 | V     |
| Base-Emitter Turn-on voltage         | $V_{BE(on)}$  | $I_C=100\text{mA}, V_{CE}=1\text{V}$                     | -    | -    | 1.2  | V     |
| Current-Gain-Bandwidth Product       | $f_T$         | $I_C=10\text{mA}, V_{CE}=2\text{V}$<br>$f=100\text{MHz}$ | 100  | -    | -    | MHz   |



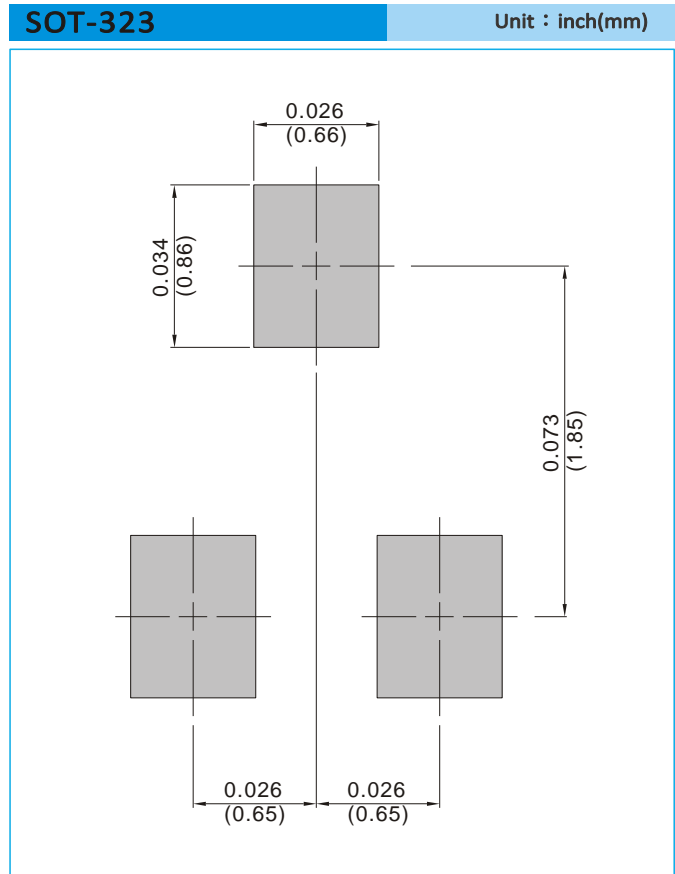
# MMBTA06W





# MMBTA06W

## MOUNTING PAD LAYOUT



## ORDER INFORMATION

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



# MMBTA06W

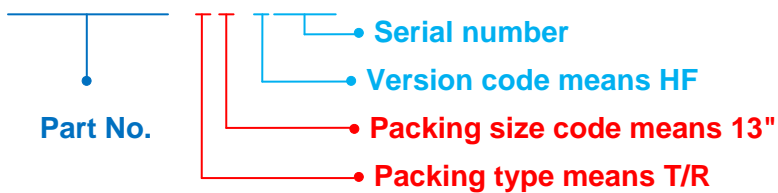
**Part No\_packing code\_Version**

MMBTA06W\_R1\_00001

MMBTA06W\_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>             |                           |                      |                                       |



## MMBTA06W

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.