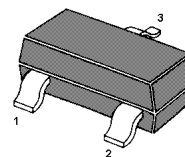


# MMBTSA2018

## PNP Silicon Epitaxial Planar Transistor

Low Frequency Transistor  
for switching and muting applications.



### Features:

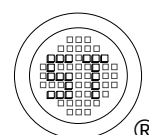
- A collector current is large.
- Collector saturation voltage is low.
- $V_{CE(sat)}$  : 250mV(Max.) at  $-I_C=200mA/-I_B=10mA$

1. Base 2. Emitter 3. Collector  
TO-236 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25^\circ C$ )

|                             | Symbol         | Value       | Unit       |
|-----------------------------|----------------|-------------|------------|
| Collector Base Voltage      | $-V_{CBO}$     | 15          | V          |
| Collector Emitter Voltage   | $-V_{CEO}$     | 12          | V          |
| Collector Current           | $-I_C$         | 500         | mA         |
|                             | $-I_{CP}^{1)}$ | 1           | A          |
| Collector Power Dissipation | $P_{tot}$      | 200         | mW         |
| Junction Temperature        | $T_j$          | 150         | $^\circ C$ |
| Storage Temperature Range   | $T_{Stg}$      | -55 to +150 | $^\circ C$ |

<sup>1)</sup> Single pulse,  $P_W=1ms$



Dated : 20/10/2005

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## Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

|                                                                                         | Symbol         | Min. | Typ. | Max. | Unit |
|-----------------------------------------------------------------------------------------|----------------|------|------|------|------|
| DC Current Transfer Ratio<br>at $-I_C=10\text{mA}$ , $-V_{CE}=2\text{V}$                | $h_{FE}$       | 270  | -    | 680  | -    |
| Collector Cutoff Current<br>at $-V_{CB}=15\text{V}$                                     | $-I_{CBO}$     | -    | -    | 100  | nA   |
| Collector Base Breakdown Voltage<br>at $-I_C=10\mu\text{A}$                             | $-V_{(BR)CBO}$ | 15   | -    | -    | V    |
| Collector Emitter Breakdown Voltage<br>at $-I_C=1\text{mA}$                             | $-V_{(BR)CEO}$ | 12   | -    | -    | V    |
| Emitter Base Breakdown Voltage<br>at $-I_E=10\mu\text{A}$                               | $-V_{(BR)EBO}$ | 6    | -    | -    | V    |
| Collector Emitter Saturation Voltage<br>at $-I_C=200\text{mA}$ , $-I_B=10\text{mA}$     | $-V_{CE(sat)}$ | -    | -    | 250  | mV   |
| Transition Frequency<br>at $-V_{CE}=2\text{V}$ , $-I_E=10\text{mA}$ , $f=100\text{MHz}$ | $f_T$          | -    | 260  | -    | MHz  |
| Output Capacitance<br>at $-V_{CB}=10\text{V}$ , $f=1\text{MHz}$                         | $C_{ob}$       | -    | 6.5  | -    | pF   |

