



# PNP EPITAXIAL SILICON TRANSISTORS

WMBT3906

## High Voltage Transistor

SOT—23

- ◆ Power Dissipation: 225mW
- ◆ Collector Current: Max. 0.2A



1. BASE
2. EMITTER
3. COLLECTOR

### GUARANTEED PROBED CHARACTERISTICS (T<sub>A</sub>=25°C)

| Characteristic                       | Symbol                | Test Conditions                                   | Limits |      | Units |
|--------------------------------------|-----------------------|---|--------|------|-------|
|                                      |                       |   | MIN.   | MAX. |       |
| Collector-emitter Breakdown Voltage  | BV <sub>CEO</sub>     | I <sub>C</sub> =1mA                               | 40     |      | V     |
| Collector-Base Breakdown Voltage     | BV <sub>CBO</sub>     | I <sub>C</sub> =100μA                             | 40     |      | V     |
| Emitter-Base Breakdown Voltage       | BV <sub>EBO</sub>     | I <sub>E</sub> =10μA                              | 5.0    |      | V     |
| Collector Cut-off Current            | I <sub>CEX</sub>      | V <sub>CE</sub> =30V, V <sub>BE</sub> =3V         |        | 50   | nA    |
| DC Current Gain                      | h <sub>FE1</sub>      | V <sub>CE</sub> =1V, I <sub>C</sub> =100μA        | 60     |      |       |
|                                      | h <sub>FE2</sub>      | V <sub>CE</sub> =1V, I <sub>C</sub> =1mA          | 80     |      |       |
|                                      | h <sub>FE3</sub>      | V <sub>CE</sub> =1V, I <sub>C</sub> =10mA         | 100    | 300  |       |
|                                      | h <sub>FE4</sub>      | V <sub>CE</sub> =1V, I <sub>C</sub> =50mA         | 60     |      |       |
|                                      | h <sub>FE5</sub>      | V <sub>CE</sub> =1V, I <sub>C</sub> =100mA        | 30     |      |       |
| Base-Emitter Saturation Voltage      | BV <sub>ESAT1</sub>   | I <sub>C</sub> =10mA, I <sub>B</sub> =1mA         | 650    | 850  | mV    |
|                                      | BV <sub>ESAT2</sub>   | I <sub>C</sub> =50mA, I <sub>B</sub> =5mA         |        | 950  | mV    |
| Collector-Emitter Saturation Voltage | V <sub>CE(SAT)1</sub> | I <sub>C</sub> =10mA, I <sub>B</sub> =1mA         |        | 250  | mV    |
|                                      | V <sub>CE(SAT)2</sub> | I <sub>C</sub> =50mA, I <sub>B</sub> =5mA         |        | 400  | mV    |
| Transition Frequency                 | f <sub>T</sub>        | I <sub>C</sub> =10, V <sub>CE</sub> =20V f=100MHz | 250    |      | MHz   |
| Collector-Base Capacitance           | C <sub>OB</sub>       | V <sub>CB</sub> =5V, f=1MHz                       |        | 4.5  | PF    |

**NOTES:** Due to probe testing limitations, only the DC parameters are tested.