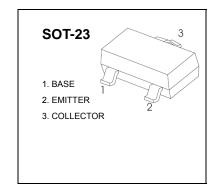
# TRANSISTOR (NPN)

#### **FEATURES**

• Complementary to S9015

**MARKING: J6** 

### MAXIMUM RATINGS (T<sub>A</sub>=25℃ unless otherwise noted)



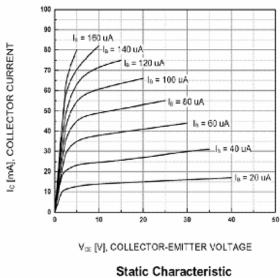
| Symbol           | Parameter                     | Value   | Units |
|------------------|-------------------------------|---------|-------|
| V <sub>CBO</sub> | Collector-Base Voltage        | 50      | V     |
| V <sub>CEO</sub> | Collector-Emitter Voltage     | 45      | V     |
| V <sub>EBO</sub> | Emitter-Base Voltage          | 5       | V     |
| Ic               | Collector Current -Continuous | 0.1     | Α     |
| Pc               | Collector Power Dissipation   | 0.2     | W     |
| Tj               | Junction Temperature          | 150     | °C    |
| T <sub>stg</sub> | Storage Temperature           | -55-150 | °C    |

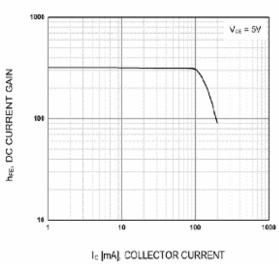
### **ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)**

| Parameter                            | Symbol                | Test conditions                                       | MIN | TYP | MAX  | UNIT |
|--------------------------------------|-----------------------|---|-----|-----|------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub>  | I <sub>C</sub> = 100μA, I <sub>E</sub> =0             | 50  |     |      | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub>  | I <sub>C</sub> = 0.1mA, I <sub>B</sub> =0             | 45  |     |      | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub>  | I <sub>E</sub> =100μA, I <sub>C</sub> =0              | 5   |     |      | V    |
| Collector cut-off current            | I <sub>CBO</sub>      | V <sub>CB</sub> =50 V , I <sub>E</sub> =0             |     |     | 0.1  | μА   |
| Collector cut-off current            | I <sub>CEX</sub>      | V <sub>CE</sub> =35V , Vx =-3V                        |     |     | 50   | nA   |
| Emitter cut-off current              | I <sub>EBO</sub>      | V <sub>EB</sub> = 3V , I <sub>C</sub> =0              |     |     | 0.1  | μА   |
| DC current gain                      | h <sub>FE</sub>       | V <sub>CE</sub> =5V, I <sub>C</sub> = 1mA             | 200 |     | 1000 |      |
| Collector-emitter saturation voltage | V <sub>CE</sub> (sat) | I <sub>C</sub> =100 mA, I <sub>B</sub> = 5mA          |     |     | 0.3  | V    |
| Base-emitter saturation voltage      | V <sub>BE</sub> (sat) | I <sub>C</sub> =100 mA, I <sub>B</sub> = 5mA          |     |     | 1    | V    |
| Transition frequency                 | f⊤                    | V <sub>CE</sub> =5V, I <sub>C</sub> = 10mA<br>f=30MHz | 150 |     |      | MHz  |

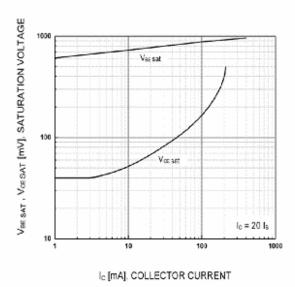
#### CLASSIFICATION OF hFE

| Rank  | L       | Н        |
|-------|---------|----------|
| Range | 200-450 | 450-1000 |





DC current Gain



f-fMHz], CURRENT GAIN BANDWIDTH PRODUCT V<sub>ce</sub> = 5V Ic [mA], COLLECTOR CURRENT

**Base-Emitter Saturation Voltage** Collector-Emitter Saturation Voltage

**Current Gain Bandwidth Product** 

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