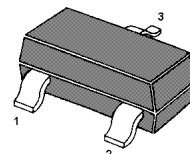


# S9014 TRANSISTOR (NPN)

## FEATURES

Complementary to S9015

### SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

MARKING: J6

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

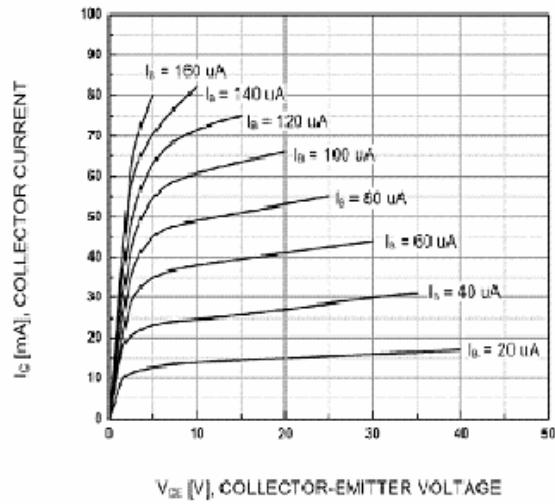
| Symbol    | Parameter                    | value   | units              |
|-----------|------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage       | 50      | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage    | 45      | V                  |
| $V_{EBO}$ | Emitter-Base Voltage         | 5       | V                  |
| $I_C$     | Collector Current-Continuous | 0.1     | A                  |
| $P_C$     | Collector Power Dissipation  | 0.2     | W                  |
| $T_J$     | Junction Temperature         | 150     | $^{\circ}\text{C}$ |
| $T_{STG}$ | Storage Temperature          | -55-150 | $^{\circ}\text{C}$ |

## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

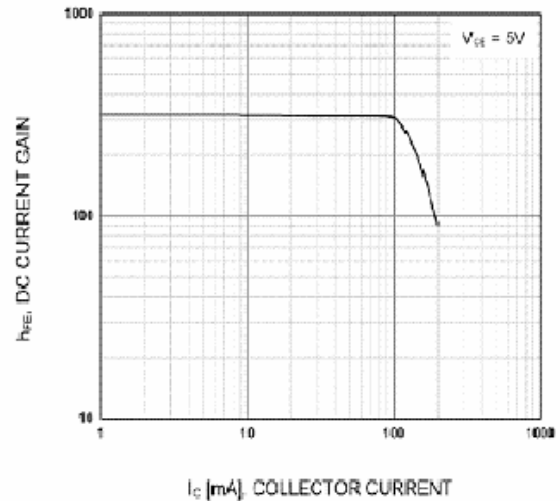
| Parameter                            | Symbol        | Test conditions                                            | MIN | TYP | MAX | UNIT          |
|--------------------------------------|---------------|------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$ , $I_E=0$                             | 50  |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=0.1\text{mA}$ , $I_B=0$                               | 45  |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}$ , $I_C=0$                             | 5   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=50\text{V}$ , $I_E=0$                              |     |     | 0.1 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=35\text{V}$ , $I_B=0$                              |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=3\text{V}$ , $I_C=0$                               |     |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=5\text{V}$ , $I_C=1\text{mA}$                      | 200 |     | 450 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}$ , $I_B=5\text{mA}$                      |     |     | 0.3 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=100\text{mA}$ , $I_B=5\text{mA}$                      |     |     | 1   | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=5\text{V}$ , $I_C=10\text{mA}$<br>$f=30\text{MHz}$ | 150 |     |     | MHz           |

# Typical Characteristics

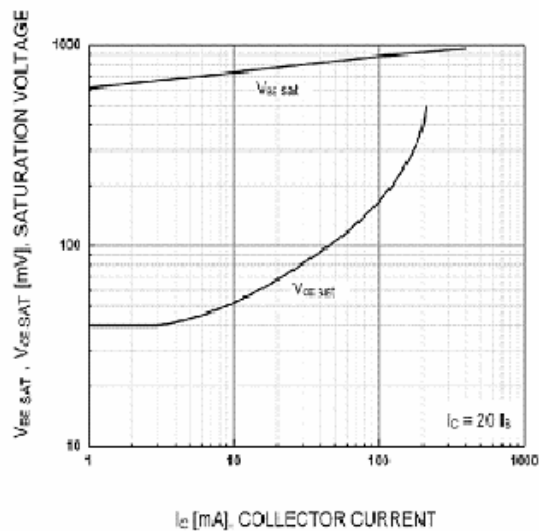
S9014



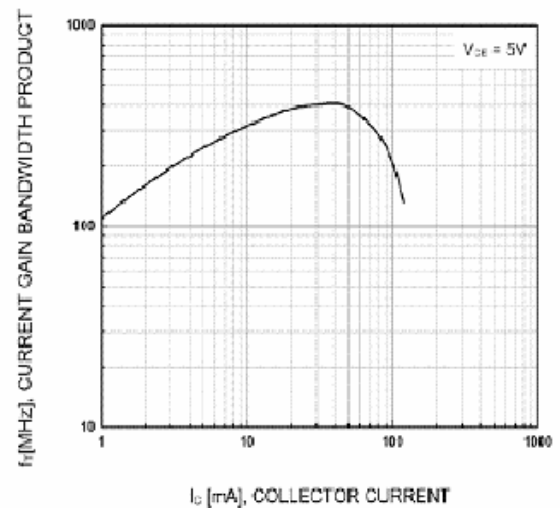
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product