# TO-92 Plastic-Encapsulate Transistors

AV9014 TRANSISTOR（ NPN ）

**FEATURES**

Power dissipation

$P_{CM}$ : 0.4 W（Tamb=25℃）

Collector current

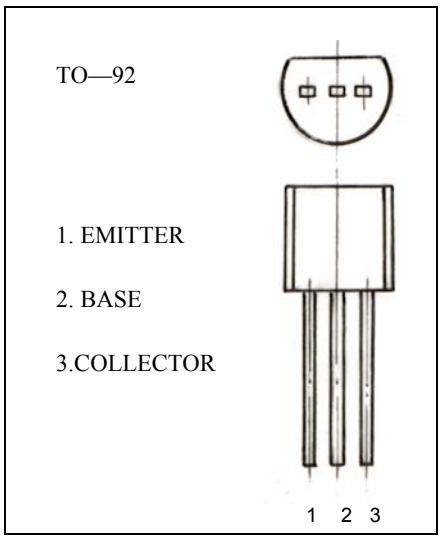
$I_{CM}$ : -0.1 A

Collector-base voltage

$V_{(BR)CBO}$ : 50 V

Operating and storage junction temperature range

$T_J$ , $T_{stg}$: -55℃ to +150℃




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

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V(BR)_{CBO}$ | Ic= 100 μA， $I_E$=0 | 50 | | V |
| **Collector-emitter breakdown voltage** | $V(BR)_{CEO}$ | Ic= 0. 1 mA， $I_B$=0 | 45 | | V |
| **Emitter-base breakdown voltage** | $V(BR)_{EBO}$ | $I_E$= 100 μA， $I_C$=0 | 5 | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=50 V， $I_E$=0 | | 0.1 | μA |
| **Collector cut-off current** | $I_{CEO}$ | $V_{CE}$=35 V， $I_B$=0 | | 0.1 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$= 3 V， $I_C$=0 | | 0.1 | μA |
| **DC current gain** | $H_{FE}$ | $V_{CE}$= 5 V, $I_C$= 1mA | 60 | 1000 | |
| **Collector-emitter saturation voltage** | $V_{CE}$(sat) | $I_C$= 100mA, $I_B$= 5 mA | | 0.3 | V |
| **Base-emitter saturation voltage** | $V_{BE}$(sat) | $I_C$= 100 mA, $I_B$= 5mA | | 1 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$= 5 V, $I_C$= 10mA f =30MHz | 150 | | MHz |

**CLASSIFICATION OF HFE**

| **Rank** | A | B | C | D |
|---|---|---|---|---|
| **Range** | 60-150 | 100-300 | 200-600 | 400-1000 |

## Typical Characteristics

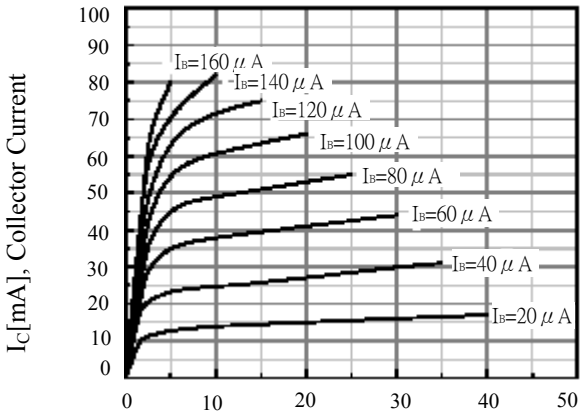



**Figure 1. Static Characteristic**

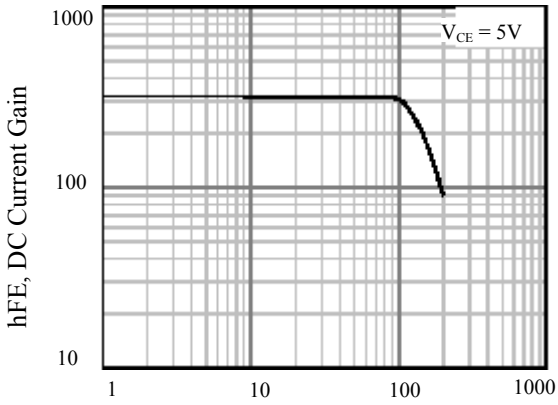



**Figure 2. DC current Gain**

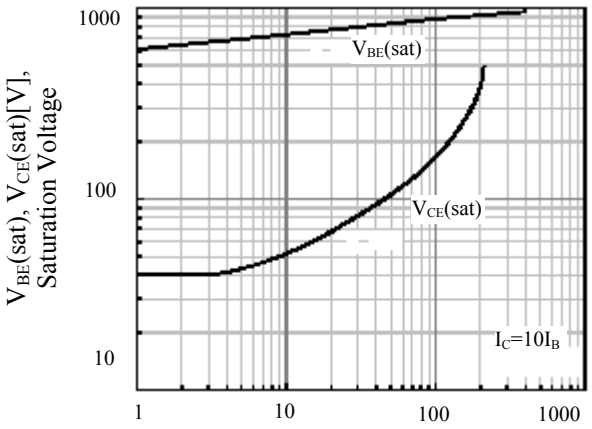



**Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

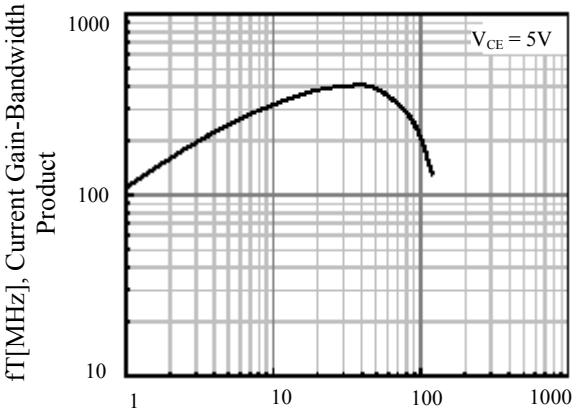



**Figure 4. Current Gain Bandwidth Product**