

# Transistors

## 2SC9018

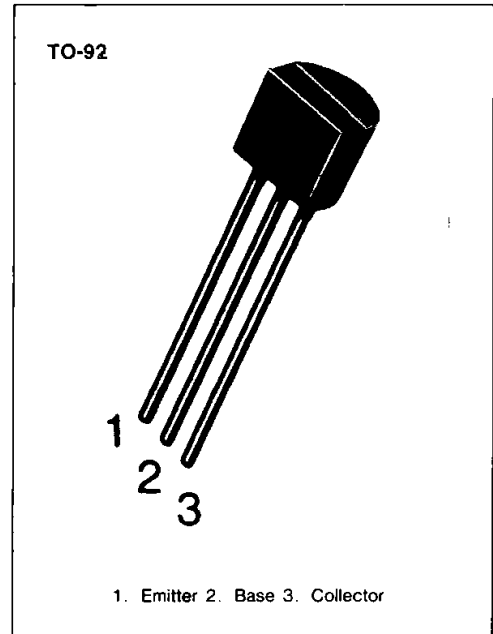


### AM/FM IF AMPLIFIER, LOCAL OSCILLATOR OF FM/VHF TUNER

• High Current Gain Bandwidth Product  $f_T = 1,100$  MHz (Typ)

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

| Characteristic            | Symbol    | Rating  | Unit             |
|---------------------------|-----------|---------|------------------|
| Collector-Base Voltage    | $V_{CB0}$ | 30      | V                |
| Collector-Emitter Voltage | $V_{CEO}$ | 15      | V                |
| Emitter-Base Voltage      | $V_{EBO}$ | 5       | V                |
| Collector Current         | $I_C$     | 50      | mA               |
| Collector Dissipation     | $P_C$     | 400     | mW               |
| Junction Temperature      | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature       | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

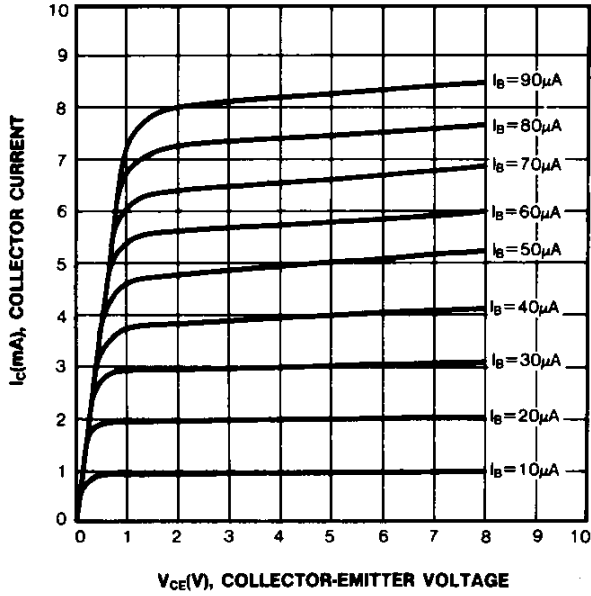
| Characteristic                       | Symbol        | Test Conditions                                     | Min | Typ  | Max | Unit |
|--------------------------------------|---------------|---|-----|------|-----|------|
| Collector-Base Breakdown Voltage     | $BV_{CBO}$    | $I_C = 100\mu\text{A}, I_E = 0$                     | 30  |      |     | V    |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C = 1.0\text{mA}, I_B = 0$                       | 15  |      |     | V    |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$    | $I_E = 100\mu\text{A}, I_C = 0$                     | 5   |      |     | V    |
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 12\text{V}, I_E = 0$                      |     |      | 50  | nA   |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 5\text{V}, I_C = 1.0\text{mA}$            | 28  | 100  | 198 |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 10\text{mA}, I_B = 1\text{mA}$               |     |      | 0.5 | V    |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = 10\text{V}, I_E = 0$<br>$f = 1\text{MHz}$ |     | 1.3  | 1.7 | pF   |
| Current Gain-Bandwidth Product       | $f_T$         | $V_{CE} = 5\text{V}, I_C = 5\text{mA}$              | 700 | 1100 |     | MHz  |

### $h_{FE}$ CLASSIFICATION

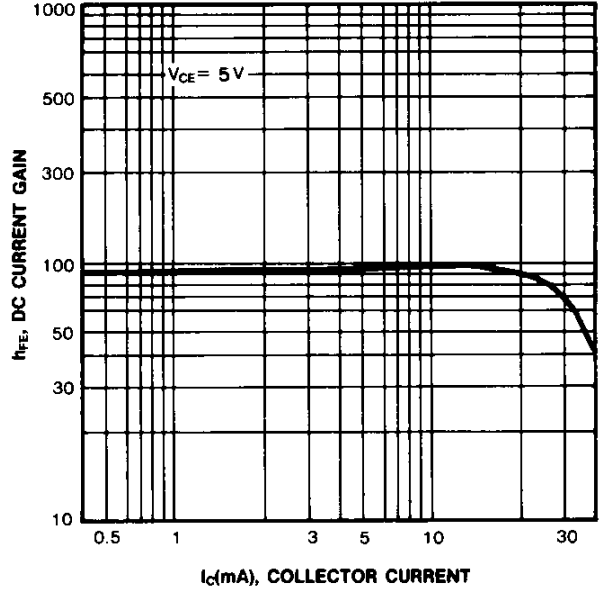
| Classification | D     | E     | F     | G      | H      | I       |
|----------------|-------|-------|-------|--------|--------|---------|
| $h_{FE}$       | 28-45 | 39-60 | 54-80 | 72-108 | 97-146 | 132-198 |



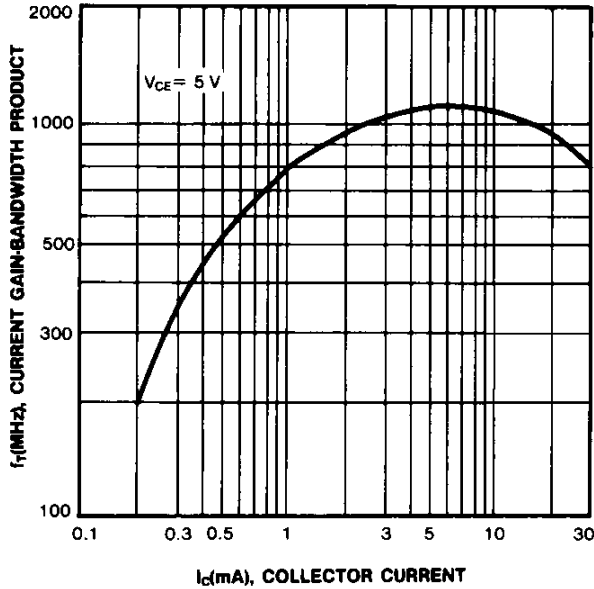
**STATIC CHARACTERISTIC**



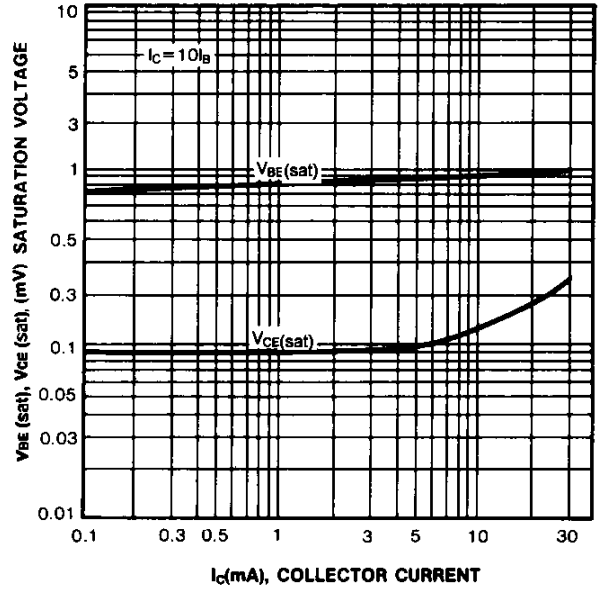
**DC CURRENT GAIN**



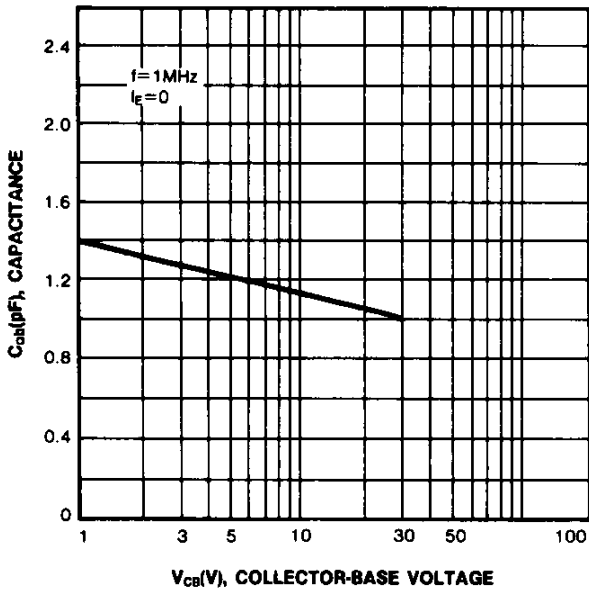
**CURRENT GAIN-BANDWIDTH PRODUCT**



**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



**OUTPUT CAPACITANCE**



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