

RoHS Compliant Product
A suffix of "-C" specifies halogen and lead free

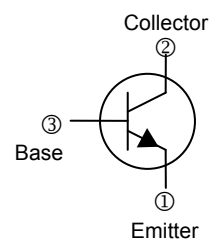
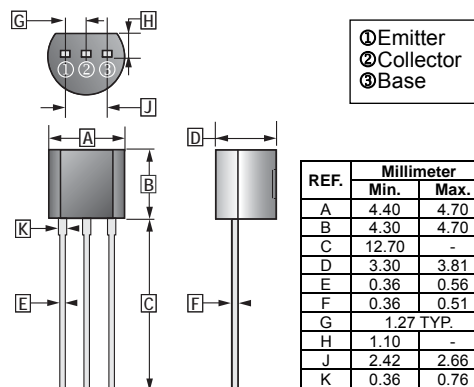
FEATURES

- Audio amplifier
- Flash unit of camera
- Switching circuit

CLASSIFICATION OF $h_{FE(2)}$

| Rank | R | T | V |
|-------|-----------|-----------|------------|
| Range | 340 - 600 | 560 - 950 | 900 - 2000 |

TO-92



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

| Parameter | Symbol | Ratings | Unit |
|--------------------------------|----------------|------------------|------------------|
| Collector - Base Voltage | V_{CBO} | 42 | V |
| Collector - Emitter Voltage | V_{CEO} | 22 | V |
| Emitter - Base Voltage | V_{EBO} | 6 | V |
| Collector Current - Continuous | I_C | 5 | A |
| Collector Power Dissipation | P_C | 750 | mW |
| Junction, Storage Temperature | T_J, T_{STG} | +150, -55 ~ +150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|--|---------------|------|------|------|---------------|---|
| Collector - Base Breakdown Voltage | $V_{(BR)CBO}$ | 42 | - | - | V | $I_C = 0.1\text{mA}, I_E = 0$ |
| Collector - Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 22 | - | - | V | $I_C = 1\text{mA}, I_B = 0$ |
| Emitter - Base Breakdown Voltage | $V_{(BR)EBO}$ | 6 | - | - | V | $I_E = 10\ \mu\text{A}, I_C = 0$ |
| Collector Cut - Off Current | I_{CBO} | - | - | 0.1 | μA | $V_{CB} = 30\text{V}, I_E = 0$ |
| Emitter Cut - Off Current | I_{EBO} | - | - | 0.1 | μA | $V_{EB} = 6\text{V}, I_C = 0$ |
| DC Current Gain | $h_{FE(1)}$ | 150 | - | - | | $V_{CE} = 2\text{V}, I_C = 0.15\text{mA}$ |
| | $h_{FE(2)}$ | 340 | - | 2000 | | $V_{CE} = 2\text{V}, I_C = 500\text{mA}$ |
| | $h_{FE(3)}$ | 150 | - | - | | $V_{CE} = 2\text{V}, I_C = 2\text{A}$ |
| Collector - Emitter Saturation Voltage | $V_{CE(sat)}$ | - | - | 0.35 | V | $I_C = 3000\text{mA}, I_B = 100\text{mA}$ |
| Transition Frequency | f_T | - | 150 | - | MHz | $V_{CE} = 6\text{V}, I_C = 50\text{mA}, f = 30\text{MHz}$ |

CHARACTERISTIC CURVES

Fig.1 Static characteristics

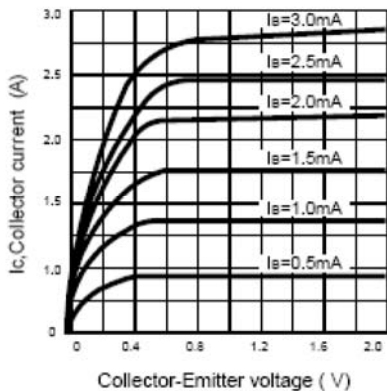


Fig.2 DC current Gain

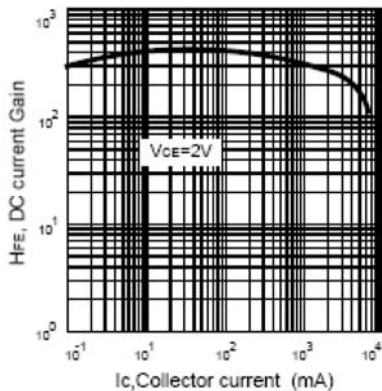


Fig.3 Base-Emitter on Voltage

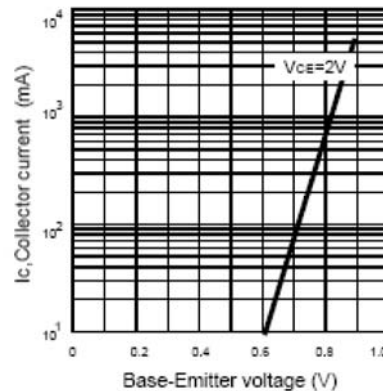


Fig.4 Saturation voltage

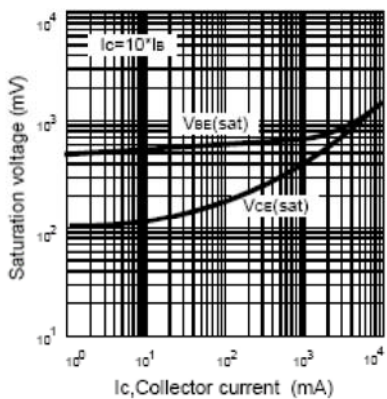


Fig.5 Current gain-bandwidth product

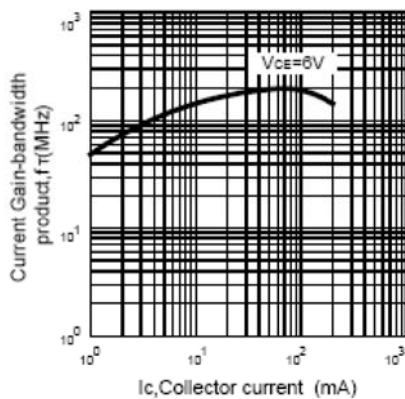


Fig.6 Collector output Capacitance

