

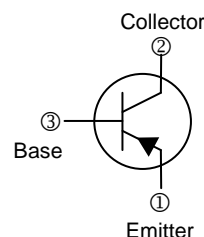
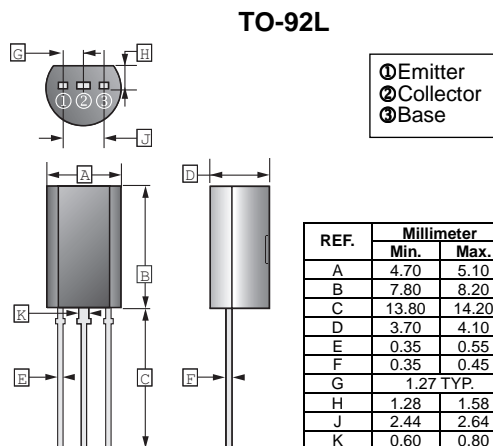
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURE

- Automatic insertion by radial taping possible.
- Complementary pair with 2SC1384L.

CLASSIFICATION OF h_{FE}

| Product-Rank | 2SA684-Q | 2SA684-R | 2SA684-S |
|--------------|----------|----------|----------|
| Range | 85~170 | 120~240 | 170~340 |



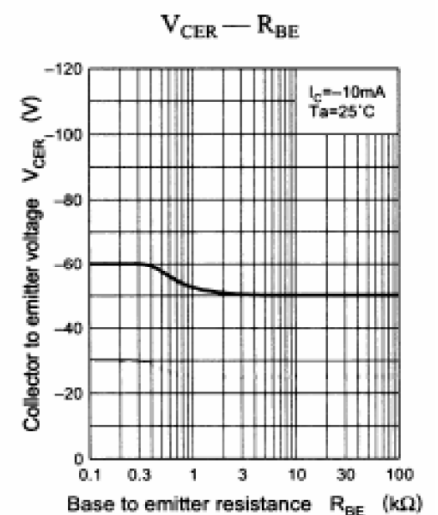
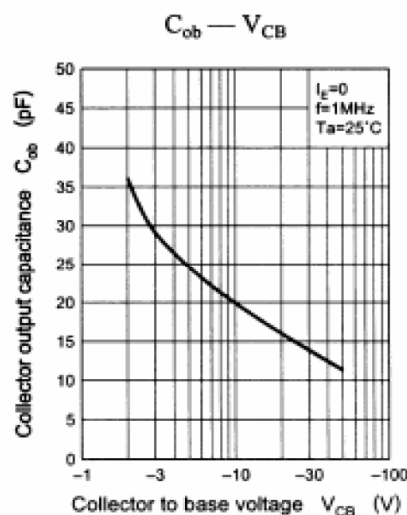
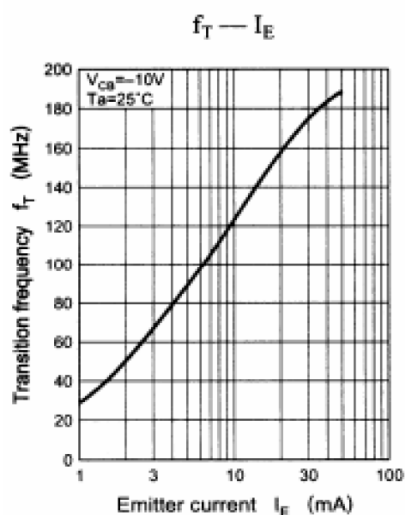
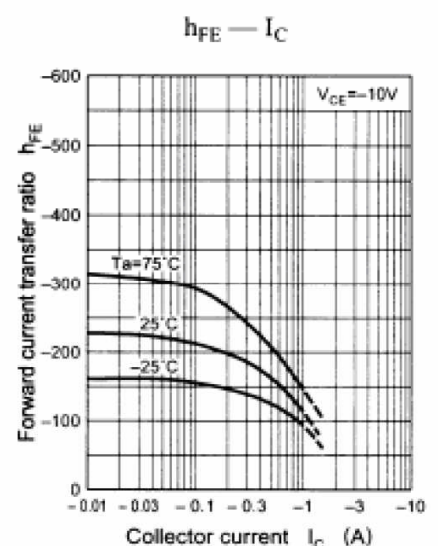
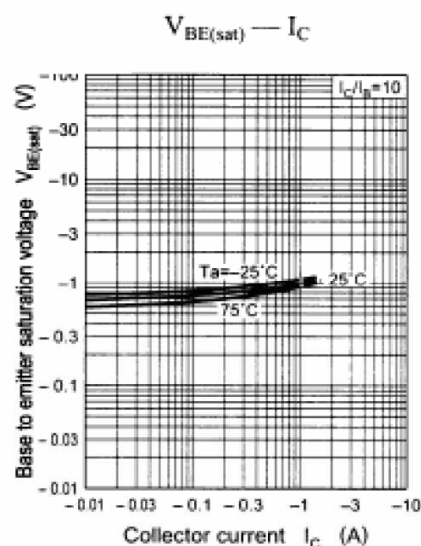
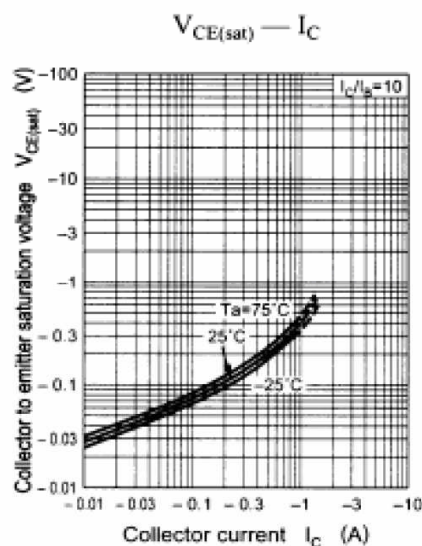
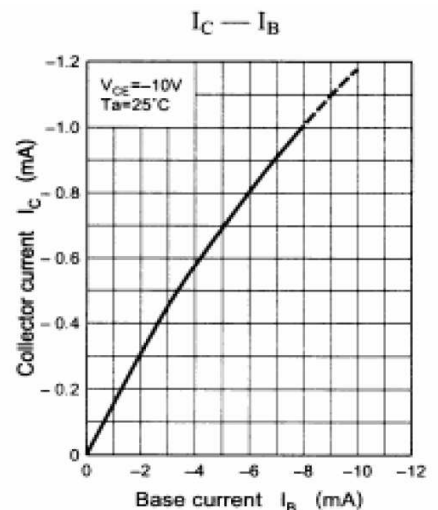
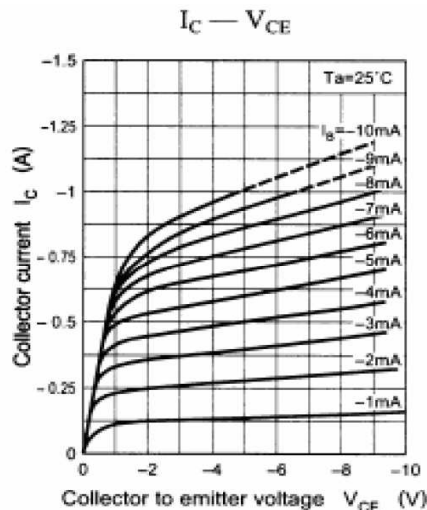
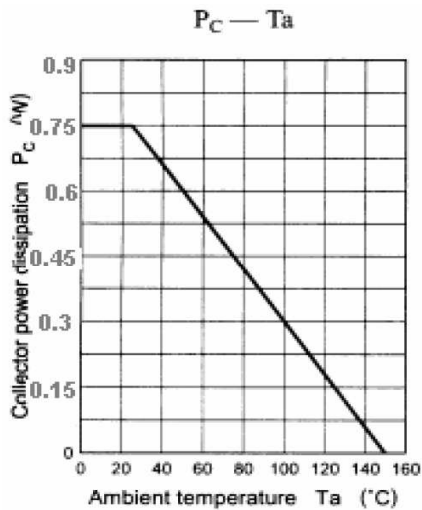
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Ratings | Unit |
|--------------------------------|----------------|--------------|------------------|
| Collector to Base Voltage | V_{CB0} | -60 | V |
| Collector to Emitter Voltage | V_{CEO} | -50 | V |
| Emitter to Base Voltage | V_{EBO} | -5 | V |
| Collector Current - Continuous | I_C | -1 | A |
| Collector Power Dissipation | P_C | 1 | W |
| 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 | $V_{(BR)CBO}$ | -60 | - | - | V | $I_C = -10\mu\text{A}, I_E = 0$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | -50 | - | - | V | $I_C = -2\text{mA}, I_B = 0$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | -5 | - | - | V | $I_E = -10\mu\text{A}, I_C = 0$ |
| Collector Cut-off Current | I_{CBO} | - | - | -0.1 | μA | $V_{CB} = -20\text{V}, I_E = 0$ |
| DC Current Gain | $h_{FE(1)}$ | 85 | - | 340 | | $V_{CE} = -10\text{V}, I_C = -500\text{mA}$ |
| | $h_{FE(2)}$ | 50 | - | - | | $V_{CE} = -5\text{V}, I_C = -1\text{A}$ |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | - | -0.2 | -0.4 | V | $I_C = -500\text{mA}, I_B = -50\text{mA}$ |
| Base-Emitter Voltage | $V_{BE(sat)}$ | - | -0.85 | -1.2 | V | $I_C = -500\text{mA}, I_B = -50\text{mA}$ |
| Transition Frequency | f_T | - | 200 | - | MHz | $V_{CE} = -10\text{V}, I_E = 50\text{mA}, f = 200\text{MHz}$ |
| Collector Output Capacitance | C_{Ob} | - | 20 | 30 | pF | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ |

CHARACTERISTIC CURVES



CHARACTERISTIC CURVES

