

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT)

2SC4605

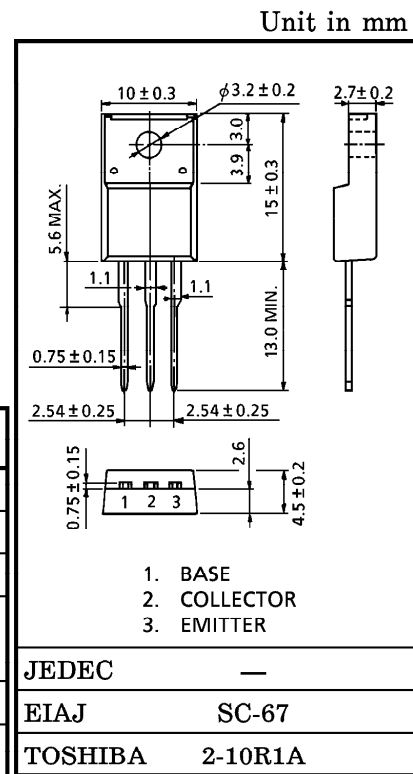
VIDEO OUTPUT FOR SUPER HIGH RESOLUTION DISPLAY

HIGH SPEED SWITCHING APPLICATIONS

- High Transition Frequency : $f_T = 1.1\text{GHz}$ (Typ.)
- Low Collector Output Capacitance : $C_{ob} = 4.8\text{pF}$ (Typ.)
- High Voltage : $V_{CEO} = 100\text{V}$
- High Collector Power Dissipation Capability : $P_C = 10\text{W}$

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|--------------------------|-----------|---------|------------------|
| Collector-Base Voltage | | V_{CBO} | 100 | V |
| Collector-Emitter Voltage | | V_{CEO} | 100 | V |
| Emitter-Base Voltage | | V_{EBO} | 3 | V |
| Collector Current | DC | I_C | 0.5 | A |
| | Peak | I_{CP} | 1.0 | |
| Base Current | | I_B | 0.2 | A |
| Collector Power Dissipation | $T_a = 25^\circ\text{C}$ | P_C | 2 | W |
| | $T_c = 25^\circ\text{C}$ | | 10 | |
| Junction Temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ\text{C}$ |



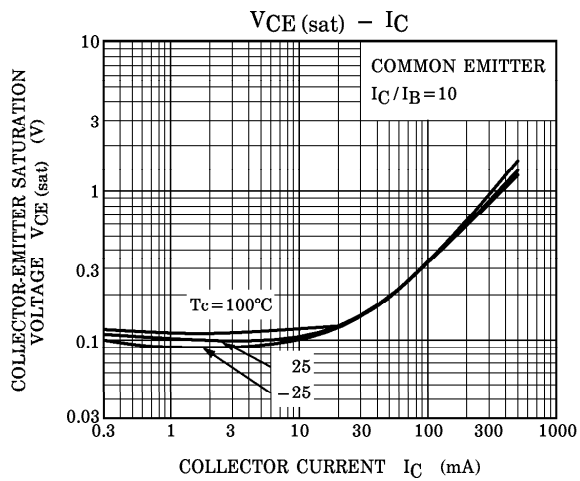
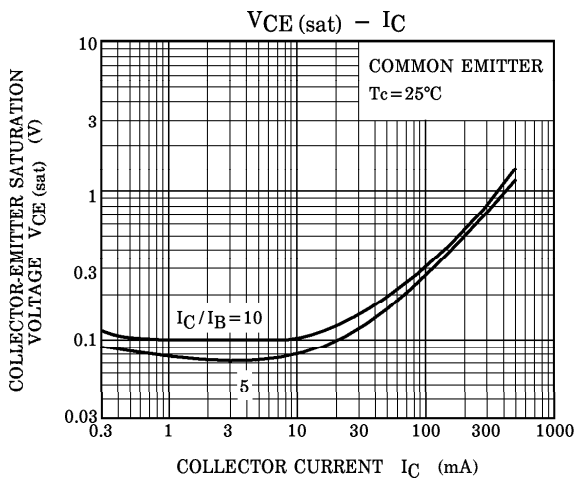
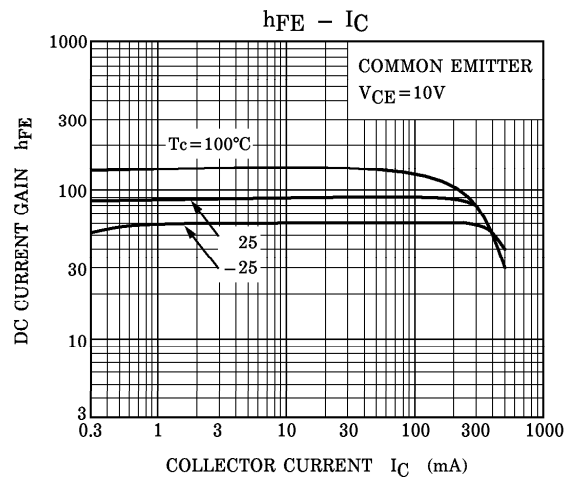
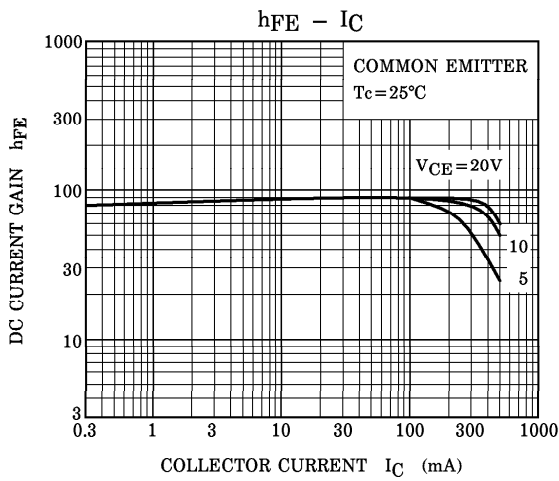
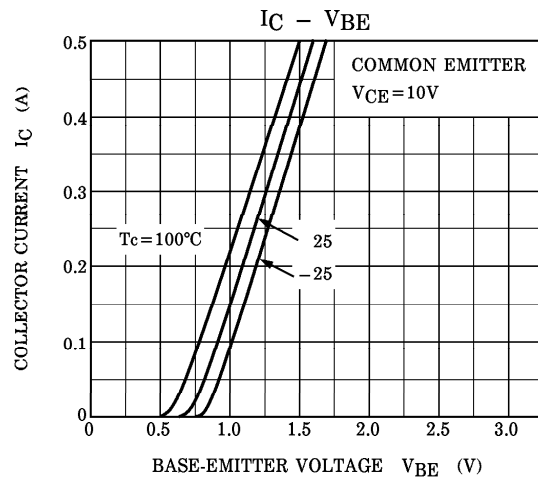
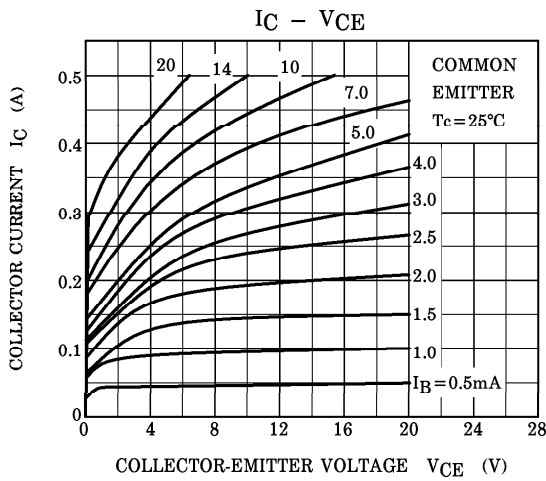
Weight : 1.7g

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

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 100\text{V}, I_E = 0$ | — | — | 100 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 3\text{V}, I_C = 0$ | — | — | 100 | μA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 1\text{mA}, I_B = 0$ | 100 | — | — | V |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = 10\text{V}, I_C = 100\text{mA}$ | 30 | 70 | 150 | |
| | $h_{FE(2)}$ | $V_{CE} = 10\text{V}, I_C = 300\text{mA}$ | 20 | — | — | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 300\text{mA}, I_B = 30\text{mA}$ | — | 0.8 | 3.0 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 300\text{mA}, I_B = 30\text{mA}$ | — | 1.3 | 2.5 | V |
| Transition Frequency | f_T | $V_{CE} = 10\text{V}, I_C = 100\text{mA}$ | — | 1100 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 30\text{V}, I_E = 0, f = 1\text{MHz}$ | — | 4.8 | 5.2 | pF |

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