

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC4200

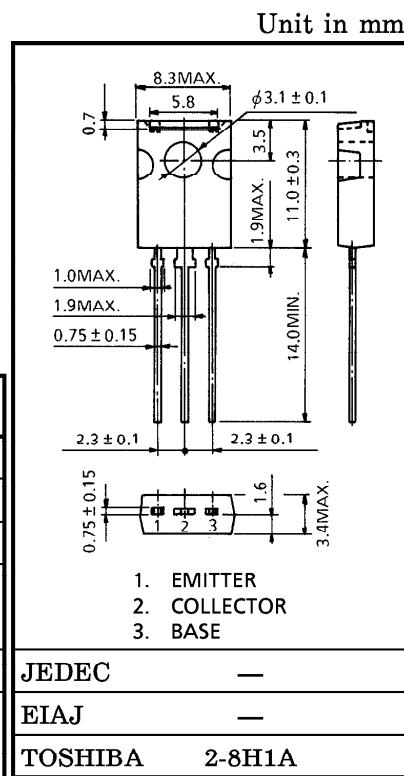
VIDEO DRIVER FOR SUPER HIGH RESOLUTION DISPLAY

HIGH SPEED SWITCHING APPLICATIONS

- High Transition Frequency : $f_T = 2.5\text{GHz}$ (Typ.)
- Low Reverse Transfer Capacitance : $C_{re} = 3.0\text{pF}$ (Typ.)
- High Current Capability.
- Collector Metal is (Fin) is Fully Covered with Mold Resin.

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|--------------------------|-----------|---------|------------------|
| Collector-Base Voltage | | V_{CBO} | 20 | V |
| Collector-Emitter Voltage | | V_{CEO} | 18 | V |
| Emitter-Base Voltage | | V_{EBO} | 3 | V |
| Collector Current | DC | I_C | 0.6 | A |
| | Peak | I_{CP} | 1.0 | |
| Base Current | | I_B | 0.3 | A |
| Collector Power Dissipation | $T_c = 25^\circ\text{C}$ | P_C | 5 | W |
| | $T_a = 25^\circ\text{C}$ | | 1.5 | |
| Junction Temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | | T_{stg} | -55~150 | $^\circ\text{C}$ |



| | |
|---------|--------|
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 2-8H1A |

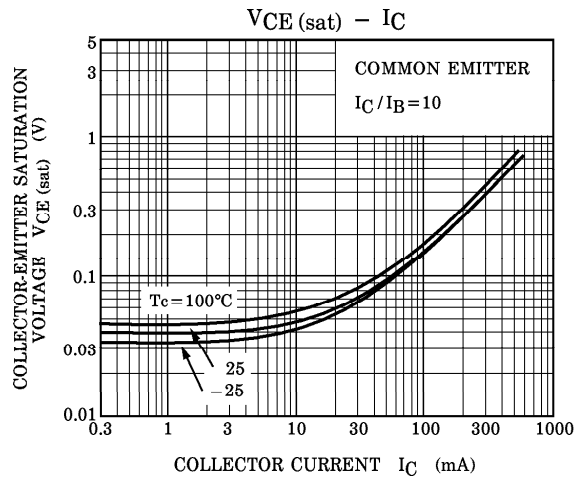
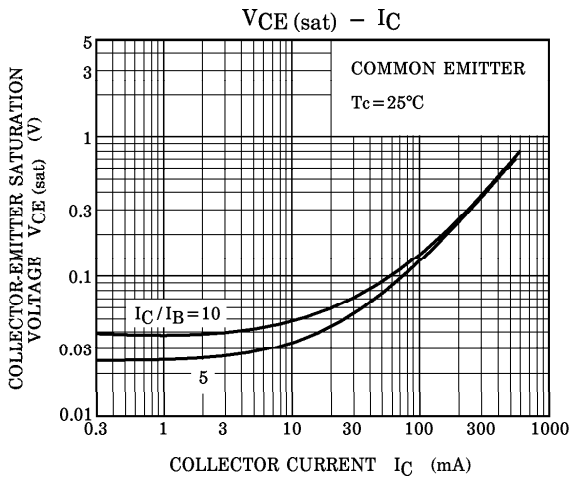
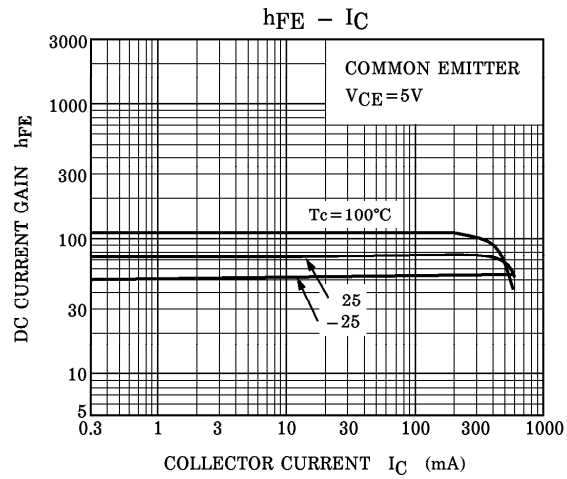
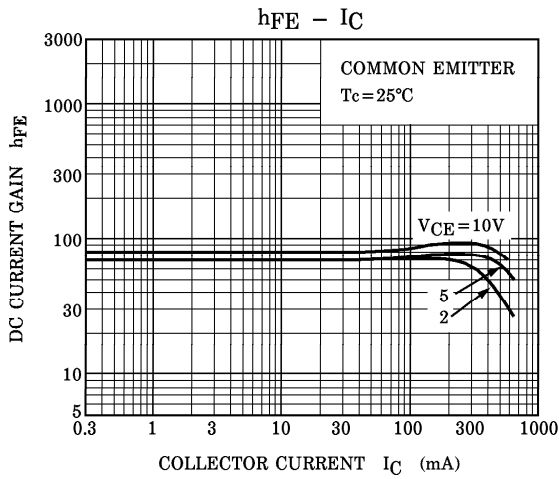
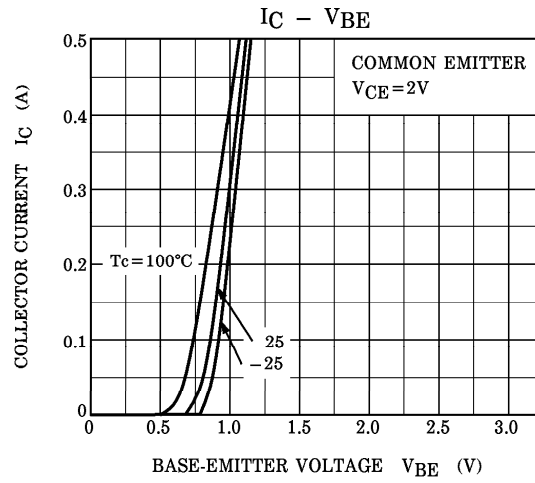
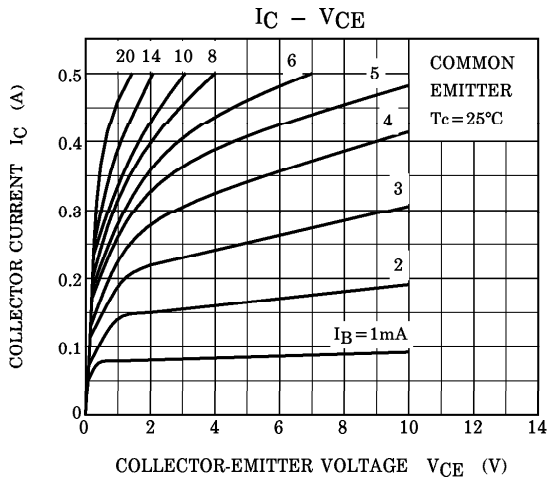
Weight : 0.82g (Typ.)

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

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|---|------|------|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 20\text{V}, I_E = 0$ | — | — | 1.0 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 2\text{V}, I_C = 0$ | — | — | 100 | μA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 1\text{mA}, I_B = 0$ | 18 | — | — | V |
| DC Current Gain | $h_{FE}(1)$ | $V_{CE} = 10\text{V}, I_C = 50\text{mA}$ | 40 | — | 200 | |
| | $h_{FE}(2)$ | $V_{CE} = 10\text{V}, I_C = 200\text{mA}$ | 20 | — | — | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 100\text{mA}, I_B = 10\text{mA}$ | — | — | 1.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 100\text{mA}, I_B = 10\text{mA}$ | — | — | 1.5 | V |
| Transition Frequency | f_T | $V_{CE} = 10\text{V}, I_C = 200\text{mA}$ | — | 2.5 | — | GHz |
| Reverse Transfer Capacitance | C_{re} | $V_{CB} = 10\text{V}, f = 1\text{MHz}$ | — | 3.0 | 5.0 | pF |

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