

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3670

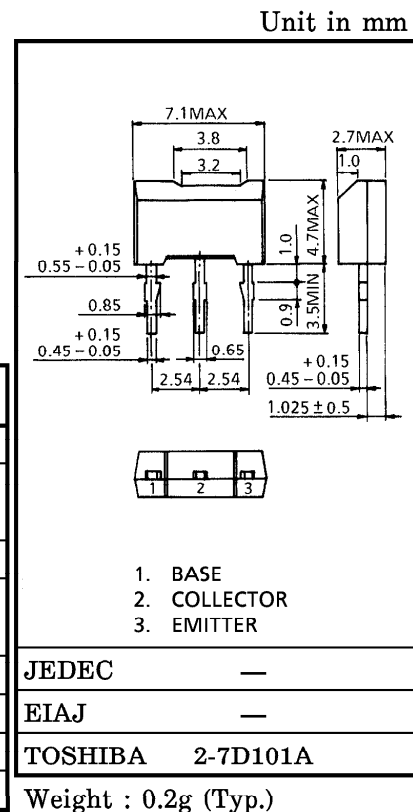
STOROBO FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent h_{FE} Linearity
 - : $h_{FE}(1) = 140 \sim 600$
 - : $h_{FE}(2) = 70$ (Min.), 200 (Typ.)
- Low Saturation Voltage : $V_{CE(sat)} = 0.5V$ (Max.)

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|-----------------|-----------|---------|------------|
| Collector-Base Voltage | | V_{CBO} | 30 | V |
| Collector-Emitter Voltage | | V_{CES} | 30 | V |
| | | V_{CEO} | 10 | |
| Emitter-Base Voltage | | V_{EBO} | 6 | V |
| Collector Current | DC | I_C | 2 | A |
| | Pulsed (Note 1) | I_{CP} | 5 | |
| Base Current | | I_B | 0.5 | A |
| Collector Power Dissipation | | P_C | 1000 | mW |
| Junction Temperature | | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ C$ |



Note 1 : Pulse Width $\leq 10ms$, Duty Cycle $\leq 30\%$

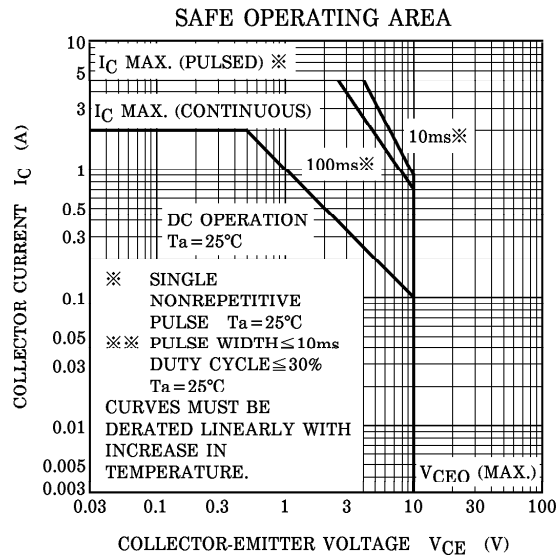
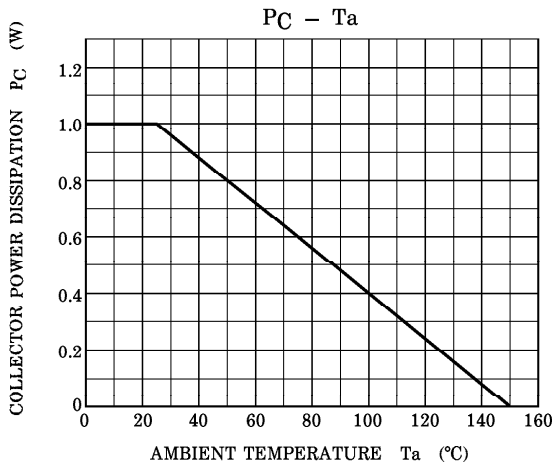
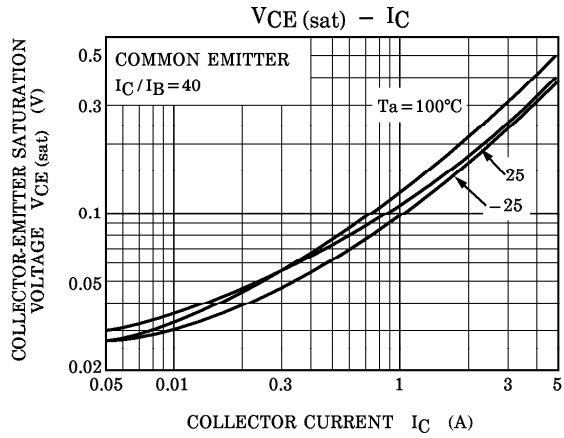
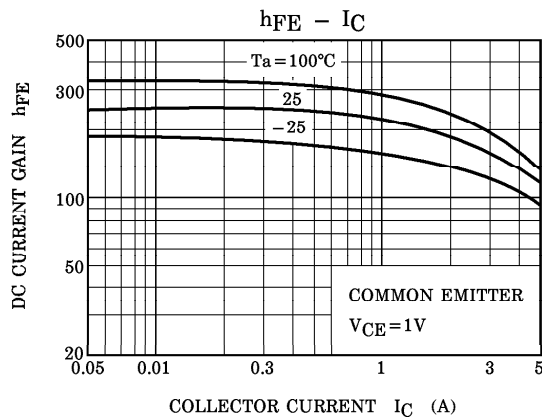
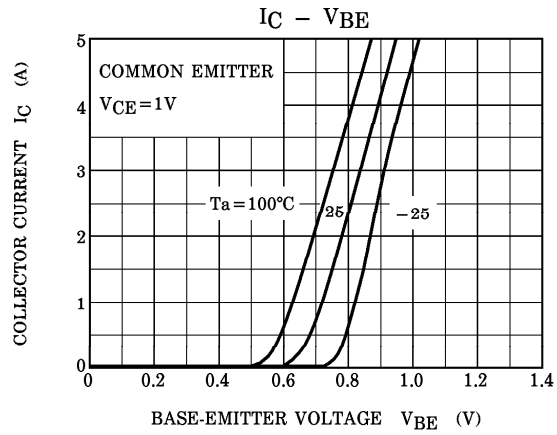
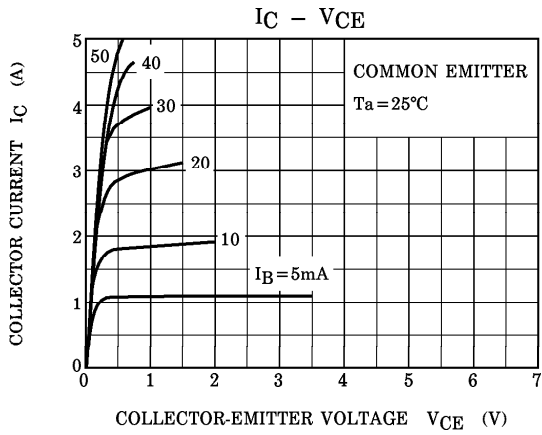
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------------------------|-----------------------------------|------|------|------|------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 30V, I_E = 0$ | — | — | 100 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 6V, I_C = 0$ | — | — | 100 | nA |
| Collector-Emitter Breakdown Voltage | V_{CEO} | $I_C = 10mA, I_B = 0$ | 10 | — | — | V |
| Emitter-Base Breakdown Voltage | V_{EBO} | $I_E = 1mA, I_C = 0$ | 6 | — | — | V |
| DC Current Gain | $h_{FE}(1)$ (Note 2) | $V_{CE} = 1V, I_C = 0.5A$ | 140 | — | 600 | |
| | $h_{FE}(2)$ | $V_{CE} = 1V, I_C = 2A$ | 70 | 200 | — | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 2A, I_B = 50mA$ | — | 0.2 | 0.5 | V |
| Base-Emitter Voltage | V_{BE} | $V_{CE} = 1V, I_C = 2A$ | — | 0.86 | 1.5 | V |
| Transition Frequency | f_T | $V_{CE} = 1V, I_C = 0.5A$ | — | 150 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | — | 27 | — | pF |

Note 2 : $h_{FE}(1)$ Classification A : 140~240, B : 200~330, C : 300~450, D : 420~600

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