

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC3307

HIGH SPEED AND HIGH VOLTAGE SWITCHING APPLICATIONS

SWITCHING REGULATOR APPLICATIONS

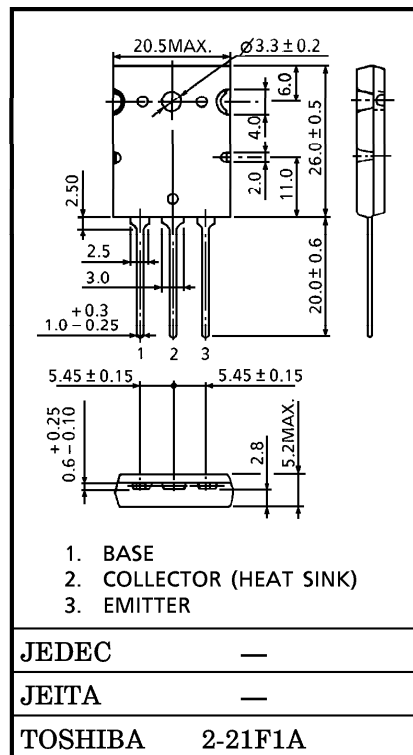
HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times
: $t_r = 1.0 \mu s$ (Max.), $t_f = 1.0 \mu s$ (Max.) ($I_C = 5 A$)
- High Collector Breakdown Voltage : $V_{CEO} = 800 V$

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

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|-------|-----------|---------|------------|
| Collector-Base Voltage | | V_{CBO} | 900 | V |
| Collector-Emitter Voltage | | V_{CEO} | 800 | V |
| Emitter-Base Voltage | | V_{EBO} | 7 | V |
| Collector Current | DC | I_C | 10 | A |
| | Pulse | I_{CP} | 15 | |
| Base Current | | I_B | 3 | A |
| Collector Power Dissipation ($T_c = 25^\circ C$) | | P_C | 150 | W |
| Junction Temperature | | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -55~150 | $^\circ C$ |

Unit in mm



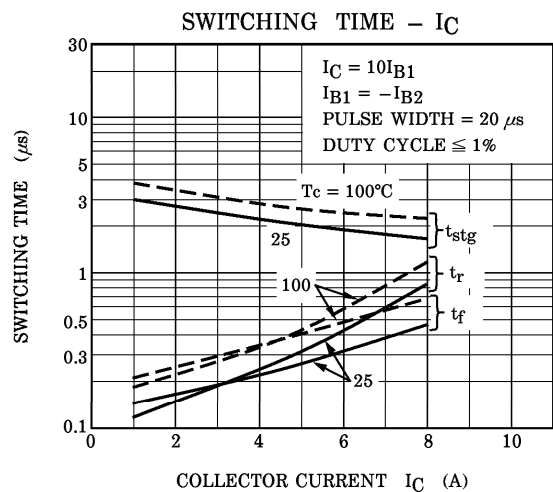
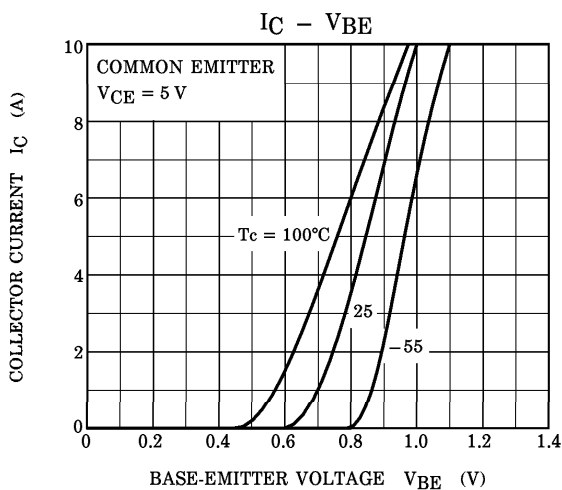
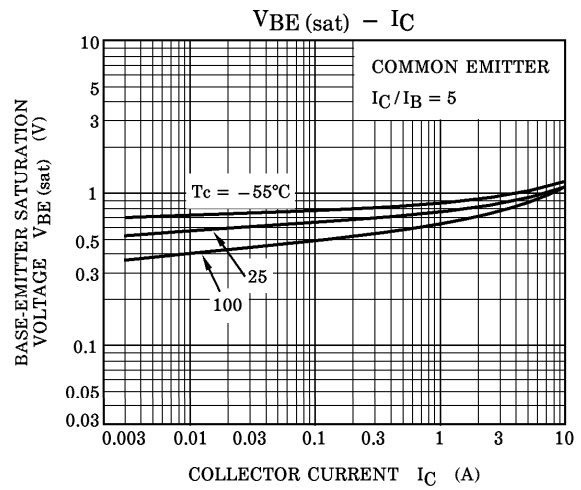
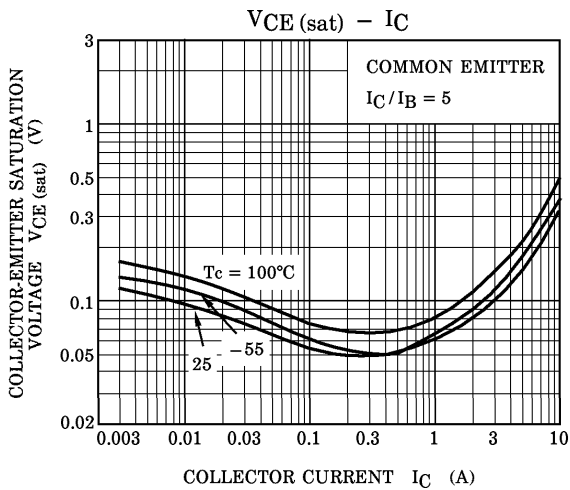
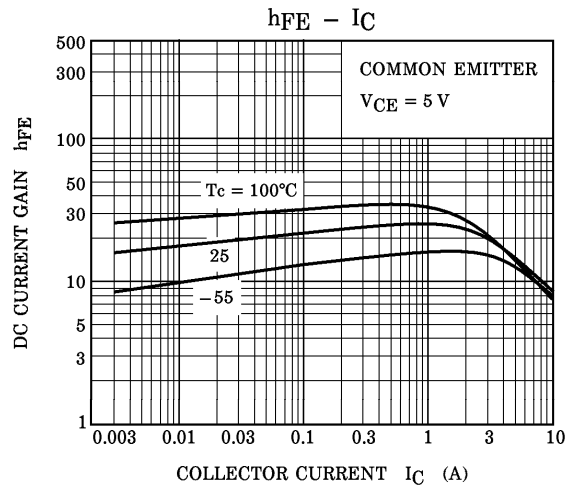
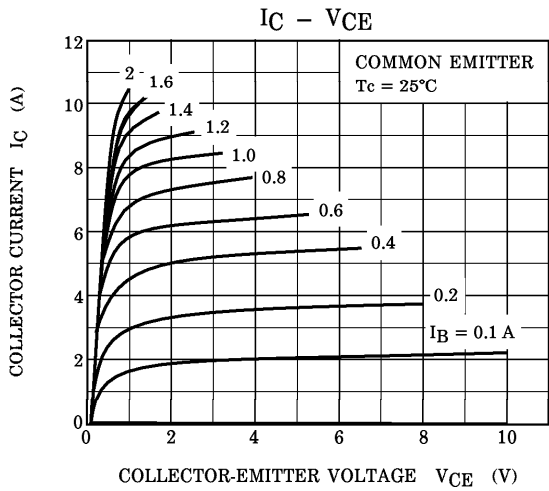
1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

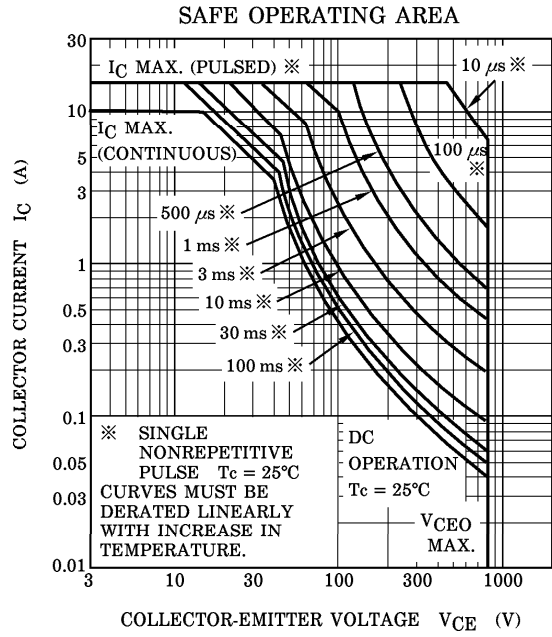
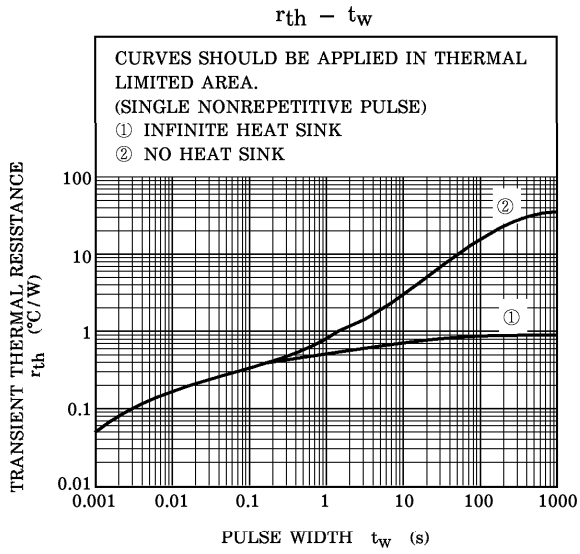
JEDEC —
JEITA —
TOSHIBA 2-21F1A

Weight : 9.8 g (Typ.)

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

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|--------------|---------------|-----------------------------|--|------|------|---------|
| Collector Cut-off Current | | I_{CBO} | $V_{CB} = 800 V, I_E = 0$ | — | — | 100 | μA |
| Emitter Cut-off Current | | I_{EBO} | $V_{EB} = 7 V, I_C = 0$ | — | — | 1 | mA |
| Collector-Base Breakdown Voltage | | $V_{(BR)CBO}$ | $I_C = 1 mA, I_E = 0$ | 900 | — | — | V |
| Collector-Emitter Breakdown Voltage | | $V_{(BR)CEO}$ | $I_C = 10 mA, I_B = 0$ | 800 | — | — | V |
| DC Current Gain | | $h_{FE(1)}$ | $V_{CE} = 5 V, I_C = 10 mA$ | 10 | — | — | |
| | | $h_{FE(2)}$ | $V_{CE} = 5 V, I_C = 5 A$ | 10 | — | — | |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | $I_C = 5 A, I_B = 1 A$ | — | — | 1.0 | V |
| Base-Emitter Saturation Voltage | | $V_{BE(sat)}$ | $I_C = 5 A, I_B = 1 A$ | — | — | 1.5 | V |
| Switching Time | Rise Time | t_r | | — | — | 1.0 | μs |
| | Storage Time | t_{stg} | | — | — | 3.0 | |
| | Fall Time | t_f | | $I_{B1} = -I_{B2} = -0.4 A$ DUTY CYCLE $\leq 1\%$ | — | — | |





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