

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1160

STROBE FLASH APPLICATIONS.
MEDIUM POWER AMPLIFIER APPLICATIONS.

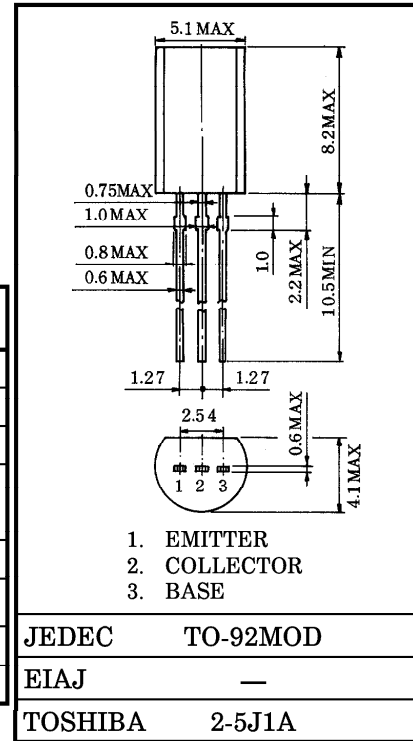
Unit in mm

www.datasheet4u.com

- High DC Current Gain and Excellent h_{FE} Linearity
 - : $h_{FE(1)} = 140 \sim 600$ ($V_{CE} = -1V, I_C = -0.5A$)
 - : $h_{FE(2)} = 60$ (Min.), 120 (Typ.) ($V_{CE} = -1V, I_C = -4A$)
- Low Saturation Voltage
 - : $V_{CE(sat)} = -0.5V$ (Max.) ($I_C = -2A, I_B = -50mA$)

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

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|--------------------------|---------|------------|
| Collector-Base Voltage | V_{CBO} | -20 | V |
| Collector-Emitter Voltage | V_{CEO} | -10 | V |
| Emitter-Base Voltage | V_{EBO} | -6 | V |
| Collector Current | DC I_C | -2 | A |
| | Pulsed (Note 1) I_{CP} | -4 | |
| Base Current | I_B | -2 | A |
| Collector Power Dissipation | P_C | 900 | mW |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | T_{stg} | -55~150 | $^\circ C$ |



Note 1 : Pulse Width = 10ms (Max.), Duty Cycle = 30% (Max.)

Weight : 0.36g

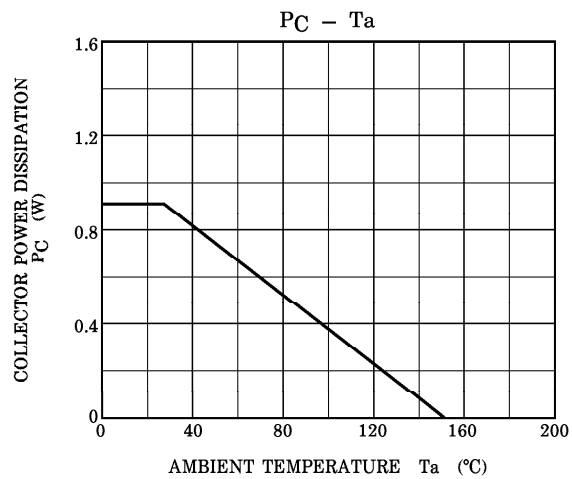
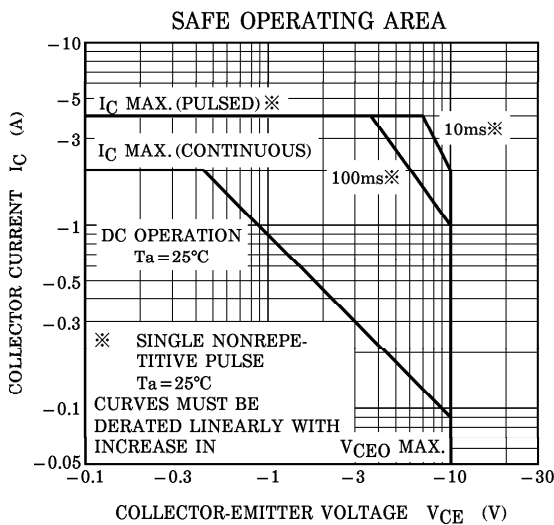
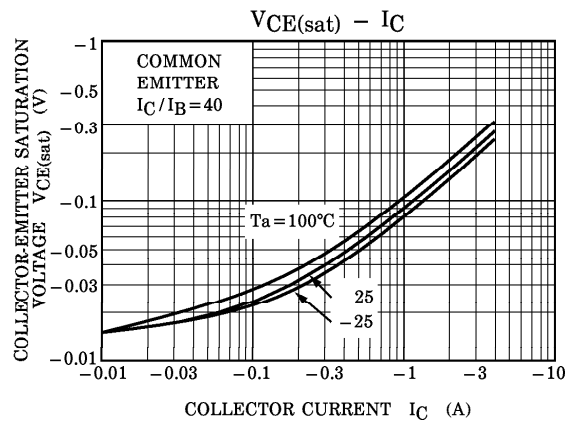
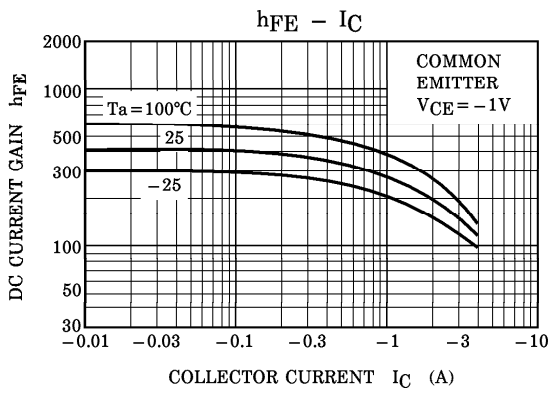
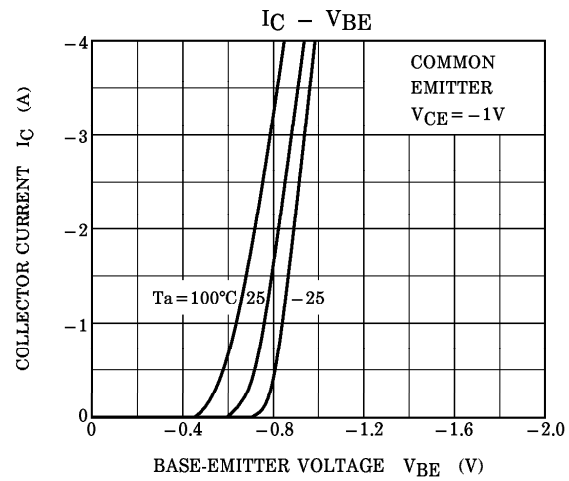
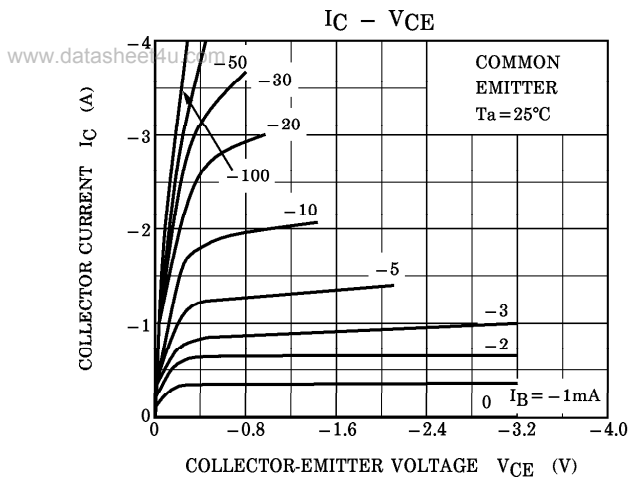
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------------------------|------------------------------------|------|-------|-------|------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = -20V, I_E = 0$ | — | — | -100 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = -6V, I_C = 0$ | — | — | -100 | nA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = -10mA, I_B = 0$ | -10 | — | — | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = -1mA, I_C = 0$ | -6 | — | — | V |
| DC Current Gain | $h_{FE(1)}$ (Note 2) | $V_{CE} = -1V, I_C = -0.5A$ | 140 | — | 600 | |
| | $h_{FE(2)}$ | $V_{CE} = -1V, I_C = -4A$ | 60 | 120 | — | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -2A, I_B = -50mA$ | — | -0.20 | -0.50 | V |
| Base-Emitter Voltage | V_{BE} | $V_{CE} = -1V, I_C = -2A$ | — | -0.83 | -1.5 | V |
| Transition Frequency | f_T | $V_{CE} = -1V, I_C = -0.5A$ | — | 140 | — | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | — | 50 | — | pF |

Note 2 : $h_{FE(1)}$ Classification A : 140~280, B : 200~400, C : 300~600

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