

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

## 2SA1297

POWER AMPLIFIER APPLICATIONS

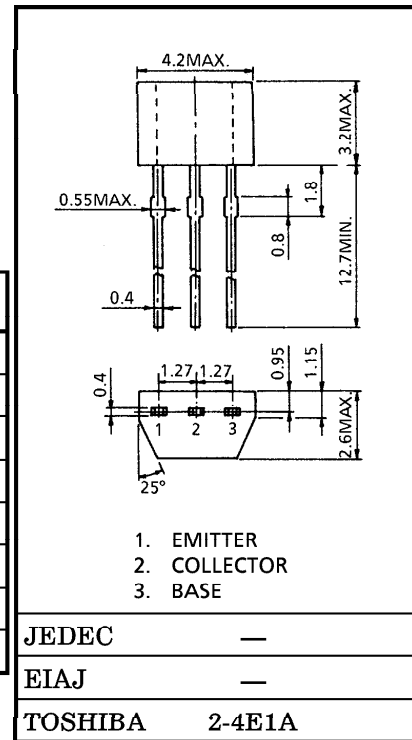
POWER SWITCHING APPLICATIONS

- Low Saturation Voltage :  $V_{CE(sat)} = -0.5V$  (Max.) @  $I_C = -2A$
- Complementary to 2SC3267.

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

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT       |
|-----------------------------|-----------|---------|------------|
| Collector-Base Voltage      | $V_{CBO}$ | -20     | V          |
| Collector-Emitter Voltage   | $V_{CEO}$ | -20     | V          |
| Emitter-Base Voltage        | $V_{EBO}$ | 6       | V          |
| Collector Current           | $I_C$     | -2      | A          |
| Base Current                | $I_B$     | -0.5    | A          |
| Collector Power Dissipation | $P_C$     | 400     | mW         |
| Junction Temperature        | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | $^\circ C$ |

Unit in mm



Weight : 0.13g

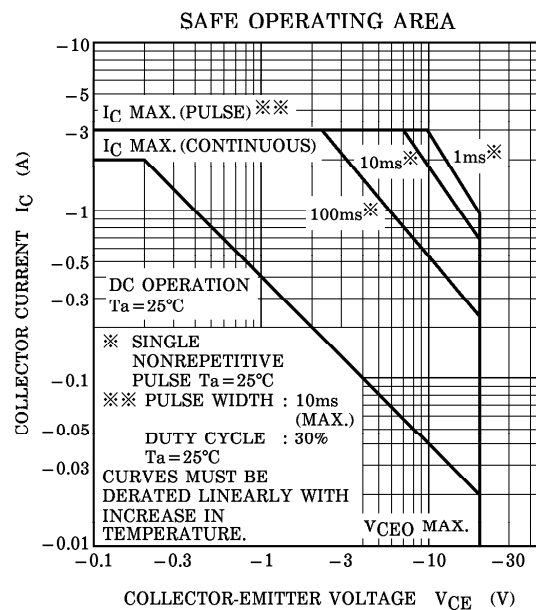
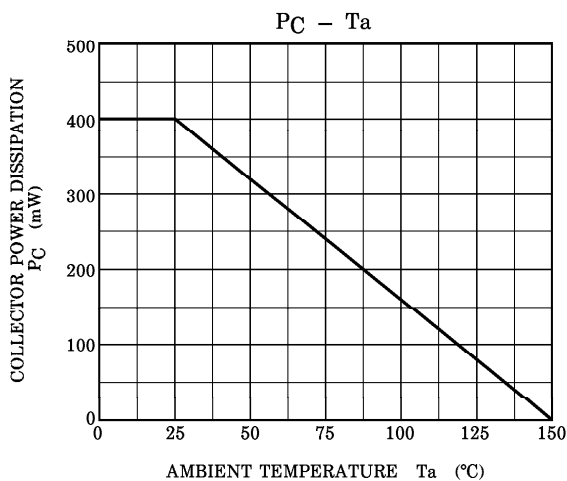
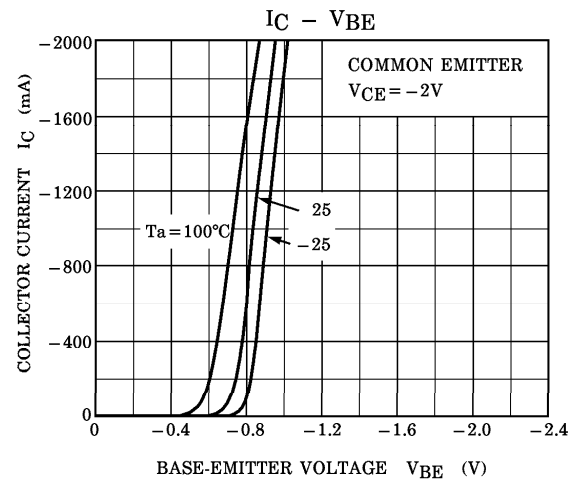
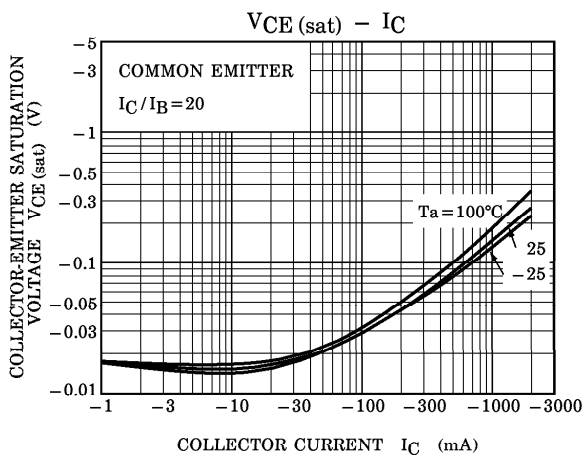
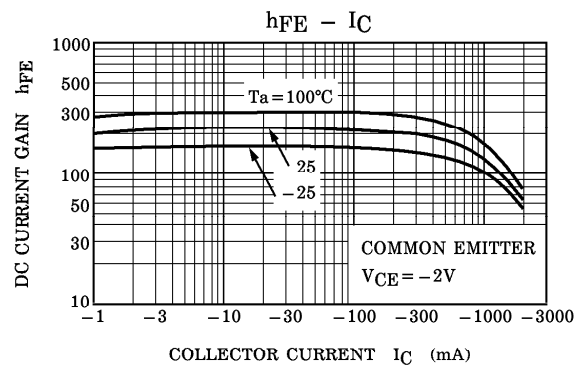
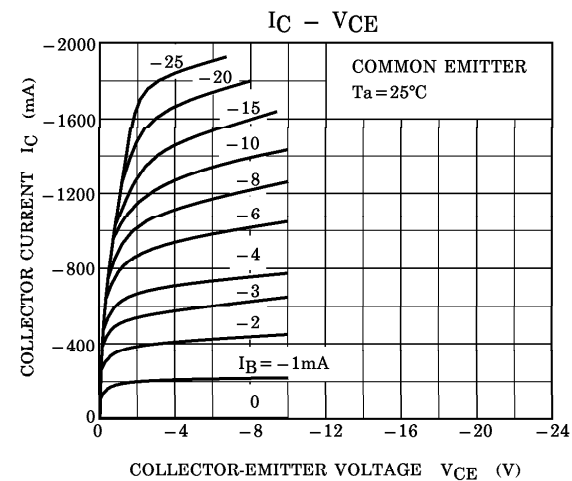
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION                     | MIN. | TYP. | MAX.  | UNIT    |
|--------------------------------------|-----------------------|------------------------------------|------|------|-------|---------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB} = -20V, I_E = 0$           | —    | —    | -0.1  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB} = -6V, I_C = 0$            | —    | —    | -0.1  | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$         | $I_C = -10mA, I_B = 0$             | -20  | —    | —     | V       |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$         | $I_E = -0.1mA, I_C = 0$            | -6   | —    | —     | V       |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = -2V, I_C = -0.1A$        | 120  | —    | 400   |         |
|                                      | $h_{FE(2)}$           | $V_{CE} = -2V, I_C = -2A$          | 40   | —    | —     |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = -2A, I_B = -0.1A$           | —    | —    | -0.5  | V       |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = -2V, I_C = -0.1A$        | —    | —    | -0.85 | V       |
| Transition Frequency                 | $f_T$                 | $V_{CE} = -2V, I_C = -0.5A$        | —    | 120  | —     | MHz     |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | —    | 40   | —     | pF      |

Note :  $h_{FE(1)}$  Y : 120~240, GR : 200~400

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