

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

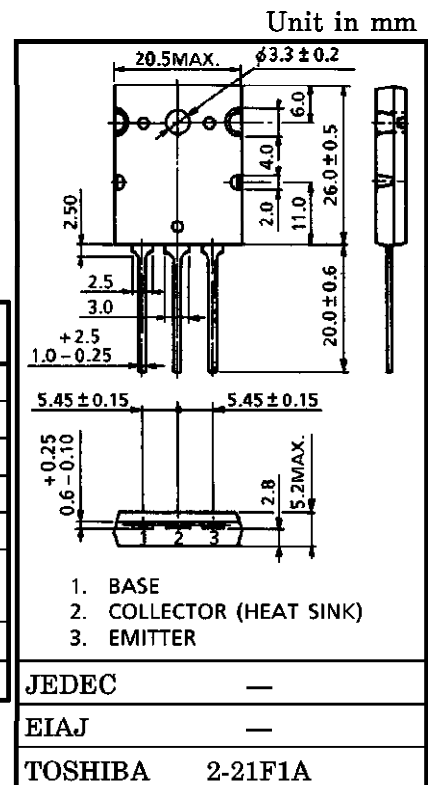
## 2SA1943

## POWER AMPLIFIER APPLICATIONS

- Complementary to 2SC5200
- Recommended for 100 W High Fidelity Audio Frequency Amplifier Output Stage.

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

| CHARACTERISTIC                                              | SYMBOL    | RATING  | UNIT             |
|-------------------------------------------------------------|-----------|---------|------------------|
| Collector-Base Voltage                                      | $V_{CB0}$ | -230    | V                |
| Collector-Emitter Voltage                                   | $V_{CE0}$ | -230    | V                |
| Emitter-Base Voltage                                        | $V_{EB0}$ | -5      | V                |
| Collector Current                                           | $I_C$     | -15     | A                |
| Base Current                                                | $I_B$     | -1.5    | A                |
| Collector Power Dissipation<br>( $T_c = 25^\circ\text{C}$ ) | $P_C$     | 150     | W                |
| Junction Temperature                                        | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range                                   | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |

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

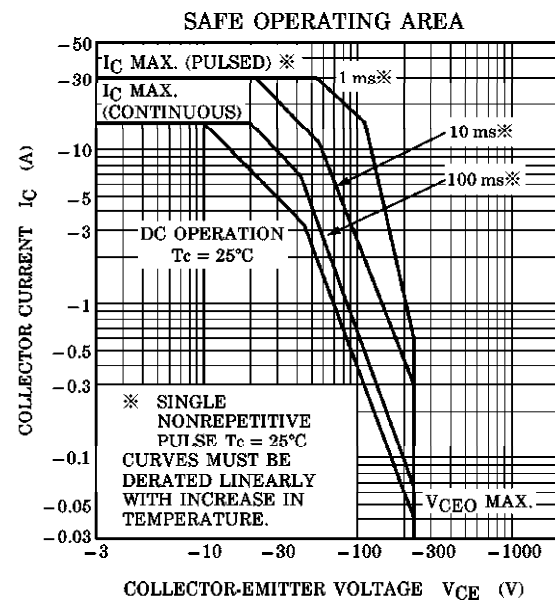
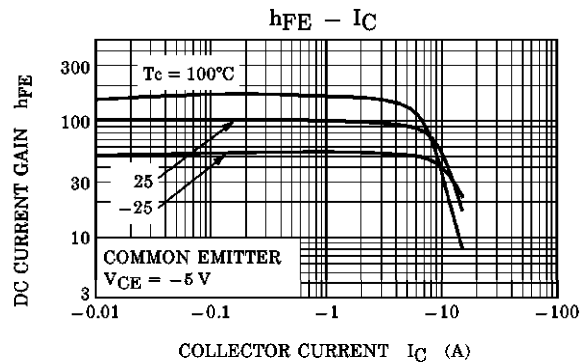
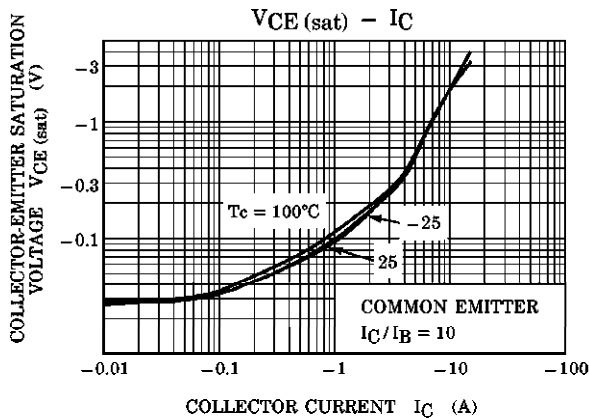
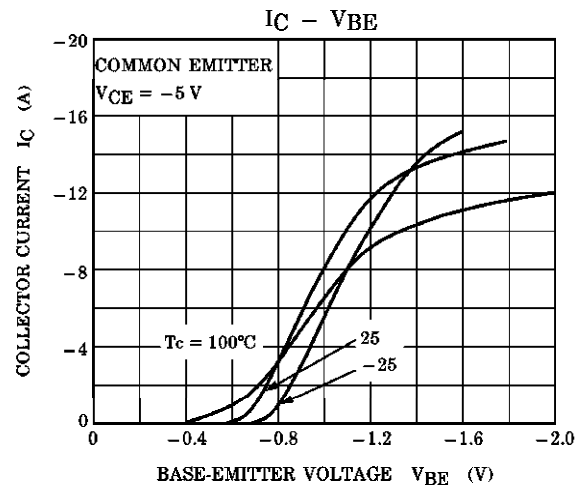
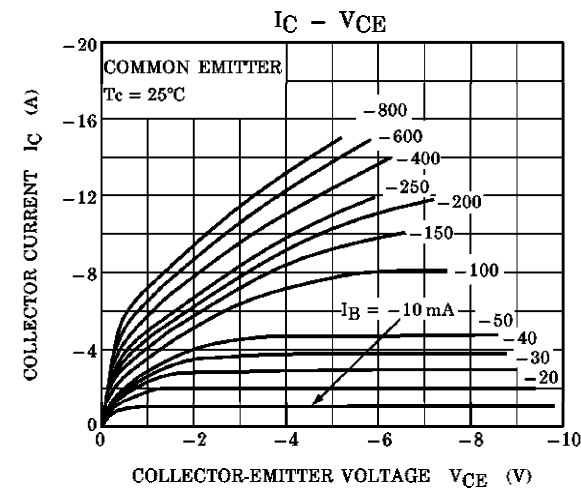
Weight : 9.75 g (Typ.)

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION                                          | MIN. | TYP. | MAX. | UNIT          |
|--------------------------------------|-----------------------|---------------------------------------------------------|------|------|------|---------------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB} = -230\text{ V}, I_E = 0$                       | —    | —    | -5.0 | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB} = -5\text{ V}, I_C = 0$                         | —    | —    | -5.0 | $\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CE0}$         | $I_C = -50\text{ mA}, I_B = 0$                          | -230 | —    | —    | V             |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$               | 55   | —    | 160  |               |
|                                      | $h_{FE(2)}$           | $V_{CE} = -5\text{ V}, I_C = -7\text{ A}$               | 35   | 60   | —    |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = -8\text{ A}, I_B = -0.8\text{ A}$                | —    | -1.5 | -3.0 | V             |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = -5\text{ V}, I_C = -7\text{ A}$               | —    | -1.0 | -1.5 | V             |
| Transition Frequency                 | $f_T$                 | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$               | —    | 30   | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = -10\text{ V}, I_E = 0,$<br>$f = 1\text{ MHz}$ | —    | 360  | —    | pF            |

(Note) :  $h_{FE(1)}$  Classification R : 55~110, O : 80~160

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