

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

## 2SA1987

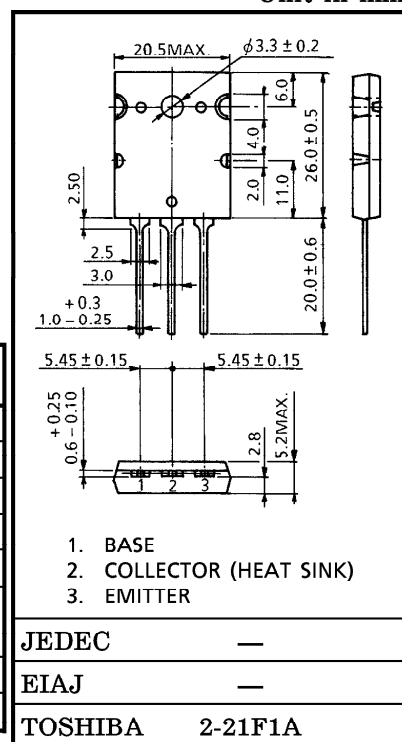
## POWER AMPLIFIER APPLICATIONS

Unit in mm

- High Collector Voltage :  $V_{CEO} = -230V$  (Min.)
- Complementary to 2SC5359
- Recommend for 100W High Fidelity Audio Frequency Amplifier Output Stage.

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

| CHARACTERISTIC  | SYMBOL    | RATING  | UNIT       |
|---|-----------|---------|------------|
| Collector-Base Voltage                                | $V_{CBO}$ | -230    | V          |
| Collector-Emitter Voltage                             | $V_{CEO}$ | -230    | V          |
| Emitter-Base Voltage                                  | $V_{EBO}$ | -5      | V          |
| Collector Current                                     | $I_C$     | -15     | A          |
| Base Current  | $I_B$     | -1.5    | A          |
| Collector Power Dissipation<br>( $T_c = 25^\circ C$ ) | $P_C$     | 180     | W          |
| Junction Temperature                                  | $T_j$     | 150     | $^\circ C$ |
| Storage Temperature Range                             | $T_{stg}$ | -55~150 | $^\circ C$ |



Weight : 9.75g (Typ.)

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

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION                     | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|-----------------------|------------------------------------|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB} = -230V, I_E = 0$          | —    | —    | -5.0 | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB} = -5V, I_C = 0$            | —    | —    | -5.0 | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR) CEO}$        | $I_C = -50mA, I_B = 0$             | -230 | —    | —    | V       |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = -5V, I_C = -1A$          | 55   | —    | 160  | —       |
|                                      | $h_{FE(2)}$           | $V_{CE} = -5V, I_C = -7A$          | 35   | 70   | —    |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = -8A, I_B = -0.8A$           | —    | -1.5 | -3.0 | V       |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = -5V, I_C = -7A$          | —    | -1.0 | -1.5 | V       |
| Transition Frequency                 | $f_T$                 | $V_{CE} = -5V, I_C = -1A$          | —    | 30   | —    | MHz     |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | —    | 360  | —    | pF      |

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

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