

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

## 2SA817

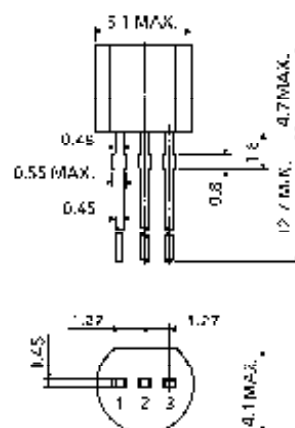
AUDIO FREQUENCY AMPLIFIER APPLICATIONS

Unit in mm

- Complementary to 2SC1627.
- Suitable for driver of 20-25 watts audio amplifier.

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

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT             |
|-----------------------------|-----------|---------|------------------|
| Collector-Base Voltage      | $V_{CB0}$ | -80     | V                |
| Collector-Emitter Voltage   | $V_{CE0}$ | -80     | V                |
| Emitter-Base Voltage        | $V_{EB0}$ | -5      | V                |
| Collector Current           | $I_C$     | -300    | mA               |
| Base Current                | $I_B$     | 60      | mA               |
| Collector Power Dissipation | $P_C$     | 600     | mW               |
| Junction Temperature        | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range   | $T_{slg}$ | -55~150 | $^\circ\text{C}$ |



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC TO-18

EIAJ SC-43

TOSHIBA 2-5F1B

Weight : 0.21g

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

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION                                   | MIN.  | TYP. | MAX. | UNIT          |
|--------------------------------------|-----------------------|--------------------------------------------------|-------|------|------|---------------|
| Collector Cut-off Current            | $I_{CB0}$             | $V_{CB} = -50\text{V}, I_B = 0$                  | —     | —    | 0.1  | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EB0}$             | $V_{EB} = -5\text{V}, I_C = 0$                   | —     | —    | -0.1 | $\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CE0}$         | $I_C = -5\text{mA}, I_B = 0$                     | -80   | —    | —    | V             |
| DC Current Gain                      | $h_{FE}(1)$<br>(Note) | $V_{CE} = -2\text{V}, I_C = -50\text{mA}$        | 70    | —    | 240  |               |
|                                      | $h_{FE}(2)$           | $V_{CE} = -2\text{V}, I_C = -200\text{mA}$       | 40    | —    | —    |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = -200\text{mA}, I_B = -20\text{mA}$        | —     | —    | -0.4 | V             |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = -2\text{V}, I_C = -5\text{mA}$         | -0.55 | —    | -0.8 | V             |
| Transition Frequency                 | $f_T$                 | $V_{CE} = -10\text{V}, I_C = -10\text{mA}$       | 70    | 100  | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = -10\text{V}, I_B = 0, f = 1\text{MHz}$ | —     | 14   | —    | pF            |

Note :  $h_{FE}(1)$  Classification, O : 70~140, Y : 120~240

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