

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

# 2SA1837

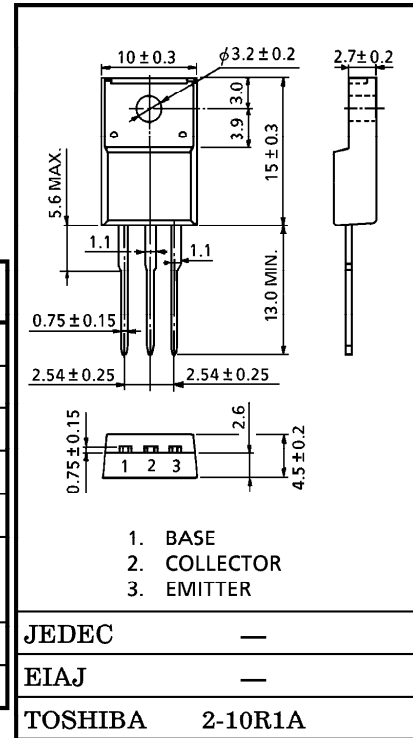
POWER AMPLIFIER APPLICATIONS  
DRIVER STAGE AMPLIFIER APPLICATIONS

Unit in mm

- High Transition Frequency :  $f_T=70\text{MHz}$  (Typ.)
- Complementary to 2SC4793

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

| CHARACTERISTIC              |                          | SYMBOL    | RATING  | UNIT             |
|-----------------------------|--------------------------|-----------|---------|------------------|
| Collector-Base Voltage      |                          | $V_{CB0}$ | -230    | V                |
| Collector-Emitter Voltage   |                          | $V_{CEO}$ | -230    | V                |
| Emitter-Base Voltage        |                          | $V_{EBO}$ | -5      | V                |
| Collector Current           |                          | $I_C$     | -1      | A                |
| Base Current                |                          | $I_B$     | -0.1    | A                |
| Collector Power Dissipation | $T_a = 25^\circ\text{C}$ | $P_C$     | 2.0     | W                |
|                             | $T_c = 25^\circ\text{C}$ |           | 20      |                  |
| Junction Temperature        |                          | $T_j$     | 150     | $^\circ\text{C}$ |
| Storage Temperature Range   |                          | $T_{stg}$ | -55~150 | $^\circ\text{C}$ |



Weight : 1.7g

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

| CHARACTERISTIC                       | SYMBOL        | TEST CONDITION                                   | MIN. | TYP. | MAX. | UNIT          |
|--------------------------------------|---------------|--|------|------|------|---------------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -230\text{V}, I_E = 0$                 | —    | —    | -1.0 | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = -5\text{V}, I_C = 0$                   | —    | —    | -1.0 | $\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -10\text{mA}, I_B = 0$                    | -230 | —    | —    | V             |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = -5\text{V}, I_C = -100\text{mA}$       | 100  | —    | 320  |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$        | —    | —    | -1.5 | V             |
| Base-Emitter Voltage                 | $V_{BE}$      | $V_{CE} = -5\text{V}, I_C = -500\text{mA}$       | —    | —    | -1.0 | V             |
| Transition Frequency                 | $f_T$         | $V_{CE} = -10\text{V}, I_C = -100\text{mA}$      | —    | 70   | —    | MHz           |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}, I_C = 0, f = 1\text{MHz}$ | —    | 30   | —    | pF            |

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