TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

HN4A56JU

Audio Frequency General Purpose Amplifier Applications

- Small Package (Dual Type)
- High Voltage and High Current

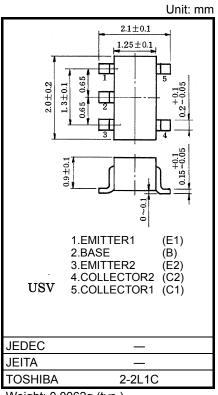
: $V_{CEO} = -50V$, $I_C = -150mA(MAX.)$

- High h_{FF}
- Excellent h_{FE} Linearity

: $h_{FE} (I_C = -0.1 \text{mA}) / h_{FE} (I_C = -2 \text{mA}) = 0.95 \text{ (typ.)}$

Absolute Maximum Ratings (Ta = 25°C) (Q1, Q2 Common)

| Characteristic | Symbol | Rating | Unit |
|-----------------------------|------------------|---------|------|
| Collector-base voltage | V_{CBO} | -50 | V |
| Collector-emitter voltage | V _{CEO} | -50 | V |
| Emitter-base voltage | V _{EBO} | -5 | V |
| Collector current | IC | -150 | mA |
| Base current | ΙΒ | -30 | mA |
| Collector power dissipation | Pc* | 200 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature range | T _{stg} | -55~150 | °C |



Weight: 0.0062g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high

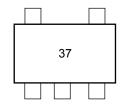
temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

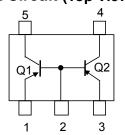
Electrical Characteristics (Ta = 25°C) (Q1,Q2 Common)

| Characteristic | Symbol | Test Circuit | Test Condition | Min | Тур. | Max | Unit |
|--------------------------------------|------------------|-----------------|---|-----|------|------|------|
| Collector cut-off current | I _{CBO} | _ | $V_{CB} = -50V$, $I_E = 0$ | _ | _ | -0.1 | μA |
| Emitter cut-off current | I _{EBO} | _ | $V_{EB} = -5V, I_{C} = 0$ | | _ | -0.1 | μA |
| DC current gain | h _{FE} | _ | $V_{CE} = -6V, I_{C} = -2mA$ | 120 | _ | 400 | |
| Collector-emitter saturation voltage | V _{CE} | _ | I _C = -100mA, I _B = -10mA | _ | -0.1 | -0.3 | V |
| Transition frequency | f _T | _ | $V_{CE} = -10V, I_{C} = -1mA$ | 60 | _ | _ | MHz |
| Collector output capacitance | C _{ob} | _ | $V_{CB} = -10V$, $I_{E} = 0$, $f = 1MHz$ | _ | 4 | _ | pF |

Marking

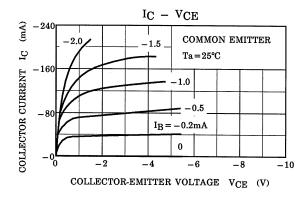


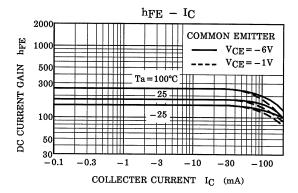
Equivalent Circuit (Top View)

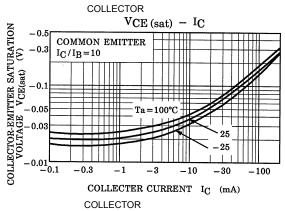


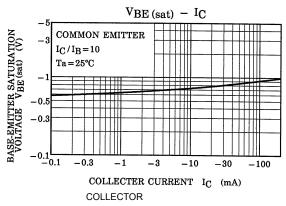
^{*}Total rating: Power dissipation per element should not exceed 130mW.

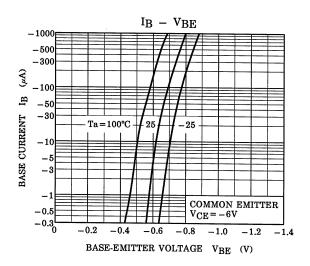
(Q1, Q2 Common)

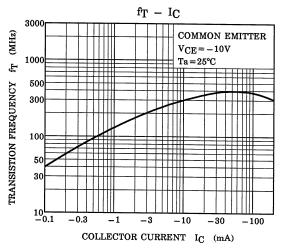


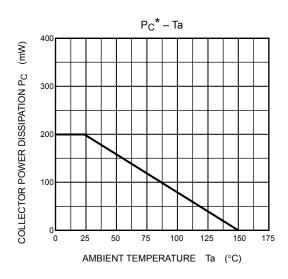












*:Total Rating

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