

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

HN1C01F

Audio Frequency General Purpose Amplifier Applications

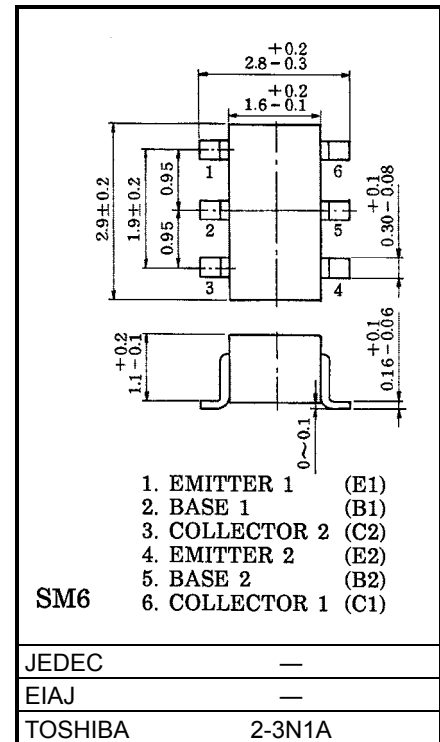
Unit: mm

- Small package (Dual type)
- High voltage and high current
: $V_{CE0} = 50V$, $I_C = 150mA$ (max)
- High h_{FE} : $h_{FE} = 120\sim 400$
- Excellent h_{FE} linearity
: $h_{FE} (I_C = 0.1mA) / h_{FE} (I_C = 2mA) = 0.95$ (typ.)

Maximum Ratings ($T_a = 25^\circ C$) (Q1, Q2 Common)

| Characteristic | Symbol | Rating | Unit |
|-----------------------------|-----------|---------|------------|
| Collector-base voltage | V_{CBO} | 60 | V |
| Collector-emitter voltage | V_{CEO} | 50 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 150 | mA |
| Base current | I_B | 30 | mA |
| Collector power dissipation | P_C^* | 300 | mW |
| Junction temperature | T_j | 125 | $^\circ C$ |
| Storage temperature range | T_{stg} | -55~125 | $^\circ C$ |

* Total rating



Weight: 0.015g

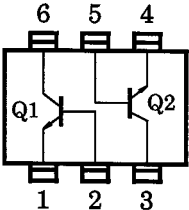
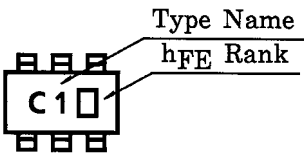
Electrical Characteristics ($T_a = 25^\circ C$) (Q1,Q2 Common)

| Characteristic | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-----------------|--------------|---|-----|------|------|---------|
| Collector cut-off current | I_{CBO} | — | $V_{CB} = 60V$, $I_E = 0$ | — | — | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | — | $V_{EB} = 5V$, $I_C = 0$ | — | — | 0.1 | μA |
| DC current gain | h_{FE} (Note) | — | $V_{CE} = 6V$, $I_C = 2mA$ | 120 | — | 400 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | — | $I_C = 100mA$, $I_B = 10mA$ | — | 0.1 | 0.25 | V |
| Transition frequency | f_T | — | $V_{CE} = 10V$, $I_C = 1mA$ | 80 | — | — | MHz |
| Collector output capacitance | C_{ob} | — | $V_{CB} = 10V$, $I_E = 0$, $f = 1MHz$ | — | 2 | 3.5 | pF |

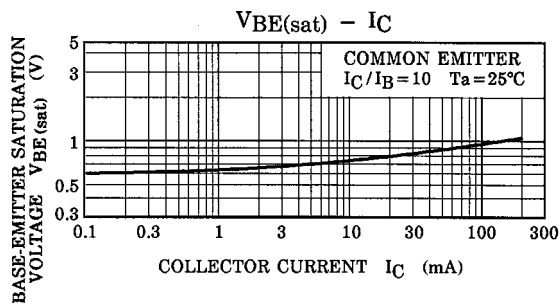
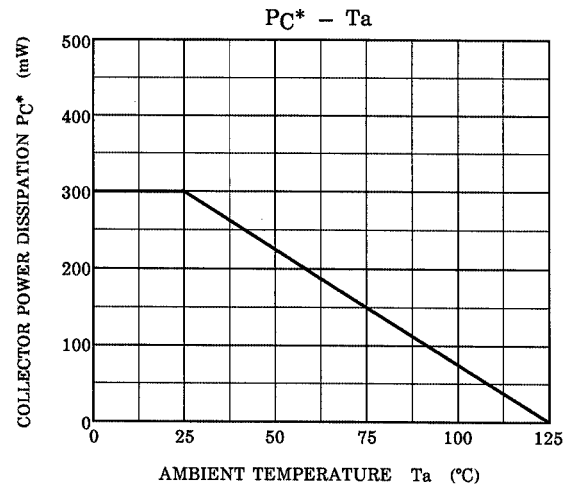
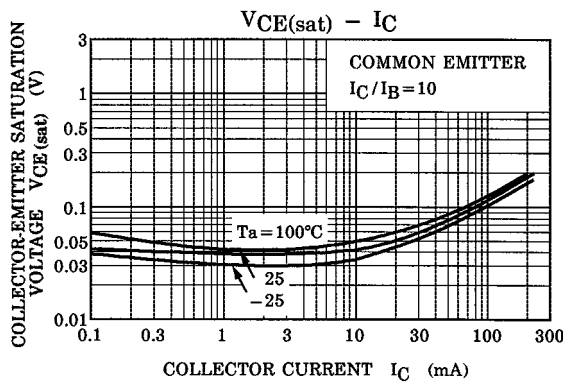
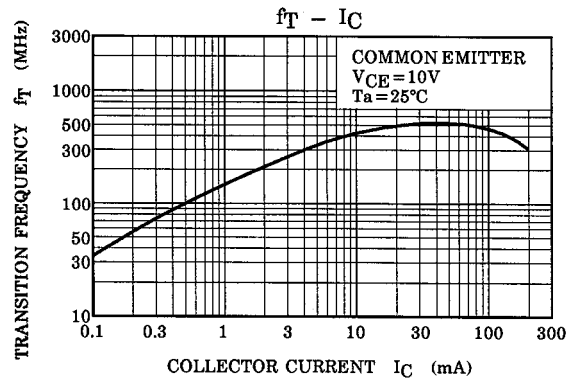
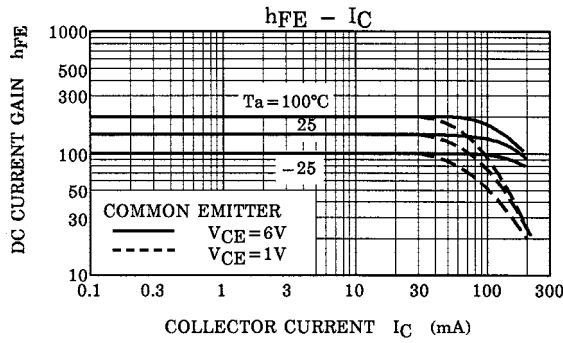
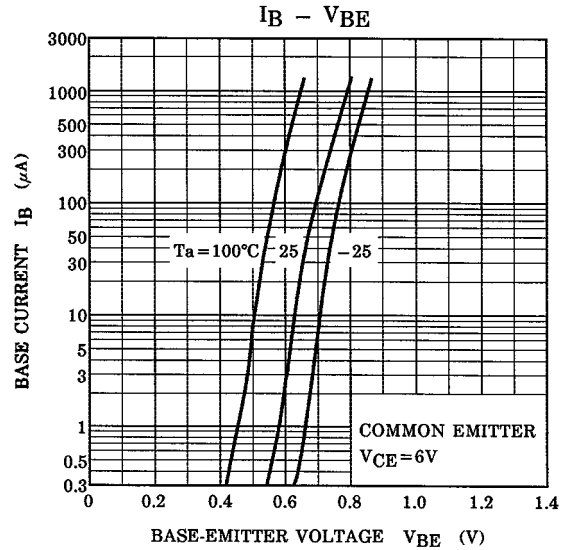
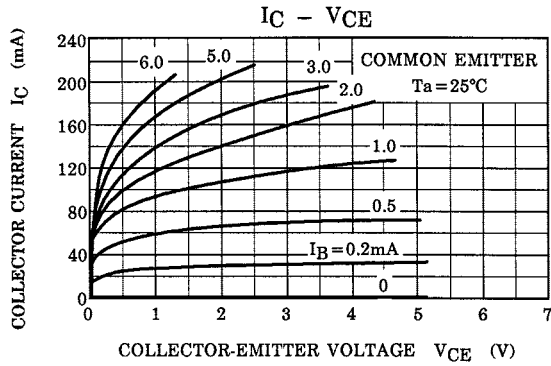
Note: h_{FE} Classification
Y (Y): 120~240, GR (G): 200~400
() Marking Symbol

Marking

Equivalent Circuit (Top View)



(Q1,Q2 Common)



* : Total Rating

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