

# HN1A01FU

## Audio Frequency General Purpose Amplifier Applications

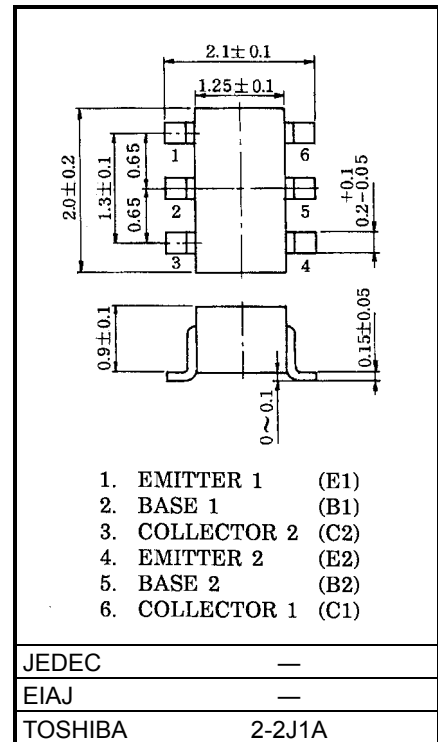
Unit: mm

- Small package (Dual type)
- High voltage and high current  
:  $V_{CEO} = -50V$ ,  $I_C = -150mA$  (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      | $V_{CBO}$ | -50     | 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 | $P_C^*$   | 200     | mW         |
| Junction temperature        | $T_j$     | 125     | $^\circ C$ |
| Storage temperature range   | $T_{stg}$ | -55~125 | $^\circ C$ |

\* Total rating



Weight: 6.8mg

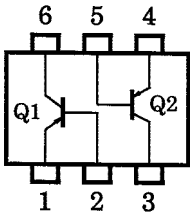
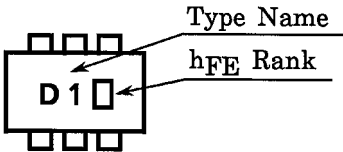
### Electrical Characteristics ( $T_a = 25^\circ C$ ) (Q1,Q2 Common)

| Characteristic                       | Symbol          | Test Circuit | Test Condition                           | Min | Typ. | Max  | Unit    |
|--------------------------------------|-----------------|--------------|--|-----|------|------|---------|
| Collector cut-off current            | $I_{CBO}$       | —            | $V_{CB} = -50V$ , $I_E = 0$              | —   | —    | -0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$       | —            | $V_{EB} = -5V$ , $I_C = 0$               | —   | —    | -0.1 | $\mu A$ |
| 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 | -0.3 | V       |
| Transition frequency                 | $f_T$           | —            | $V_{CE} = -10V$ , $I_C = -1mA$           | 80  | —    | —    | MHz     |
| Collector output capacitance         | $C_{ob}$        | —            | $V_{CB} = -10V$ , $I_E = 0$ , $f = 1MHz$ | —   | 4    | 7    | pF      |

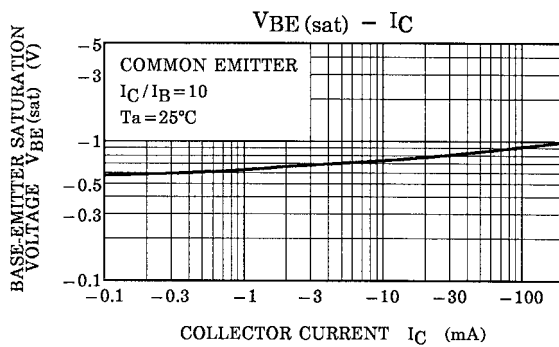
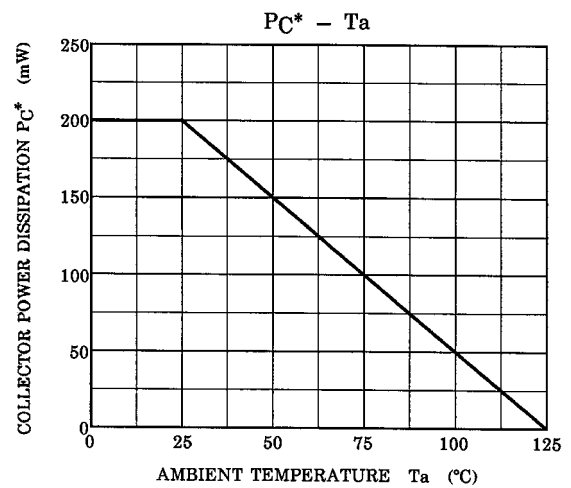
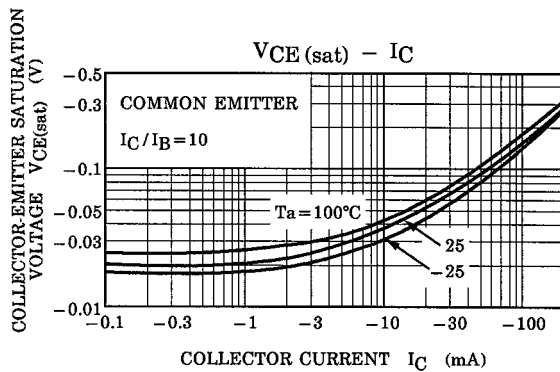
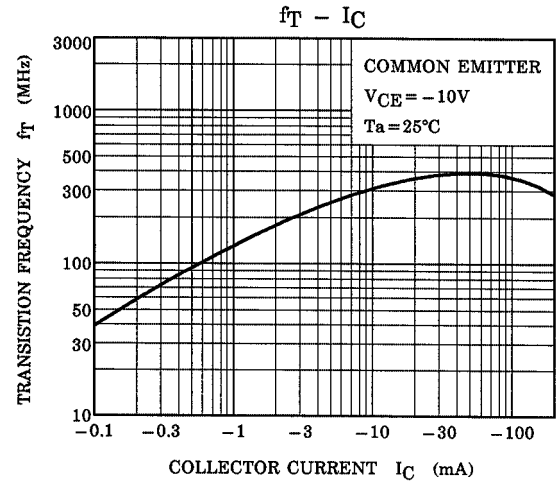
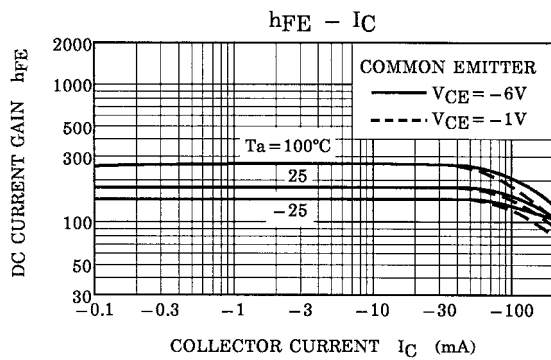
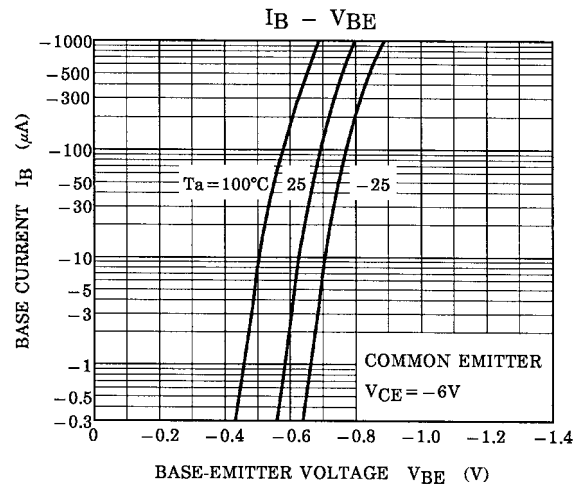
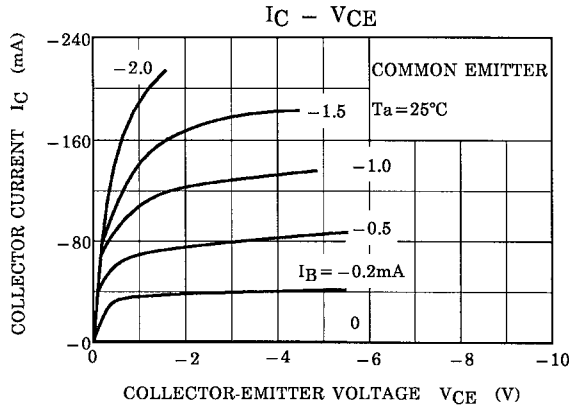
Note:  $h_{FE}$  Classification  
 Y (Y): 120~240, GR (G): 200~400  
 ( ) Marking Symbol

**Marking**

**Equivalent Circuit (Top View)**



(Q1,Q2 Common)



\*: Total Rating

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