## Transistor

## Silicon NPN Epitaxial Planar Type

## Power Amplifier, Driver Stage Applications

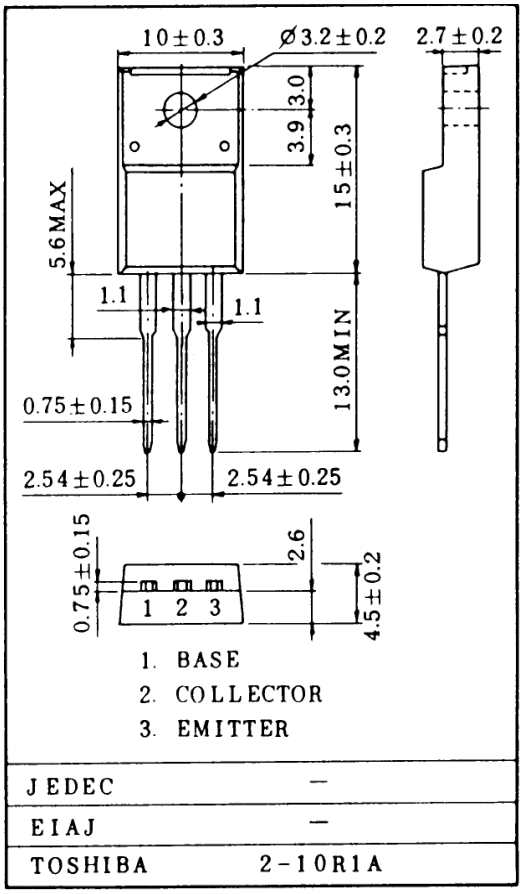
### Features

- High Transistion: $f_T$ = 100MHz
- Complementary to 2SA1837

### Absolute Maximum Ratings (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|---|---|---|---|---|
| Collector-Base Voltage | | $V_{CBO}$ | 230 | V |
| Collector-Emitter Voltage | | $V_{CEO}$ | 230 | V |
| Collector-Base Voltage | | $V_{EBO}$ | 5 | V |
| Collector Current | | $I_C$ | 1 | mA |
| Base Current | | $I_B$ | 0.1 | mA |
| Collector Power Dissipation | Ta = 25°C | $P_C$ | 2.0 | mW |
| | Tc = 25°C | | 20 | |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_{stg}$ | -55 ~ 125 | °C |

Unit in mm

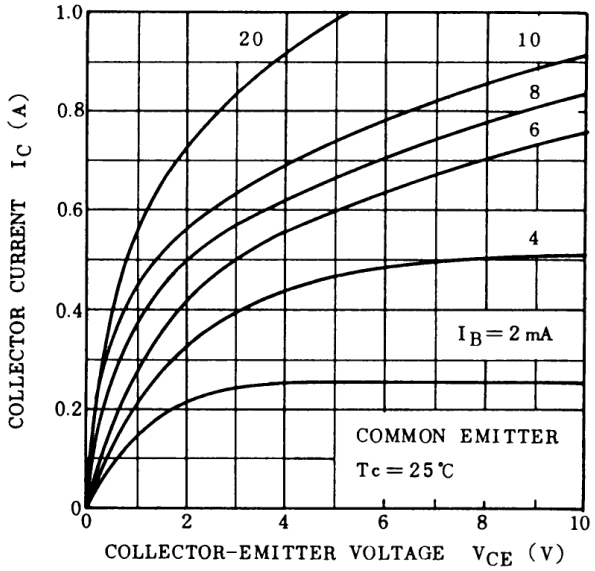



Weight : 1.7g

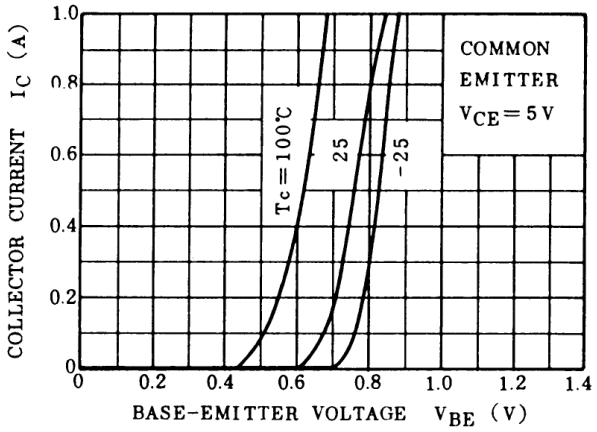
### Electrical Characteristics (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$ = 230V, $I_E$ = 0 | – | – | 1.0 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$ = 5V, $I_C$ = 0 | – | – | 1.0 | μA |
| Collector-Emmitter Breakdown Voltage | $V_{(BR)\ CEO}$ | $I_C$ = 10mA, $I_B$ = 0 | 230 | – | – | V |
| DC Current Gain | $h_{FE}$ | $V_{CE}$ = 5V, $I_C$ = 100mA | 100 | – | 320 | |
| Collector-Emmitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 500mA, $I_B$ = 50mA | – | – | 1.5 | V |
| Base-Emitter Voltage | $V_{BE}$ | $V_{CE}$ = 5V, $I_C$ = 500mA, f = 1MHz | – | – | 1.0 | pF |
| Transistion Frequency | $f_T$ | $V_{CE}$ = 10V, $I_C$ = 100mA | – | 100 | – | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$ = 10V, $I_C$ = 0, f = 1MHz | – | 20 | – | pF |

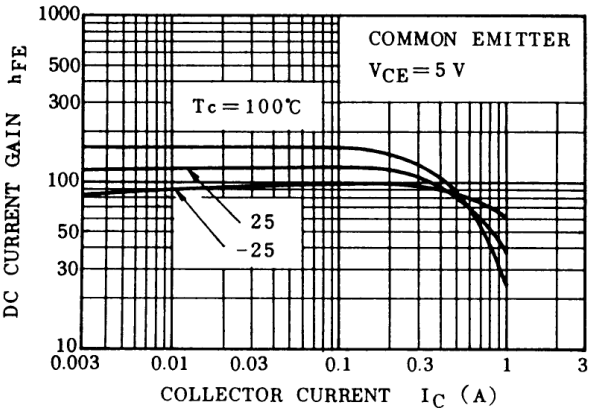
$I_C - V_{CE}$



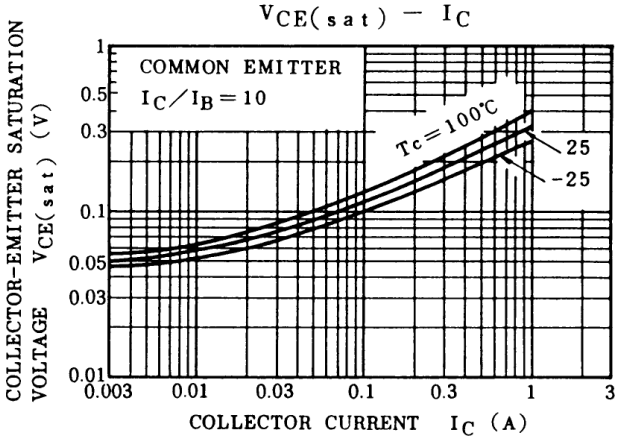

$I_C - V_{BE}$



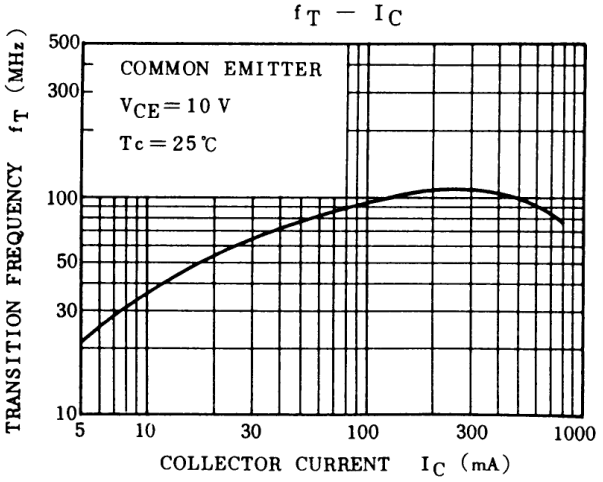

$h_{FE} - I_C$




$V_{CE(sat)} - I_C$




$f_T - I_C$




SAFE OPERATING AREA