TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

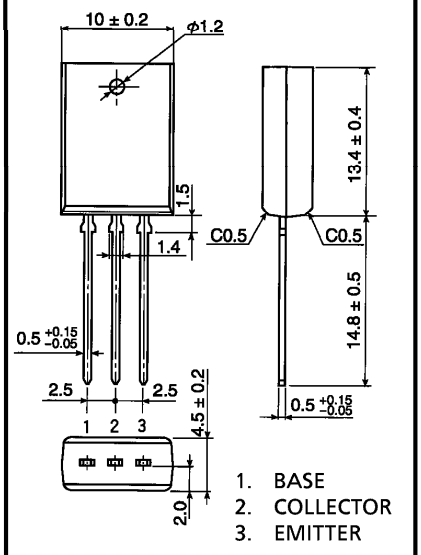
# 2SC5174

POWER AMPLIFIER APPLICATIONS

DRIVER STAGE AMPLIFIER APPLICATIONS

- High Transition Frequency : $f_T$ = 100MHz (Typ.)
- Complementary to 2SA1932

Unit in mm




| | |
|---|---|
| JEDEC | — |
| JEITA | — |
| TOSHIBA | 2-10T1A |

Weight : 1.5g (Typ.)

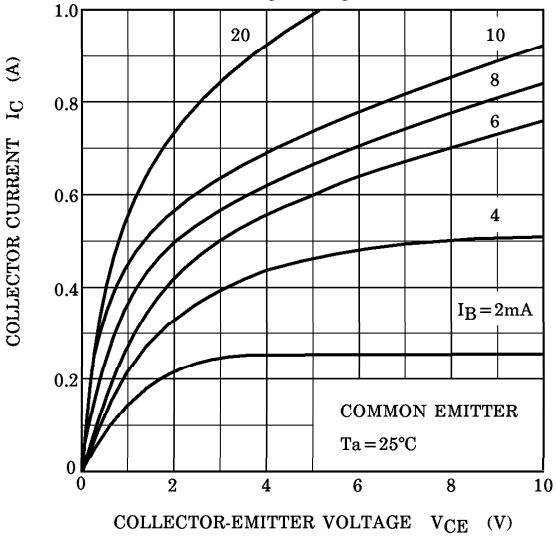
MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 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 | $P_C$ | 1.8 | W |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature Range | $T_{stg}$ | −55~150 | °C |

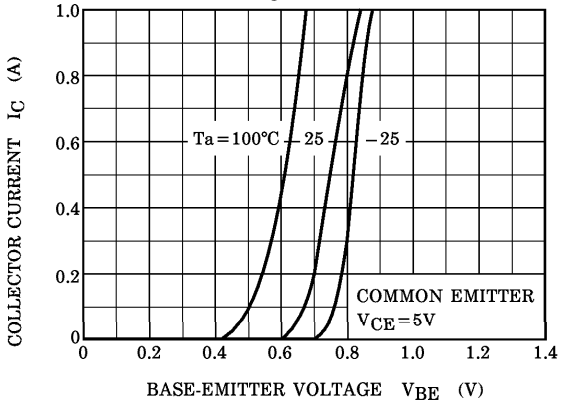
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| 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-Emitter 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-Emitter 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 | — | — | 1.0 | V |
| Transition Frequency | $f_T$ | $V_{CE}$ = 10V, $I_C$ = 100mA | — | 100 | — | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$ = 10V, $I_E$ = 0, f = 1MHz | — | 20 | — | pF |

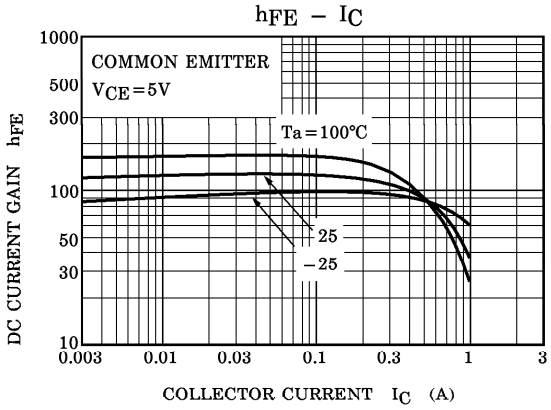
$I_C$ – $V_{CE}$



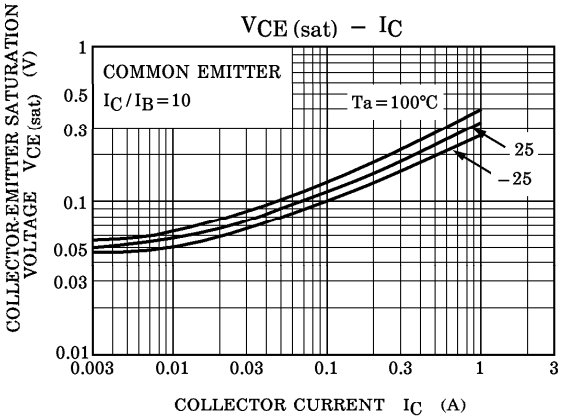

$I_C$ – $V_{BE}$



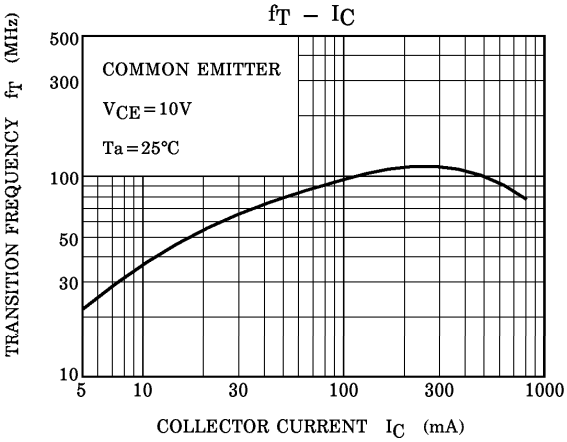

$h_{FE}$ – $I_C$



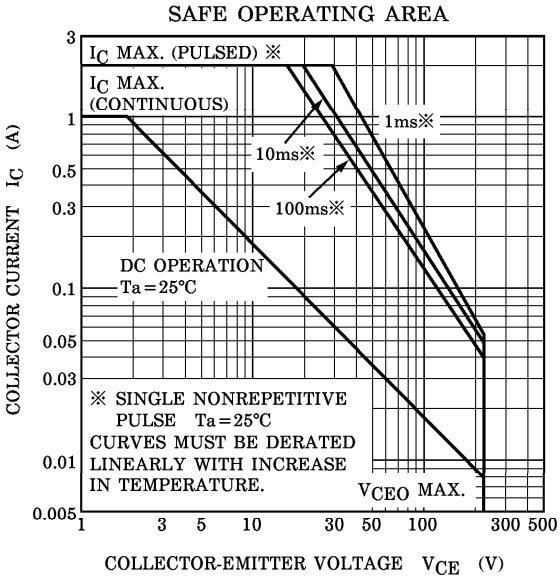

$V_{CE\,(sat)}$ – $I_C$




$f_T$ – $I_C$




SAFE OPERATING AREA



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