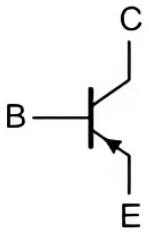
## Features

• Medium Power Linear Switching Applications

## Marking

• TIP32C


TO-220-3L top view




Schematic diagram

Pb-Free RoHS Halogen-Free

## MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -100 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -100 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current -Continuous | -3 | A |
| $P_C$ | Collector Power Dissipation | 2 | W |
| $R_{\Theta JA}$ | Thermal Resistance From Junction To Ambient | 62.5 | ℃/W |
| $T_J, T_{stg}$ | Operation Junction and Storage Temperature Range | -55~+150 | ℃ |

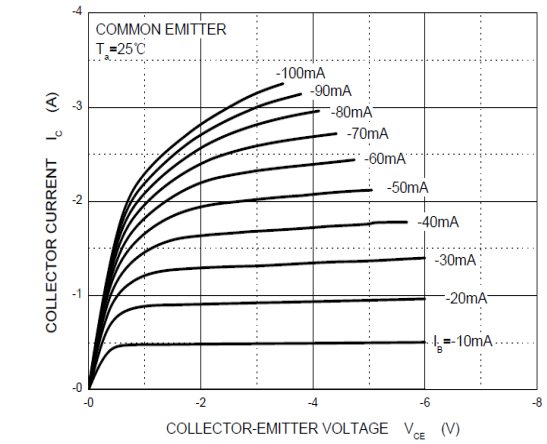
## ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

| Symbol | Parameter | Condition | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage | $I_C$=-1mA, $I_E$=0 | -10 | -- | V |
| $V_{CEO(sus)}$ | Collector-emitter breakdown voltage * | $I_C$=-30mA, $I_B$=0 | -10 | -- | V |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E$=-1mA, $I_C$=0 | -5 | -- | V |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=-100V, $I_E$=0 | -- | -200 | μA |
| $I_{CEO}$ | Collector cut-off current | $V_{CE}$=-60V, $I_B$= 0 | -- | -0.3 | mA |
| $I_{EBO}$ | Emitter cut-off current | $V_{EB}$=-5V, $I_C$=0 | -- | -1 | mA |
| $h_{FE(1)}$ | DC current gain | $V_{CE}$=-4V, $I_C$=-1A | 25 | -- | |
| $h_{FE(2)}$ | | $V_{CE}$=-4V, $I_C$=-3A | 15 | 75 | |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C$=-3A, $I_B$=-0.375A | -- | -1.2 | V |
| $V_{BE(ON)}$ | Base-emitter voltage | $V_{CE}$=-4V, $I_C$=-3A | -- | -1.8 | V |
| $f_T$ | Transition frequency | $V_{CE}$=-10V , $I_C$=-0.5A | 3 | -- | MHZ |

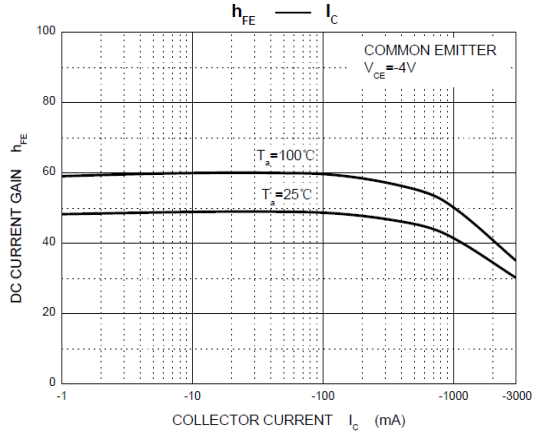
* Pulse Test: PW≤300μs, Duty Cycle≤2%.

## Typical Operating Characteristics

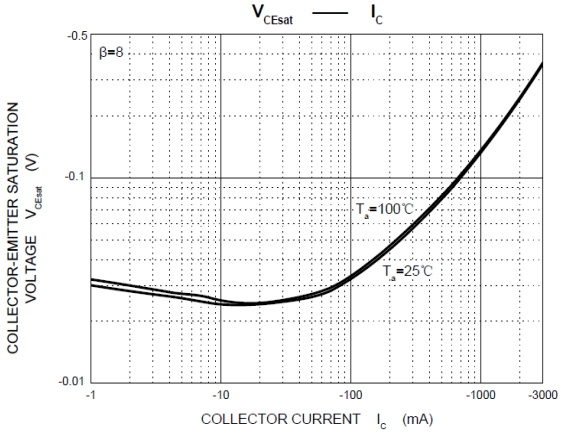
Static Characteristic



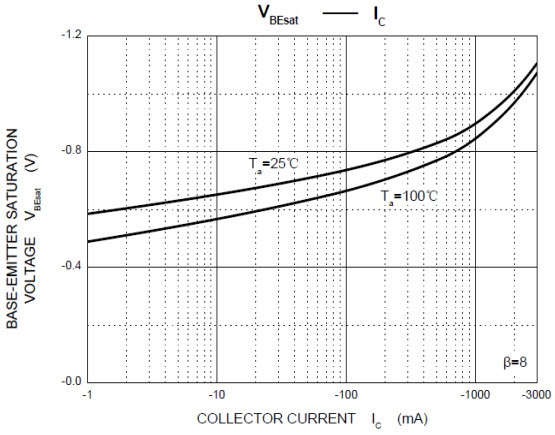

$h_{FE}$ — $I_C$



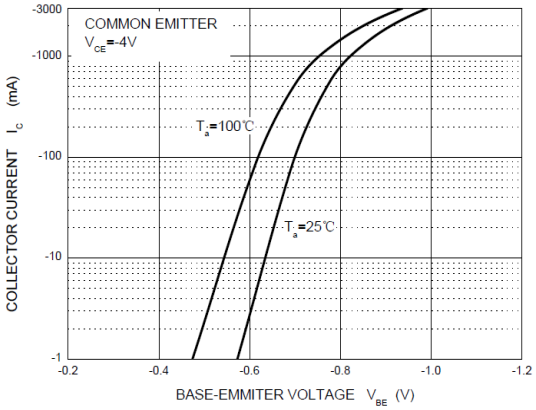

$V_{CEsat}$ — $I_C$



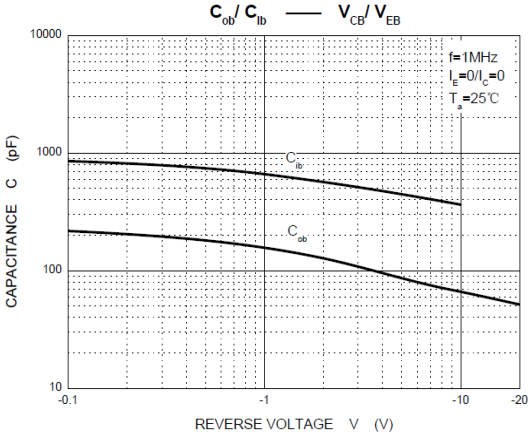

$V_{BEsat}$ — $I_C$



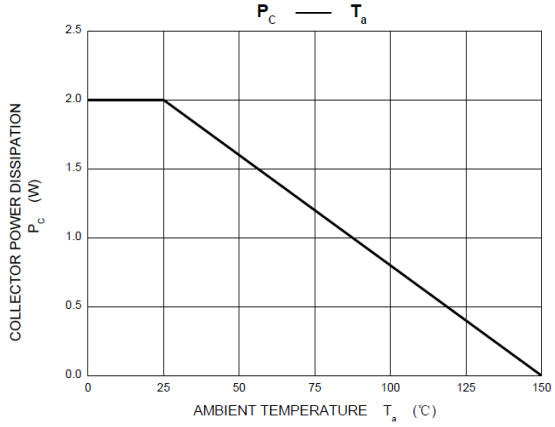

$I_C$ — $V_{BE}$



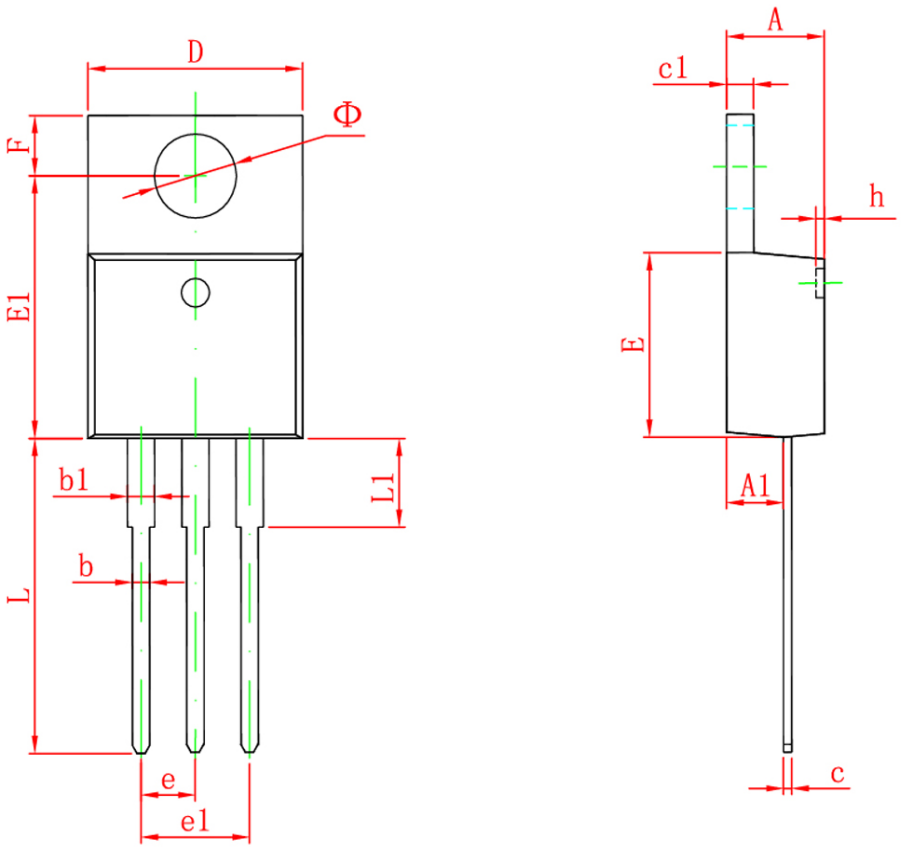

$C_{ob}$/ $C_{ib}$ — $V_{CB}$/ $V_{EB}$




$P_C$ — $T_a$



## TO-220-3L Package information




| Symbol | Dimensions in Millimeters(mm) | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 4.470 | 4.670 | 0.176 | 0.184 |
| A1 | 2.520 | 2.820 | 0.099 | 0.111 |
| b | 0.710 | 0.910 | 0.028 | 0.036 |
| b1 | 1.170 | 1.370 | 0.046 | 0.054 |
| c | 0.310 | 0.530 | 0.012 | 0.021 |
| c1 | 1.170 | 1.370 | 0.046 | 0.054 |
| D | 10.010 | 10.310 | 0.394 | 0.406 |
| E | 8.500 | 8.900 | 0.335 | 0.350 |
| E1 | 12.060 | 12.460 | 0.475 | 0.491 |
| e | 2.540TYP | | 0.100TYP | |
| e1 | 4.980 | 5.180 | 0.196 | 0.204 |
| F | 2.590 | 2.890 | 0.102 | 0.114 |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| L | 13.400 | 13.800 | 0.528 | 0.543 |
| L1 | 3.560 | 3.960 | 0.140 | 0.156 |
| Φ | 3.735 | 3.935 | 0.147 | 0.155 |