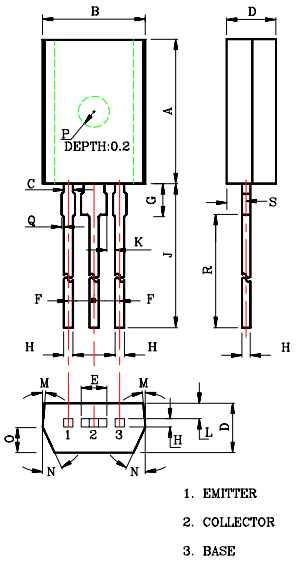
# KTD1028V

EPITAXIAL PLANAR NPN TRANSISTOR

INDUSTRIAL USE.
HIGH CURRENT APPLICATION.

FEATURES

- High DC Current Gain
  : $h_{FE}$=800(Min.) ($V_{CE}$=5V, $I_C$=300mA).
- Wide Area of Safe Operation.
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$=0.17V ($I_C$=500mA, $I_B$=5.0mA).




| DIM | MILLIMETERS |
|---|---|
| A | 7.20 MAX |
| B | 5.20 MAX |
| C | 0.60 MAX |
| D | 2.50 MAX |
| E | 1.15 MAX |
| F | 1.27 |
| G | 1.70 MAX |
| H | 0.55 MAX |
| J | 14.00±0.50 |
| K | 0.35 MIN |
| L | 0.75±0.10 |
| M | 4° |
| N | 25° |
| O | 1.25 |
| P | ø1.50 |
| Q | 0.10 MAX |
| R | 12.50±0.50 |
| S | 1.00 |

TO-92L

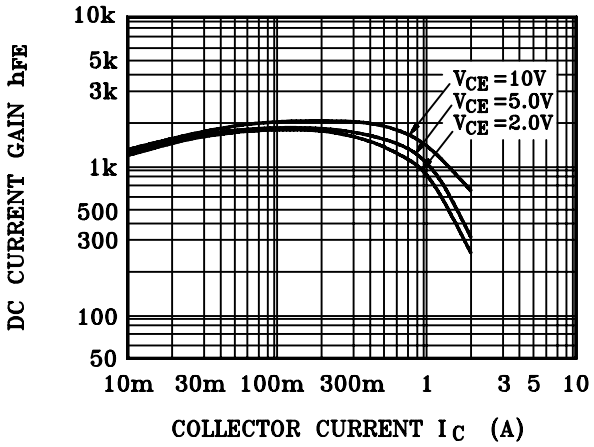
MAXIMUM RATINGS (Ta=25℃)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 60 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 50 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 8 | V |
| Collector Current | $I_C$ | 2 | A |
| Collector Power Dissipation | $P_C$ | 1 | W |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -55~150 | ℃ |

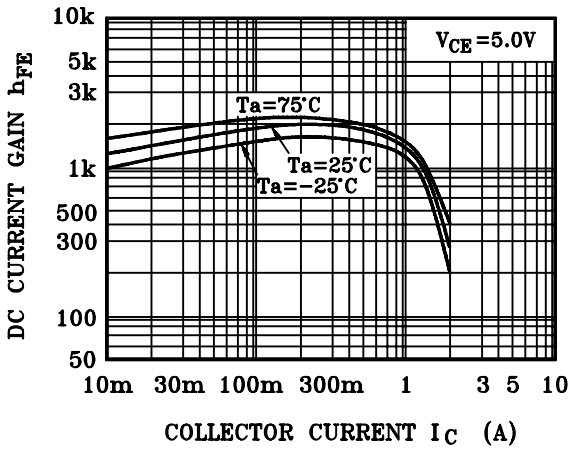
ELECTRICAL CHARACTERISTICS (Ta=25℃)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$=60V, $I_E$=0 | - | - | 100 | nA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$=8V, $I_C$=0 | - | - | 100 | nA |
| DC Current Gain | $h_{FE}$(1) | $V_{CE}$=5.0V, $I_C$=300mA | 800 | 1500 | - | |
| | $h_{FE}$(2) | $V_{CE}$=5.0V, $I_C$=1.0A | 400 | - | - | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=500mA, $I_B$=5.0mA | - | 0.17 | 0.30 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=500mA, $I_B$=5.0mA | - | 0.80 | 1.2 | V |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$=10V, $I_E$=0, f=1.0MHz | - | 18 | 30 | pF |
| Transition Frequency | $f_T$ | $V_{CE}$=10V, $I_C$=500mA | 150 | 250 | - | MHz |

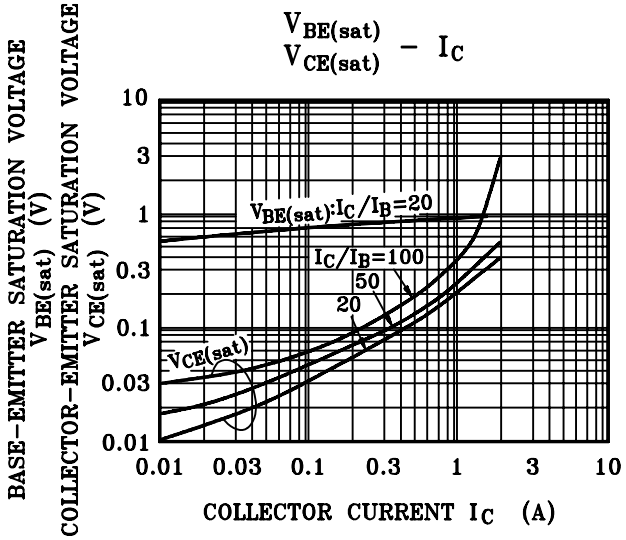
$h_{FE}$ – $I_C$



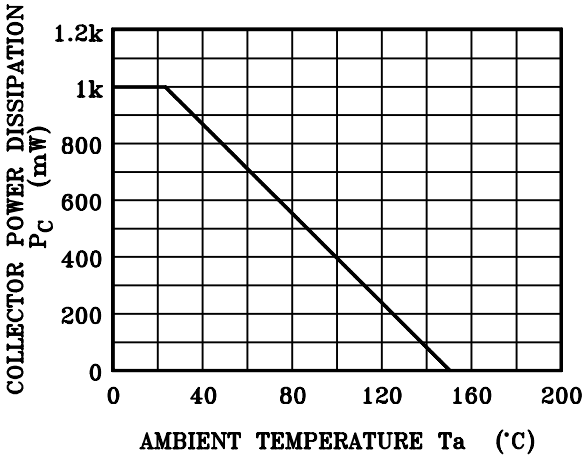

$h_{FE}$ – $I_C$



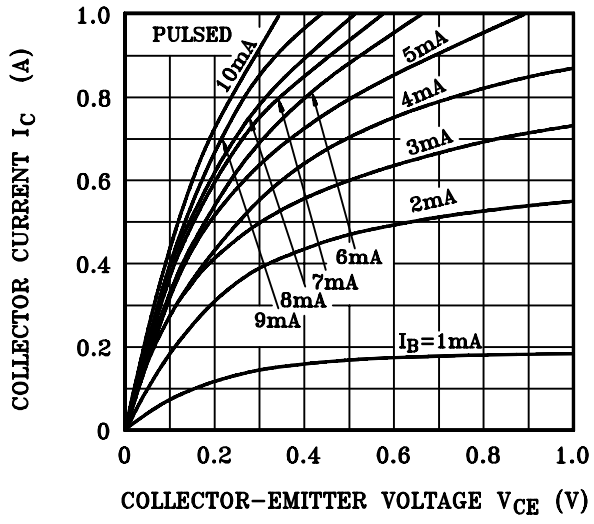

$V_{BE(sat)}$, $V_{CE(sat)}$ – $I_C$




$P_C$ – Ta




$I_C$ – $V_{CE}$




SAVE OPERATING AREA