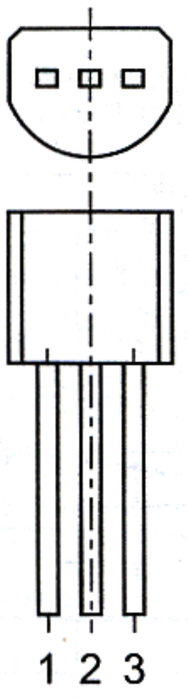
# TO-92 Plastic-Encapsulate Transistors

# 2SC2001 TRANSISTOR(NPN)




**TO-92**

1.EMITTER

2.COLLECTOR

3.BASE

## FEATURES

**Power dissipation**

$P_{CM}$: 0.6W (Tamb=25℃)

**Collector current**

$I_{CM}$: 0.7A

**Collector-base voltage**

$V_{(BR)CBO}$: 30 V

**Operating and storage junction temperature range**

$T_J, T_{stg}$: -55℃ to + 150℃

## ELECTRICAL CHARACTERISTICS

(Tamb=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$= 100 μ A, $I_E$=0 | 30 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$= 10 mA, $I_B$=0 | 25 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$= 100 μ A, $I_C$=0 | 5 | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$= 30 V, $I_E$=0 | | 0.1 | μ A |
| Collector cut-off current | $I_{CEO}$ | $V_{CE}$= 20 V, $I_B$=0 | | 0.1 | μ A |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$= 5 V, $I_C$=0 | | 0.1 | μ A |
| DC current gain | $h_{FE}$ | $V_{CE}$= 1 V, $I_C$= 100 mA | 90 | 400 | |
| Collector-emitter saturation voltage | $V_{CEsat}$ | $I_C$= 700 mA, $I_B$= 70 mA | | 0.6 | V |
| Base-emitter saturation voltage | $V_{BEsat}$ | $I_C$= 700 mA, $I_B$= 70 mA | | 1.2 | V |
| Transition frequency | $f_T$ | $V_{CE}$= 6 V, $I_C$= 10 mA<br>f= 30 MHz | 50 | | MHz |

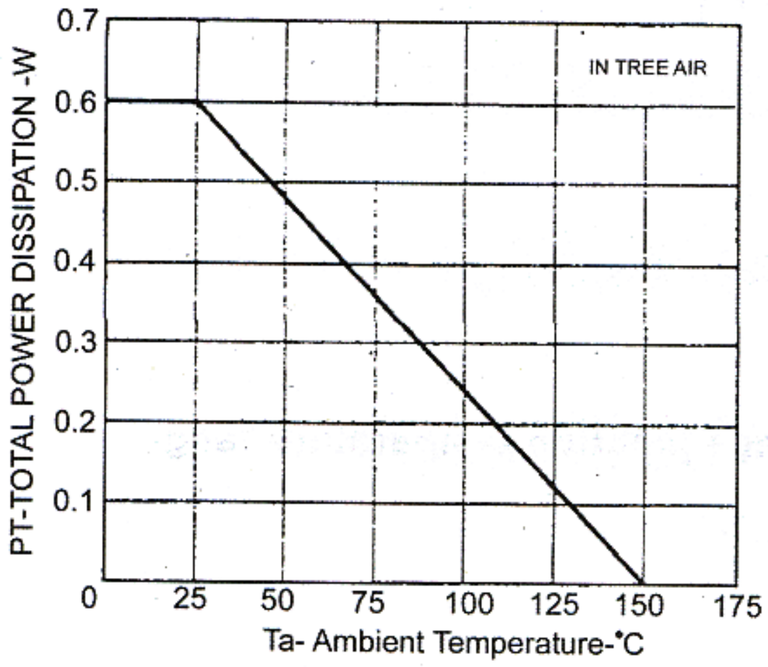
## CLASSIFICATION OF $h_{FE}$

| Rank | M | L | K |
|---|---|---|---|
| Range | 90-180 | 135-270 | 200-400 |

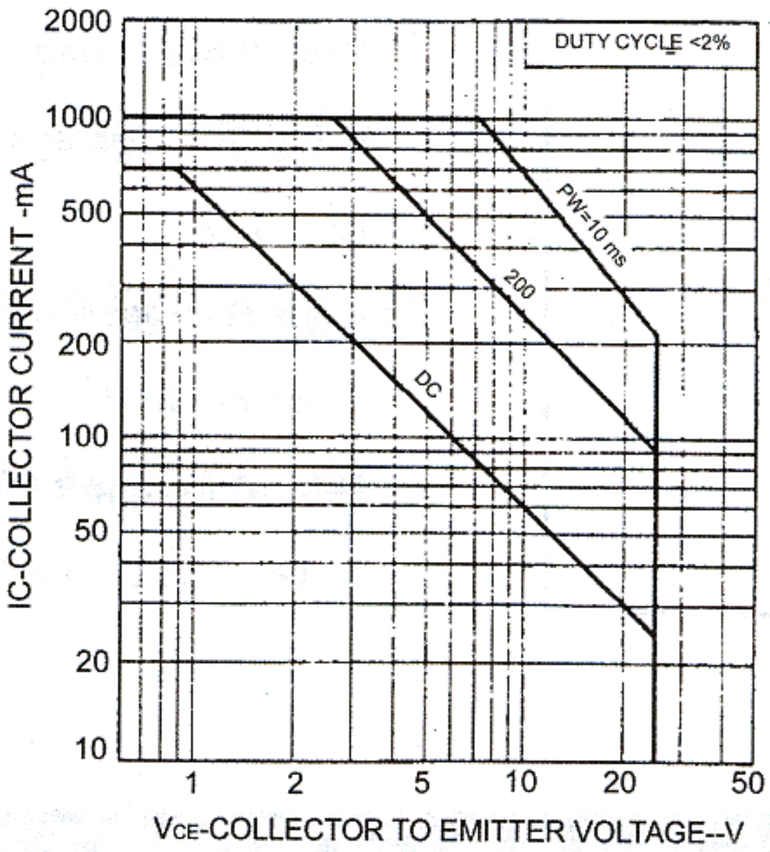
# Typical Characteristics

**2SC2001**

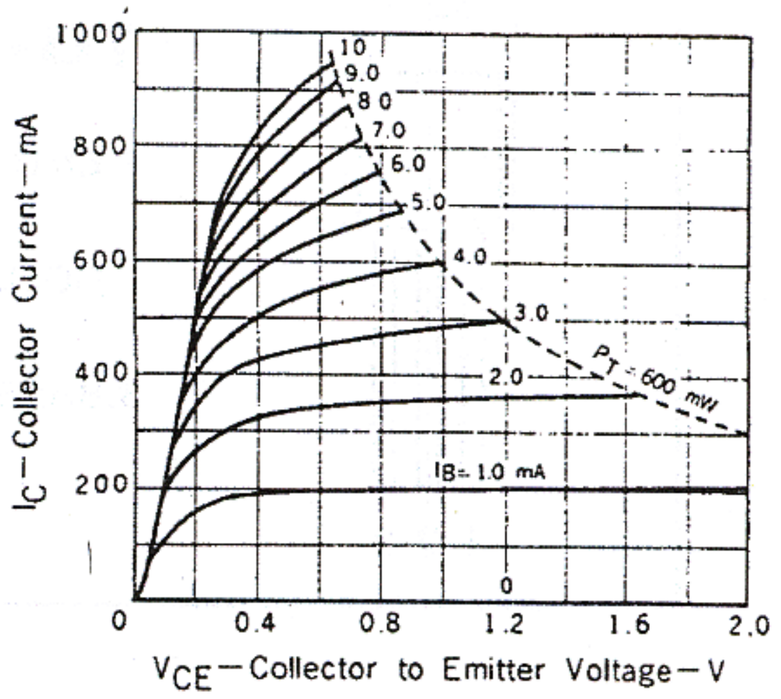
TOTAL POER DISSIP ATION VS
AMBIENT TEMPERATURE



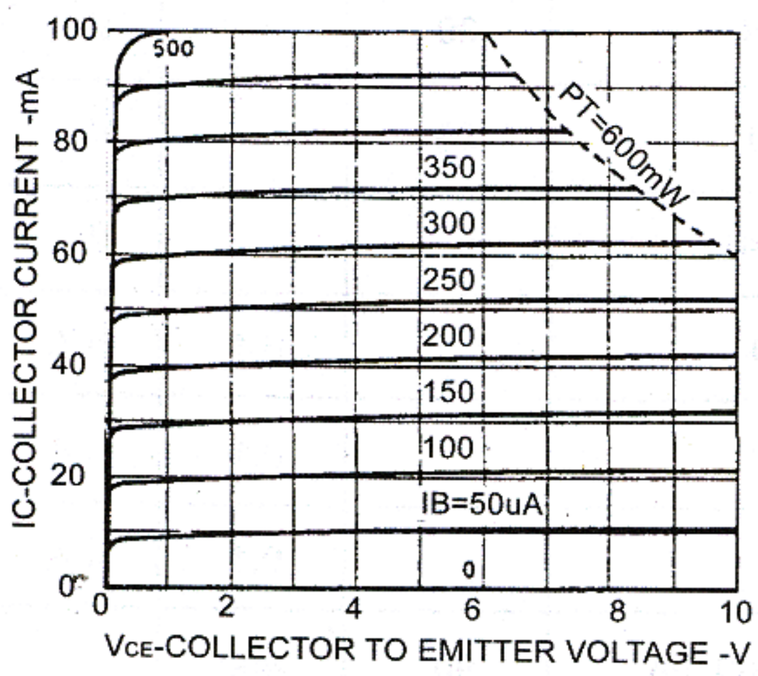

SAFE OPERATING AREA



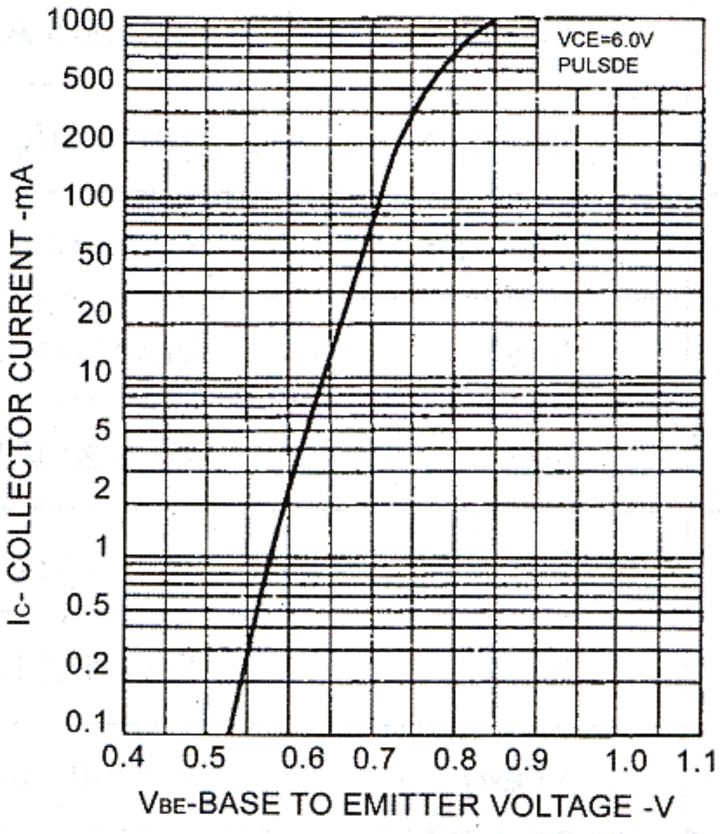

COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE



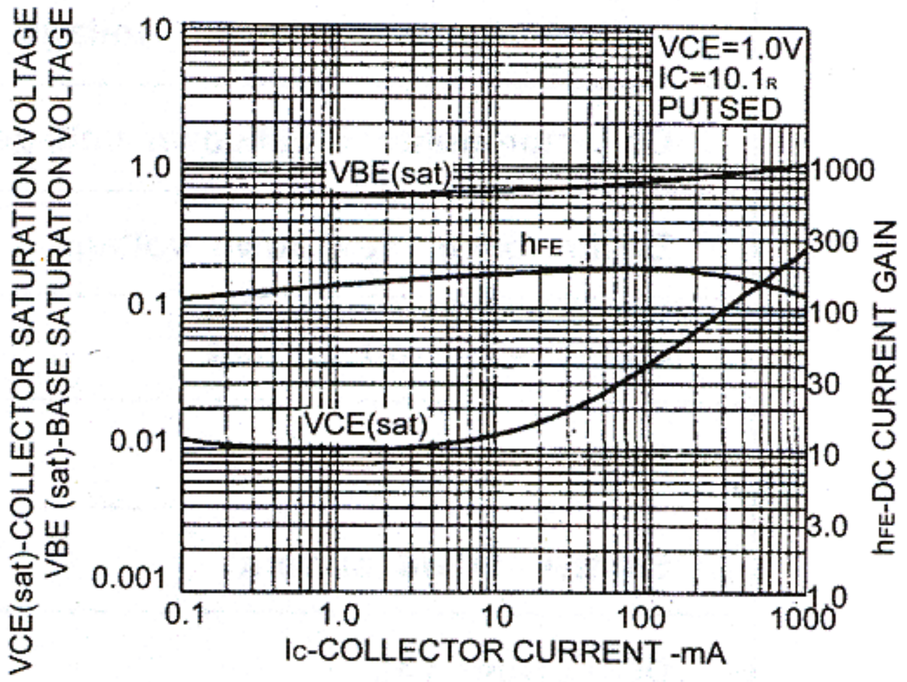

**COLLECTOR CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE**




COLLECTOR CURRENT vs.
BASE TO EMITTER VOLTAGE




DC CURRENT GAIN.
BASE AND COLLECTOR SATURATION
VOLTAGE VS. COLLECTOR CURRENT




GIAN BANDWIDTH PRODUCT
vs.EMITTER CURRENT