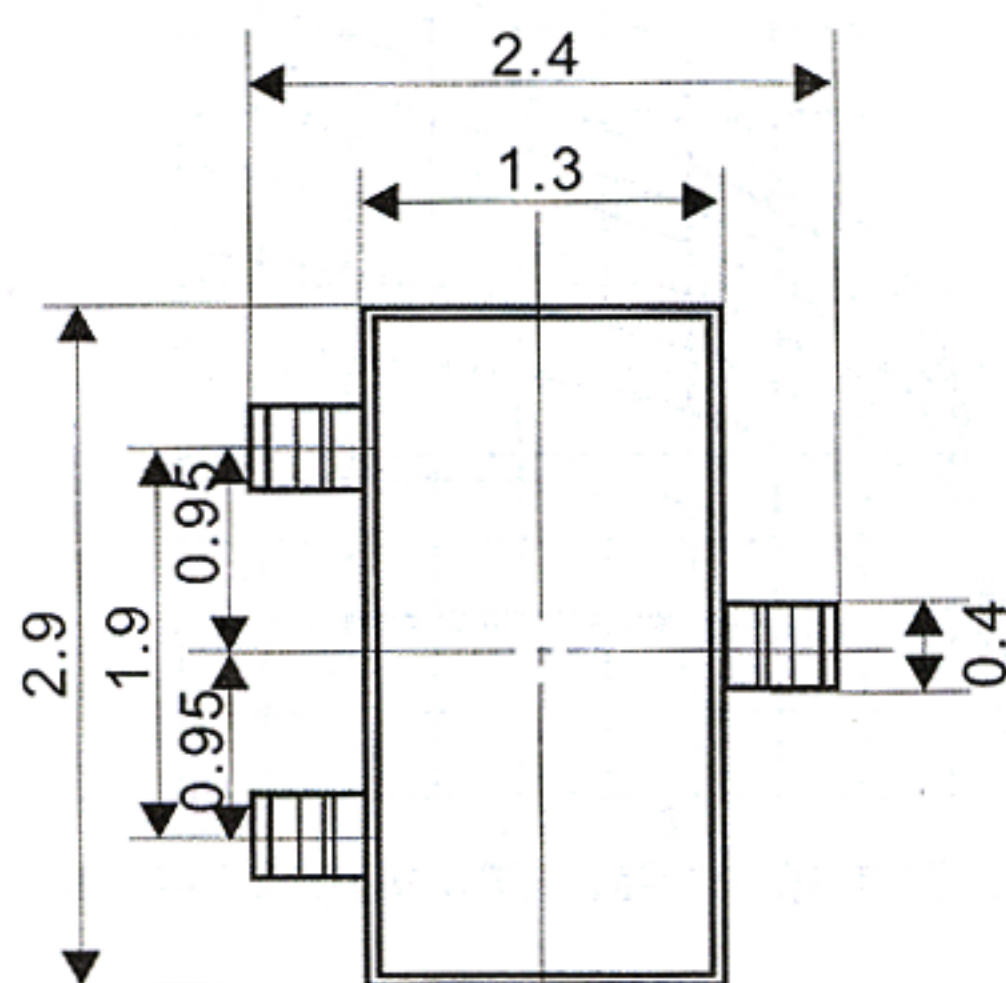
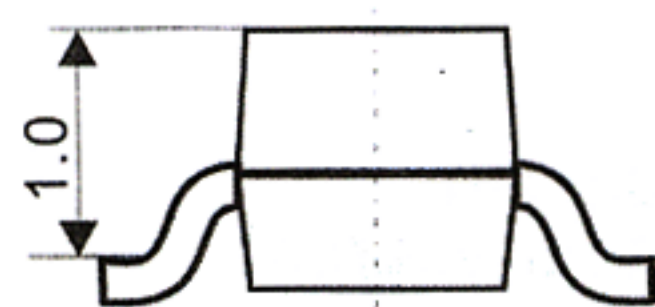
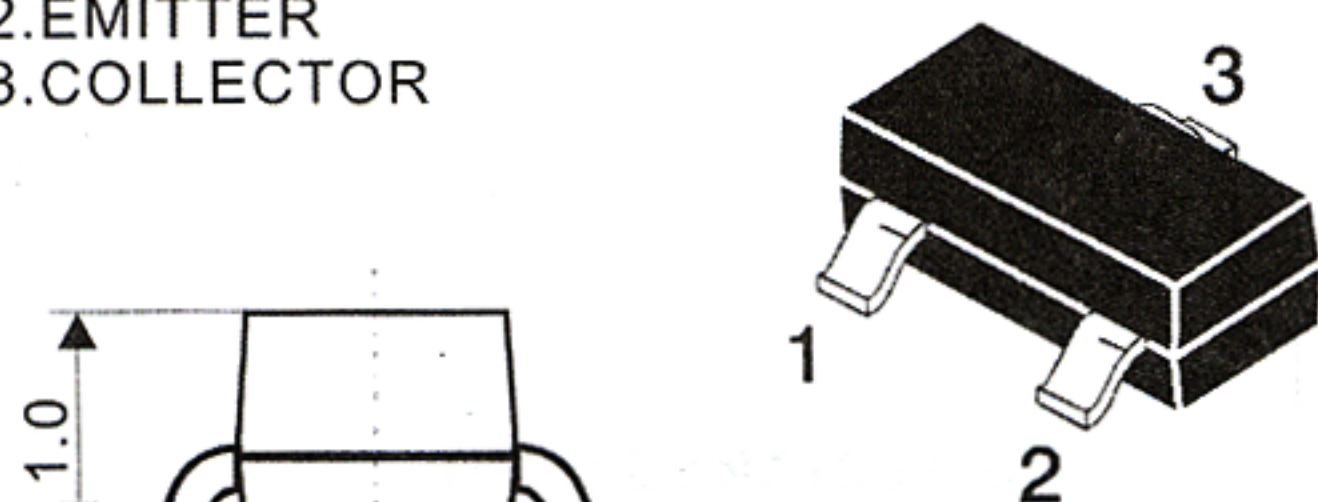


# SOT-23 Plastic-Encapsulate Transistors

## C945LT1 TRANSISTOR (NPN)

- 1.BASE  
2.EMITTER  
3.COLLECTOR



UNIT: mm

### FEATURES

#### Power dissipation

$P_{CM}$ : 0.2 W ( $T_{amb}=25^{\circ}C$ )

#### Collector current

$I_{CM}$ : 0.15 A

#### Collector-base voltage

$V_{(BR)CBO}$ : 60V

#### Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$

### ELECTRICAL CHARACTERISTICS

( $T_{amp}=25^{\circ}C$  unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                | MIN | TYP | MAX | UNIT    |
|--------------------------------------|---------------|--------------------------------|-----|-----|-----|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=1000\mu A, I_E=0$         | 60  |     |     | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=0.1mA, I_B=0$             | 50  |     |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_C=100\mu A, I_B=0$          | 5   |     |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=60V, I_E=0$            |     |     | 0.1 | $\mu A$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE}=55V, I_B=0$            |     |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5V, I_C=0mA$           |     |     | 0.1 | $\mu A$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=6V, I_C=1mA$           | 130 |     | 400 |         |
|                                      | $h_{FE(2)}$   | $V_{CE}=6V, I_C=0.1mA$         | 40  |     |     |         |
| Collector-emitter saturation voltage | $V_{CEsat}$   | $I_C=100mA, I_B=10mA$          |     |     | 0.3 | V       |
| Base-emitter saturation voltage      | $V_{BEsat}$   | $I_C=100mA, I_B=10mA$          |     |     | 1   | V       |
| Base-emitter voltage                 | $V_{BEF}$     | $I_E=310mA$                    |     |     | 1.4 | V       |
| Transition frequency                 | $f_T$         | $V_{CE}=6V, I_C=10mA, f=30MHz$ | 150 |     |     | MHz     |

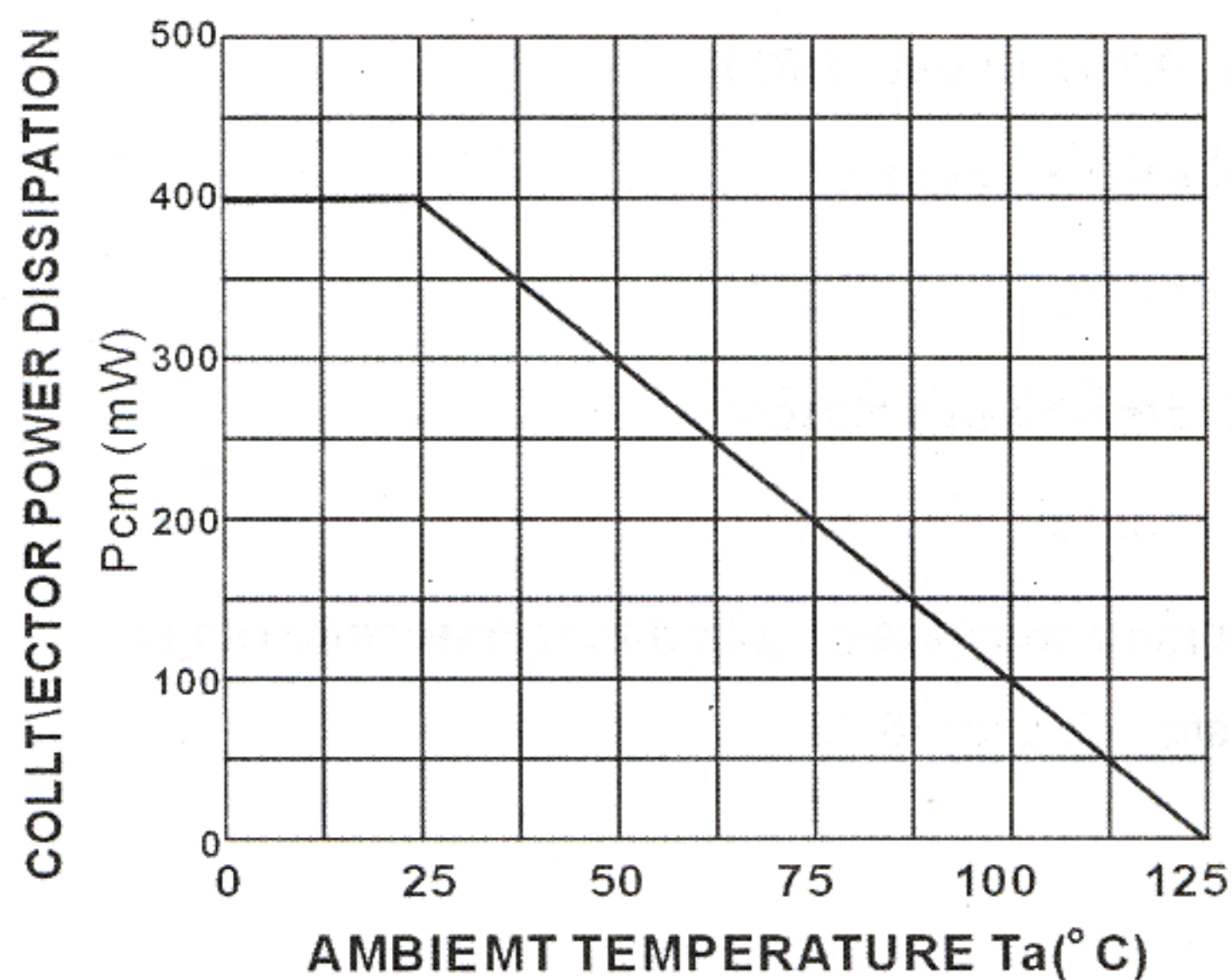
### CLASSIFICATION OF $h_{FE(1)}$

| Rank  | L       | H       |
|-------|---------|---------|
| Range | 130-200 | 200-400 |

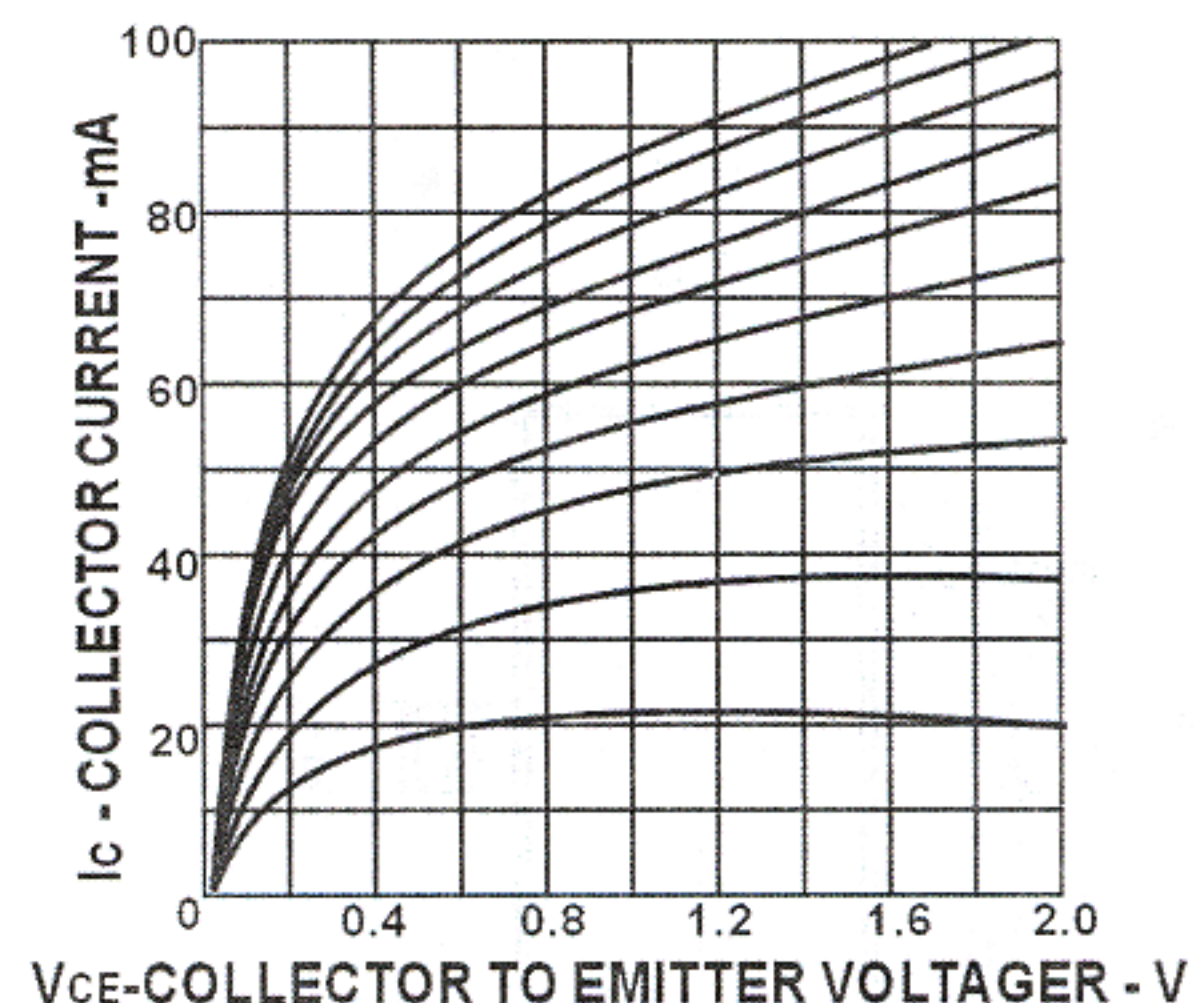
DEVICE MARKING : C945LT1=CR



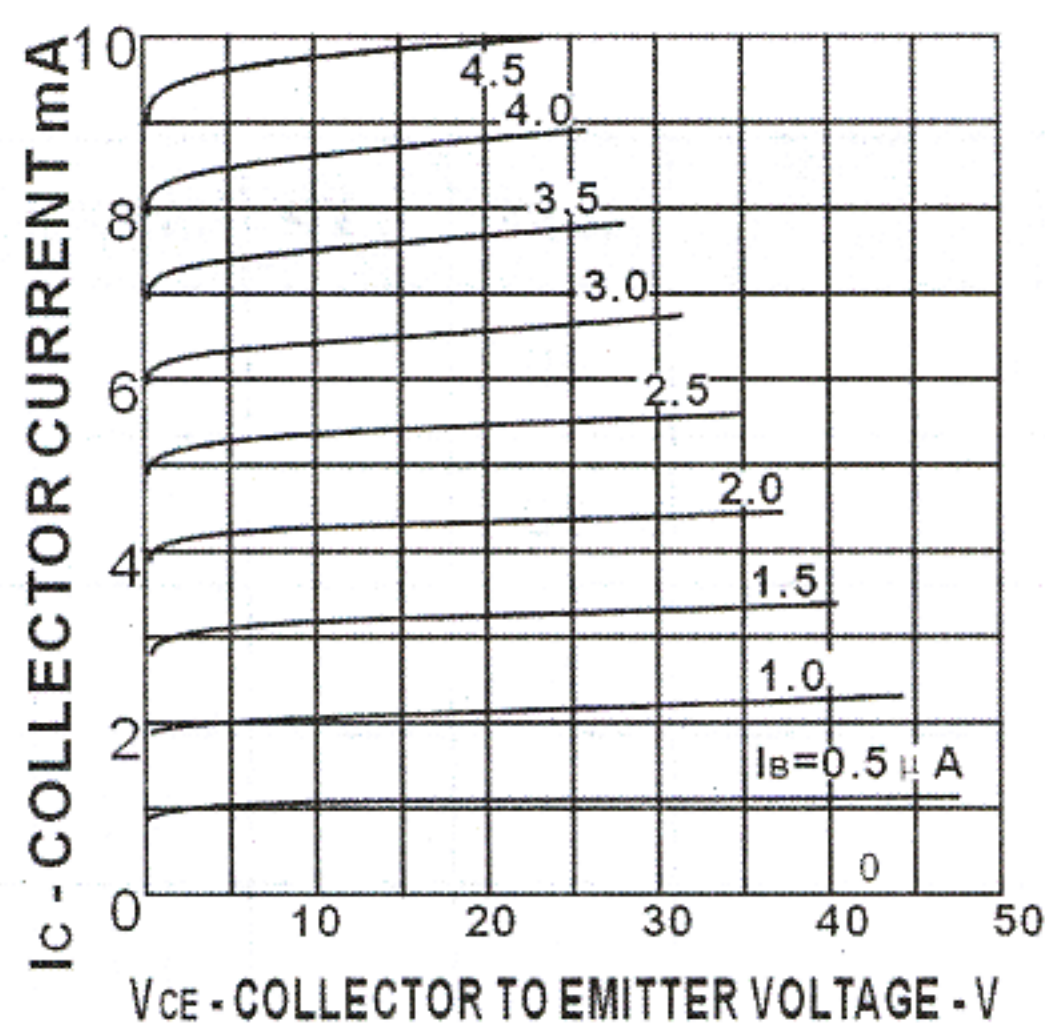
**TOTAL Power Dissipation  
vs AMBIENT Temperature**



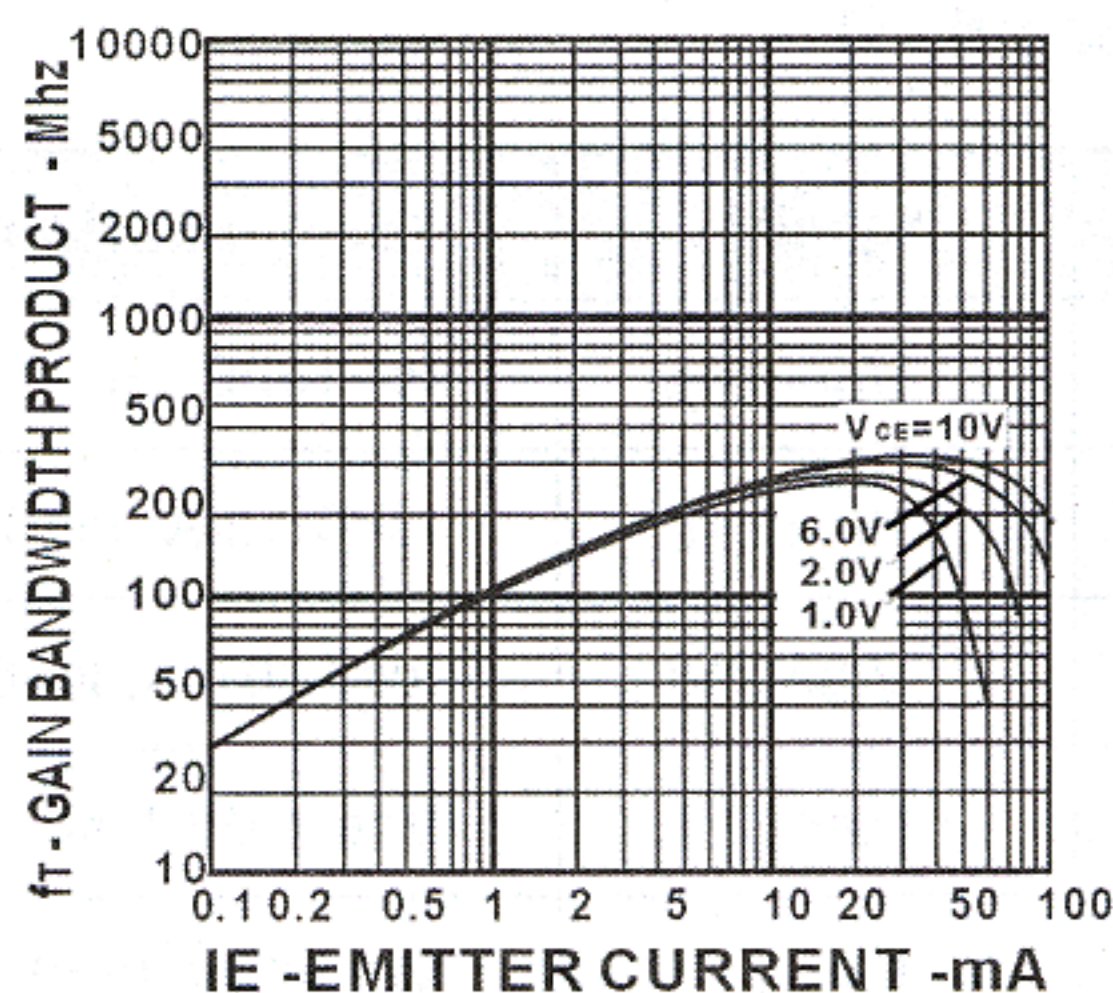
**COLLECTOR CURRENT  
vs COLLECTOR TO EMITTER VOLTAGE**



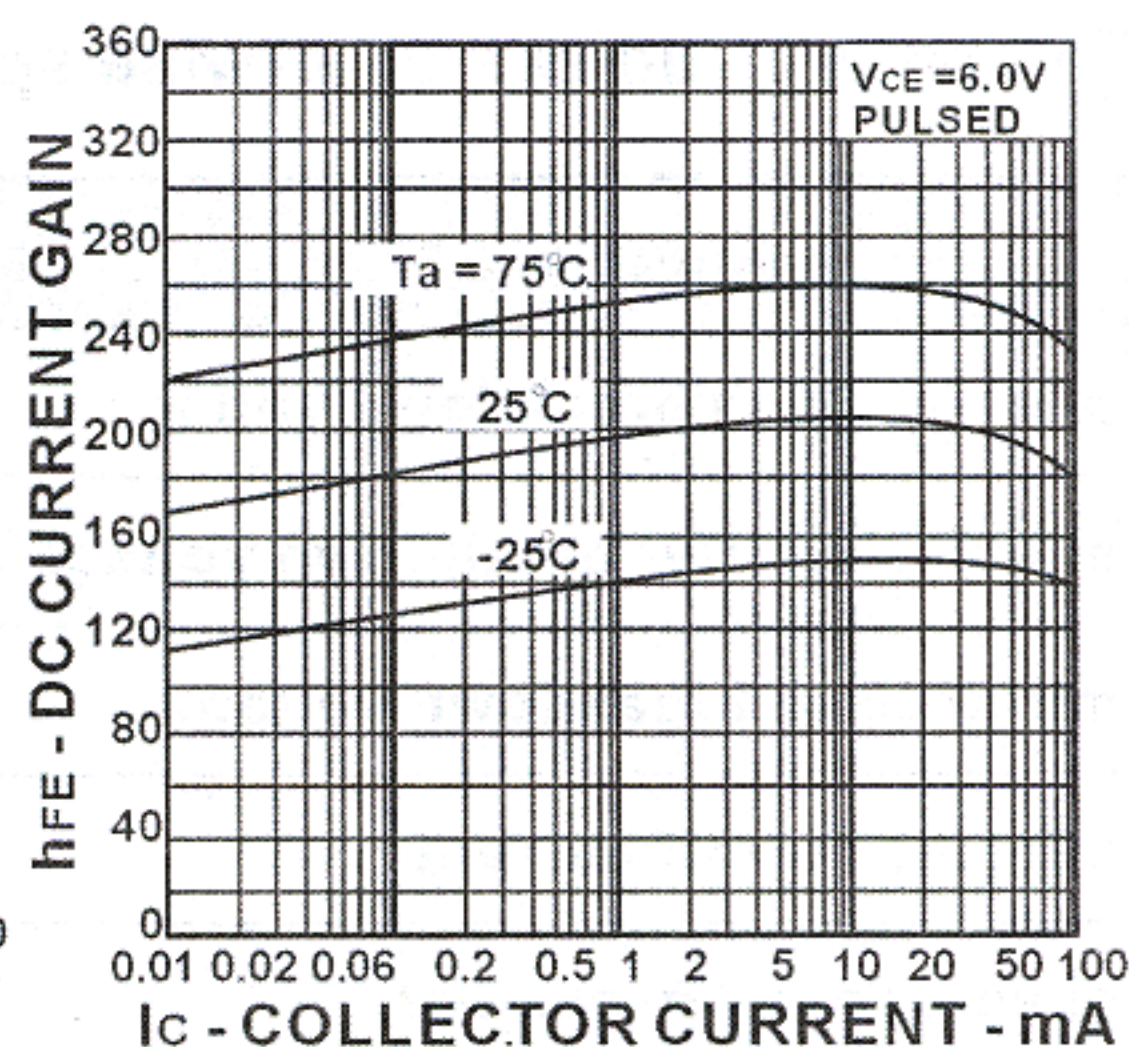
**COLLECTOR CURRENT  
vs. COLLECTOR TO EMITTER VOLTAGE**



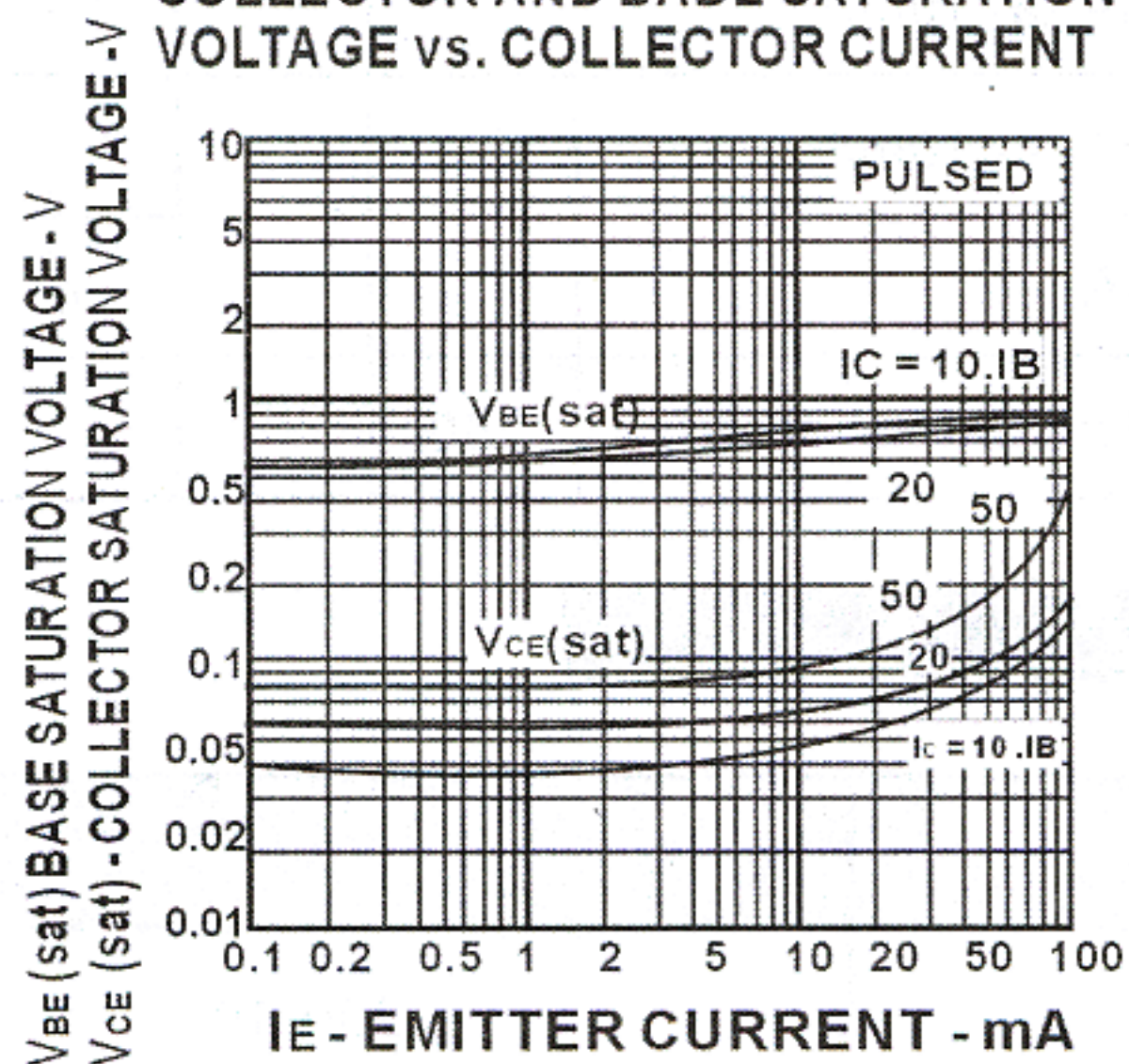
**GAIN BANDWIDTH PRODUCT  
vs. EMITTER CURRENT**



**DC CURRENT GAIN  
vs. COLLECTOR CURRENT**



**COLLECTOR AND BASE SATURATION  
VOLTAGE vs. COLLECTOR CURRENT**



**DC CURRENT GAIN  
vs. COLLECTOR CURRENT**

