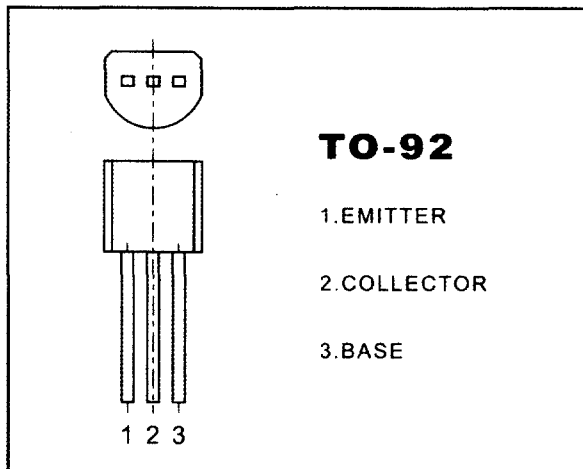


# TO-92 Plastic-Encapsulate Transistors

## C945 TRANSISTOR(NPN)



### FEATURES

**Power dissipation**

$P_{CM}$ : 0.4W ( $T_{amb}=25^{\circ}C$ )

**Collector current**

$I_{CM}$ : 0.15 A

**Collector-base voltage**

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

**Operating and storage junction temperature range**

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

### ELECTRICAL CHARACTERISTICS

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

|                                      |               |                                             |     |     |         |
|--------------------------------------|---------------|---------------------------------------------|-----|-----|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = 1000 \mu A, I_E = 0$                 | 60  |     | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = 0.1 mA, I_B = 0$                     | 50  |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = 100 \mu A, I_C = 0$                  | 5   |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 60 V, I_E = 0$                    |     | 0.1 | $\mu A$ |
| Collector cut-off current            | $I_{CER}$     | $V_{CE} = 55 V, R = 10 M\Omega$             |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5 V, I_C = 0$                     |     | 0.1 | $\mu A$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = 6 V, I_C = 1 mA$                  | 70  | 700 |         |
|                                      | $h_{FE(2)}$   | $V_{CE} = 6 V, I_C = 0.1 mA$                | 40  |     |         |
| Collector-emitter saturation voltage | $V_{CEsat}$   | $I_C = 100 mA, I_B = 10 mA$                 |     | 0.3 | V       |
| Base-emitter saturation voltage      | $V_{BEsat}$   | $I_C = 100 mA, I_B = 10 mA$                 |     | 1   | V       |
| Base-emitter voltage                 | $V_{BE}$      | $I_E = 310 mA$                              |     | 1.4 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = 6 V, I_C = 10 mA$<br>$f = 30 MHz$ | 150 |     | MHZ     |

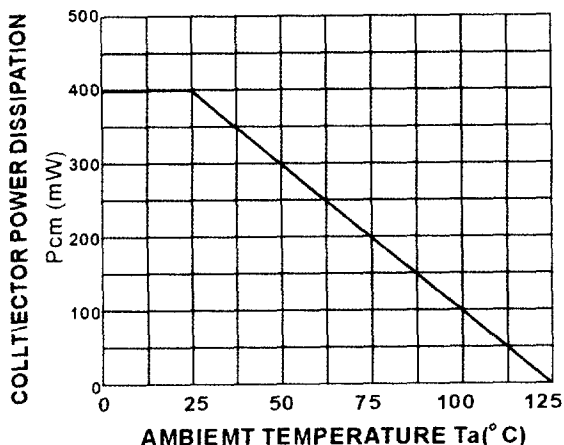
### CLASSIFICATION OF $h_{FE(1)}$

|       |        |         |         |         |
|-------|--------|---------|---------|---------|
| Rank  | O      | Y       | GR      | BL      |
| Range | 70-140 | 120-240 | 200-400 | 350-700 |

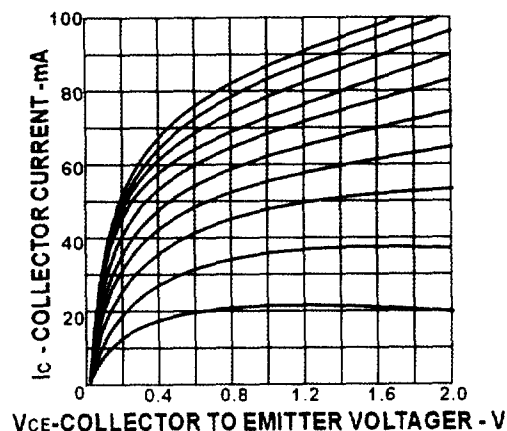
# Typical Characteristics

C945

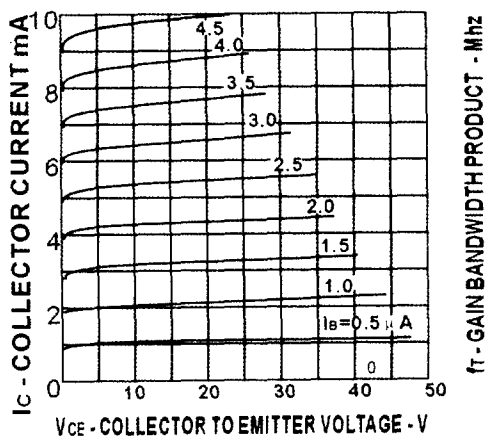
TOTAL Power Dissipation vs AMBIENT Temperature



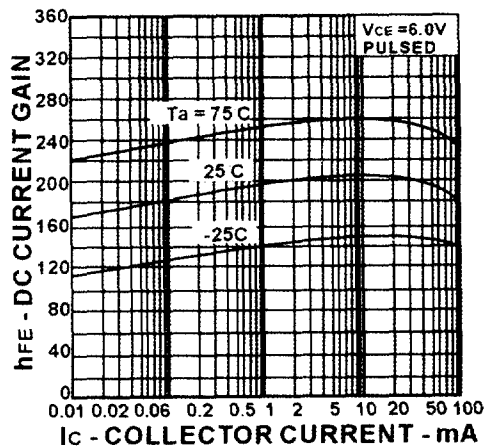
COLLECTOR CURRENT vs COLLECTOR TO EMITTER VOLTAGE



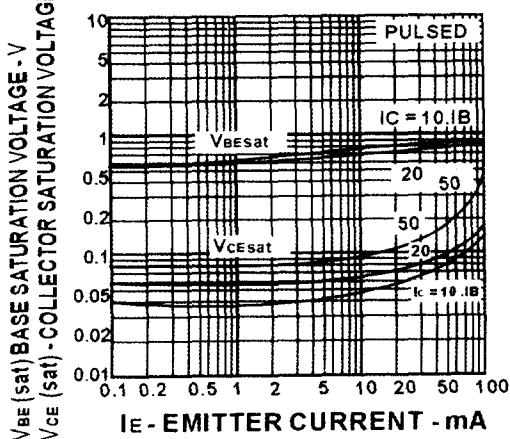
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT



COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



DC CURRENT GAIN vs. COLLECTOR CURRENT

