

FEATURES

Complementary to A733

C945 (NPN)
MARKING: CR
MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|-------------------------------|-----------|-------------|------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 50 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current -Continuous | I_C | 150 | mA |
| Collector Power Dissipation | P_C | 0.4 | W |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature | T_{stg} | -55 to +150 | °C |


ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|---------|
| Collector-base breakdown voltage | V_{CBO} | $I_C=1mA, I_E=0$ | 60 | | | V |
| Collector-emitter breakdown voltage | V_{CEO} | $I_C=100\mu A, I_B=0$ | 50 | | | V |
| Emitter-base breakdown voltage | V_{EBO} | $I_E=100mA, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CB} | $V_{CB}=60V, I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CE} | $V_{CE}=45V$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EB} | $V_{EB}=5V, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=6V, I_C=1mA$ | 70 | | 700 | |
| | $h_{FE(2)}$ | $V_{CE}=6V, I_C=0.1mA$ | 40 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100mA, I_B=10mA$ | | | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100mA, I_B=10mA$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=6V, I_C=10mA, f=30MHz$ | 200 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10V, I_E=0, f=1MHz$ | | | 3.0 | pF |
| Noise figure | NF | $V_{CE}=6V, I_C=0.1mA$ $R_G=10k, f=1kMHz$ | | | 10 | dB |

CLASSIFICATION OF h_{FE}

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

C945 Typical Characteristics

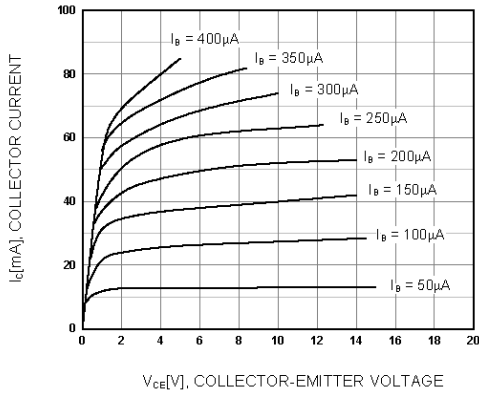


Figure 1. Static Characteristic

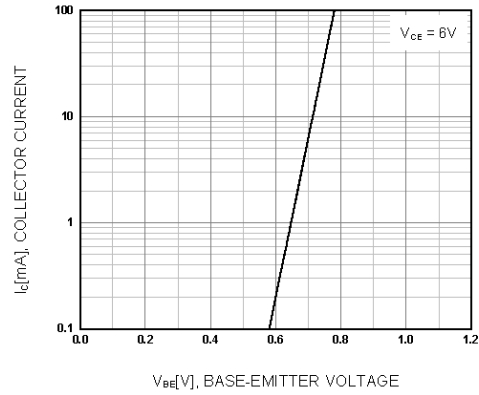


Figure 2. Transfer Characteristic

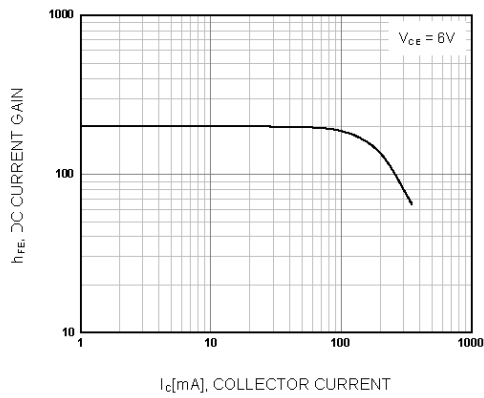


Figure 3. DC current Gain

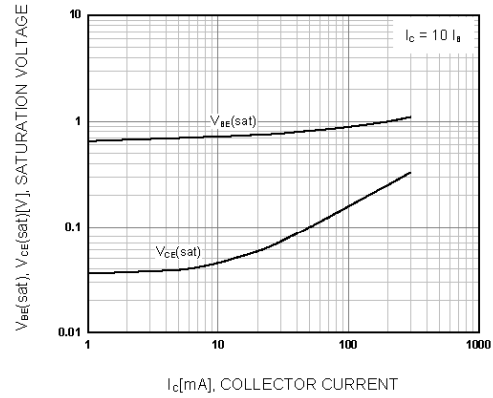


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

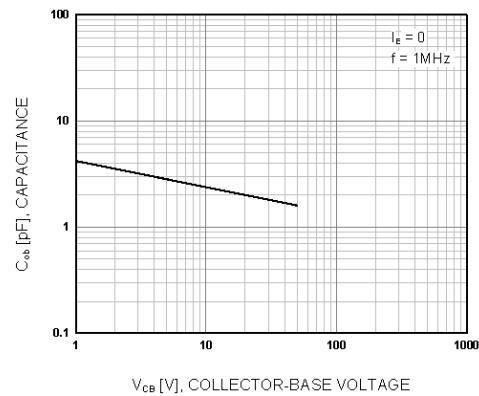


Figure 5. Output Capacitance

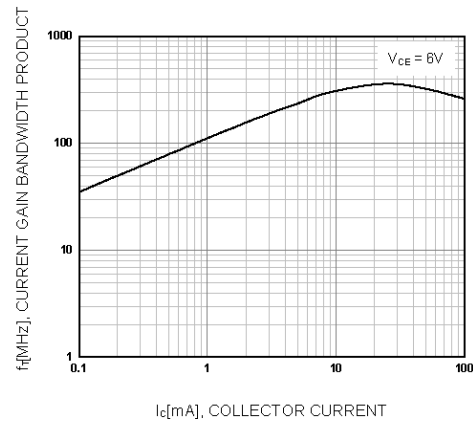


Figure 6. Current Gain Bandwidth Product