



TO-92 Plastic-Encapsulate Transistors

BC347 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM} : 0.3 \text{ W (} T_{amb}=25 \text{)}$$

Collector current

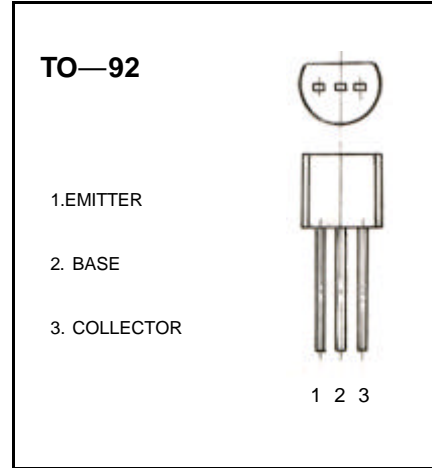
$$I_{CM} : 0.1 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 50 \text{ V}$$

Operating and storage junction temperature range

$$T_J , T_{stg} : -55 \text{ to } +150$$

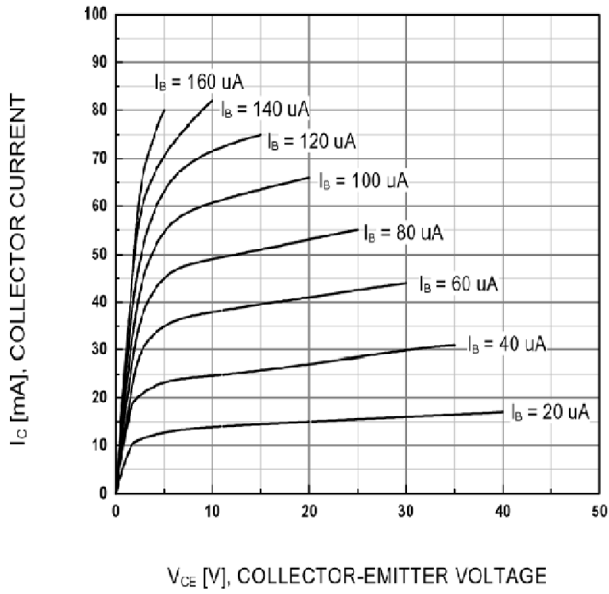


ELECTRICAL CHARACTERISTICS ($T_{amb}=25$ unless otherwise specified)

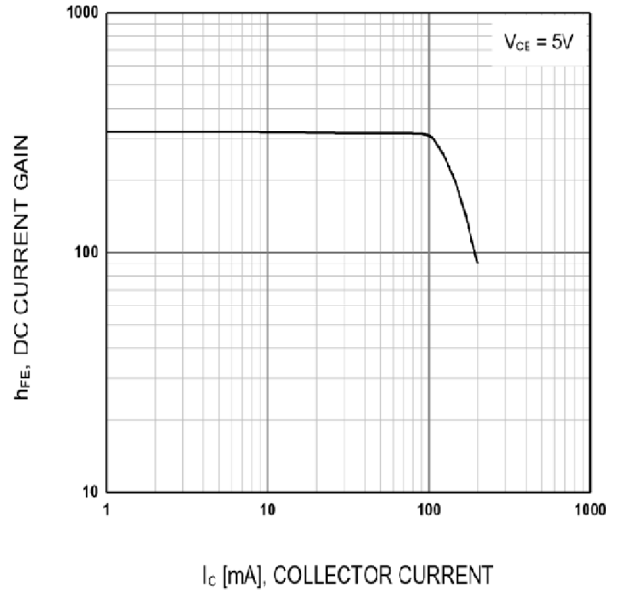
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|-------------------|---|-----|-----|-----|---------|
| Collector-base breakdown voltage | $V_{(BR)CB}$ O | $I_C = 100 \mu A , I_E = 0$ | 50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CE}$ O | $I_C = 1 \text{ mA} , I_B = 0$ | 45 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 100 \mu A , I_C = 0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = 50 \text{ V} , I_E = 0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = 35 \text{ V} , I_B = 0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 3 \text{ V} , I_C = 0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = 5 \text{ V} , I_C = 2 \text{ mA}$ | 40 | | 450 | |
| Collector-emitter saturation voltage | V_{CEsat} | $I_C = 10 \text{ mA} , I_B = 1 \text{ mA}$ | | | 0.3 | V |
| Base-emitter saturation voltage | V_{BEsat} | $I_C = 10 \text{ mA} , I_B = 1 \text{ mA}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE} = 5 \text{ V} , I_C = 10 \text{ mA} , f = 30 \text{ MHz}$ | 125 | | | MHz |

Typical Characteristics

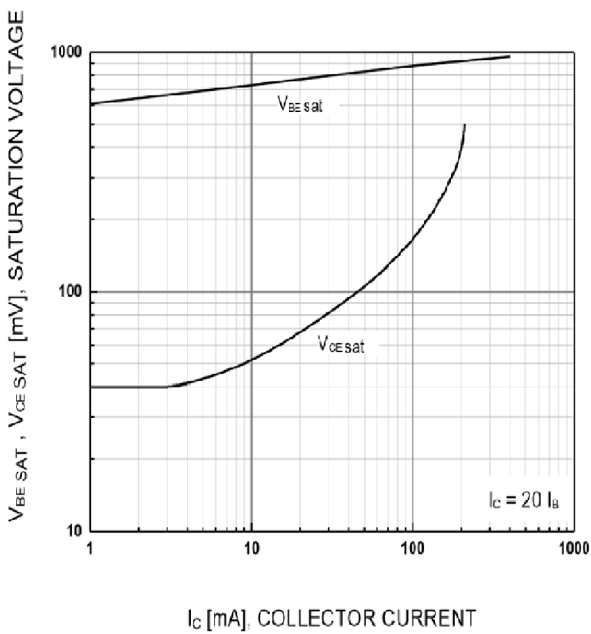
BC347



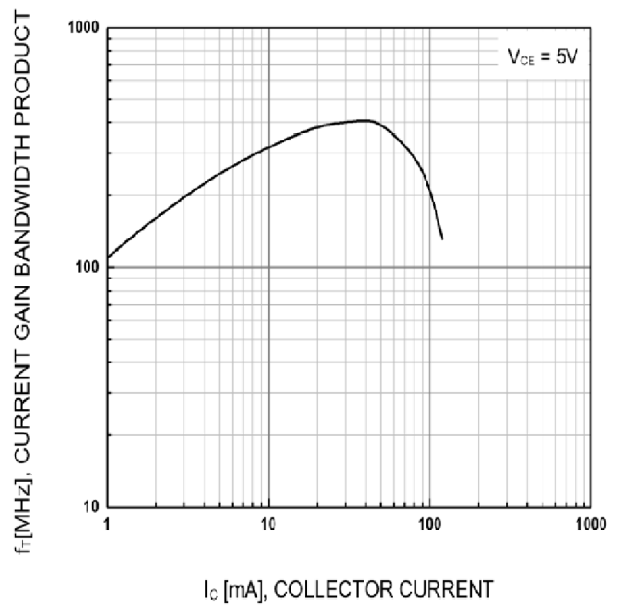
Static Characteristic



DC current Gain



**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



Current Gain Bandwidth Product

TO-92 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 3.300 | 3.700 | 0.130 | 0.146 |
| A1 | 1.100 | 1.400 | 0.043 | 0.055 |
| b | 0.380 | 0.550 | 0.015 | 0.022 |
| c | 0.360 | 0.510 | 0.014 | 0.020 |
| D | 4.400 | 4.700 | 0.173 | 0.185 |
| D1 | 3.430 | | 0.135 | |
| E | 4.300 | 4.700 | 0.169 | 0.185 |
| e | 1.270TYP | | 0.050TYP | |
| e1 | 2.440 | 2.640 | 0.096 | 0.104 |
| L | 14.100 | 14.500 | 0.555 | 0.571 |
| Ö | | 1.600 | | 0.063 |
| ↓ | 0.000 | 0.380 | 0.000 | 0.015 |