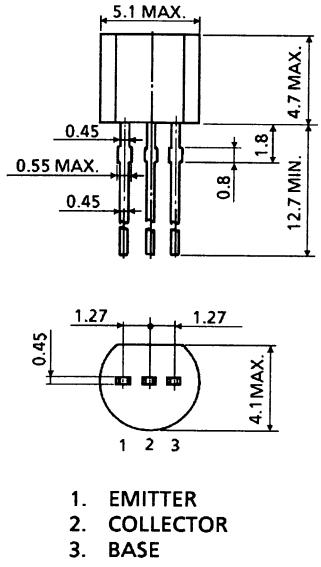
TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

# 2SC2347

TV UHF Oscillator Applications

TV VHF Mixer Applications

Unit: mm




| | |
|---|---|
| JEDEC | TO-92 |
| JEITA | SC-43 |
| TOSHIBA | 2-5F1B |

Weight: 0.21 g (typ.)

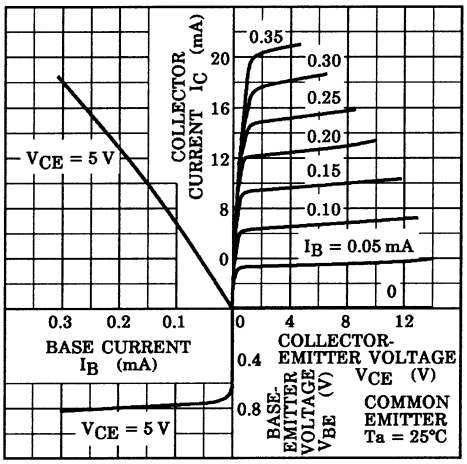
## Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 30 | V |
| Collector-emitter voltage | $V_{CEO}$ | 15 | V |
| Emitter-base voltage | $V_{EBO}$ | 3 | V |
| Collector current | $I_C$ | 50 | mA |
| Emitter current | $I_E$ | −50 | mA |
| Collector power dissipation | $P_C$ | 250 | mW |
| Junction temperature | $T_j$ | 125 | °C |
| Storage temperature range | $T_{stg}$ | −55~125 | °C |

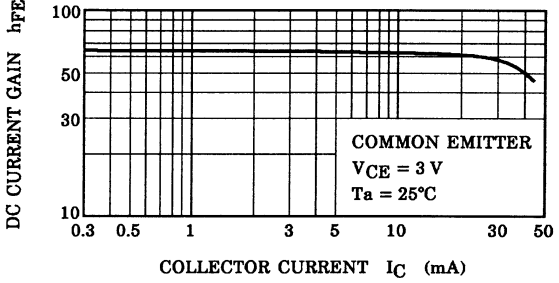
## Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$ = 15 V, $I_E$ = 0 | — | — | 0.1 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$ = 3 V, $I_C$ = 0 | — | — | 1.0 | μA |
| Collector-emitter breakdown voltage | $V_{(BR)\ CEO}$ | $I_C$ = 1 mA, $I_B$ = 0 | 15 | — | — | V |
| DC current gain | $h_{FE}$ | $V_{CE}$ = 3 V, $I_C$ = 8 mA | 20 | — | — | |
| Transition frequency | $f_T$ | $V_{CE}$ = 10 V, $I_C$ = 8 mA | 650 | — | — | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$ = 10 V, $I_E$ = 0, f = 1 MHz | — | 1.2 | 1.5 | pF |
| Collector-base time constant | $C_c$.rbb' | $V_{CB}$ = 10 V, $I_C$ = 8 mA, f = 30 MHz | — | — | 12 | ps |

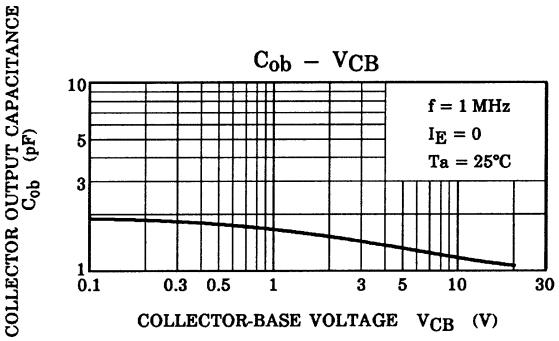
STATIC CHARACTERISTICS



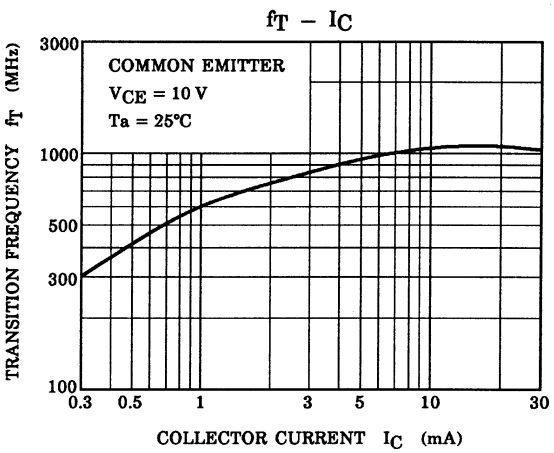

$h_{FE}$ – $I_C$



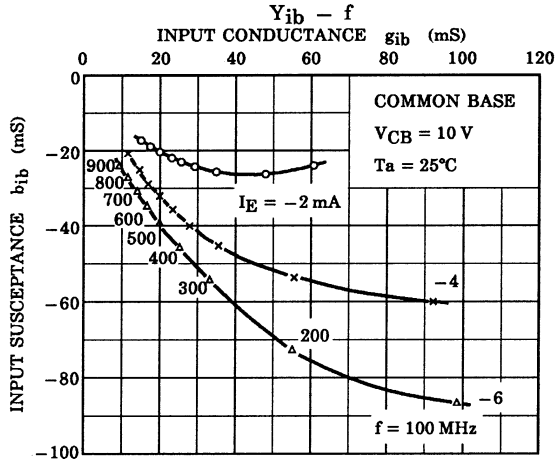

$C_{ob}$ – $V_{CB}$



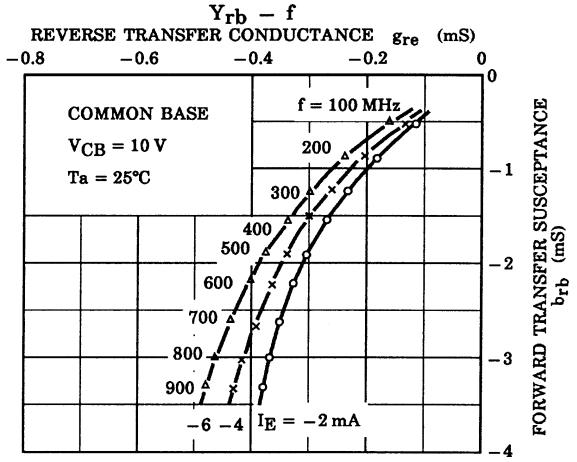

$f_T$ – $I_C$



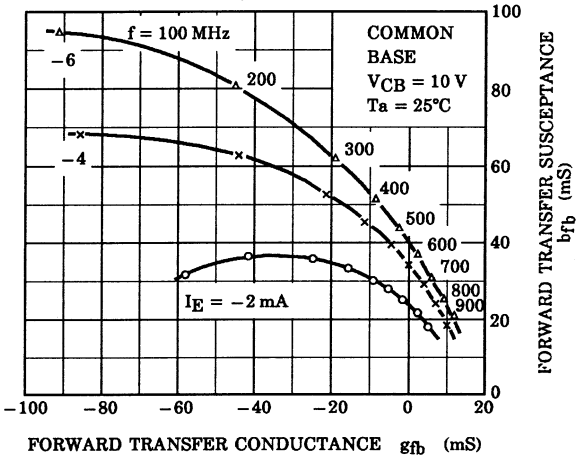

$Y_{ib}$ – f



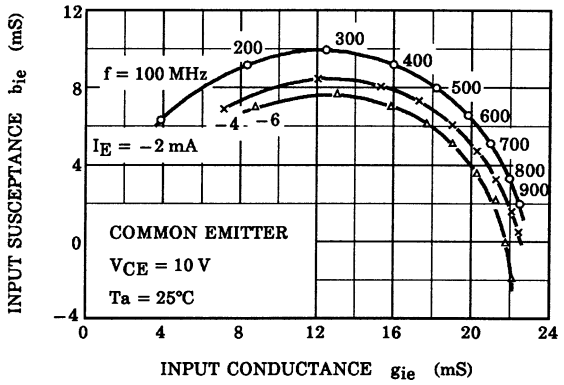

$Y_{rb}$ – f



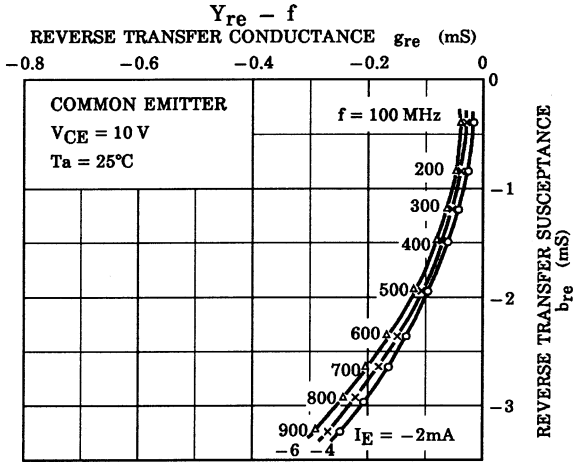
$Y_{fb}$ – f



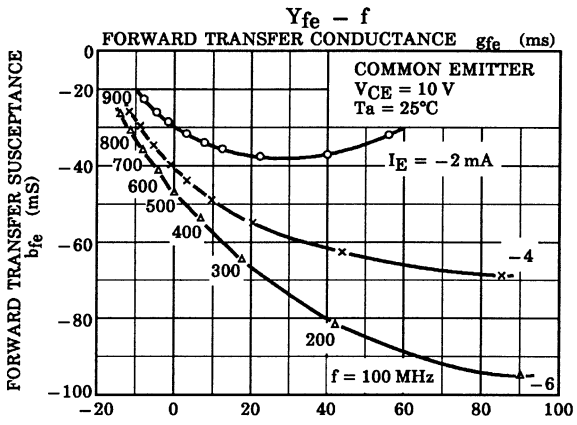

$Y_{ie}$ – f



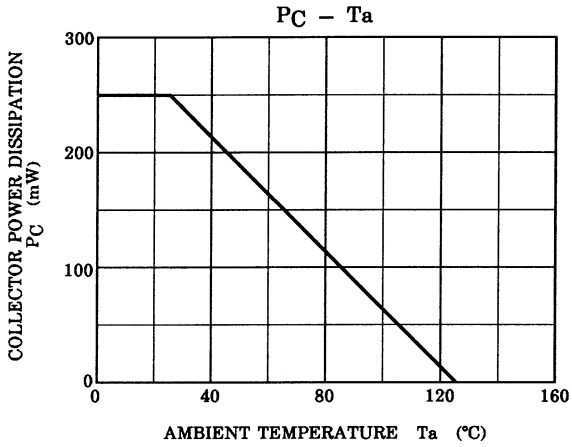

$Y_{re}$ – f



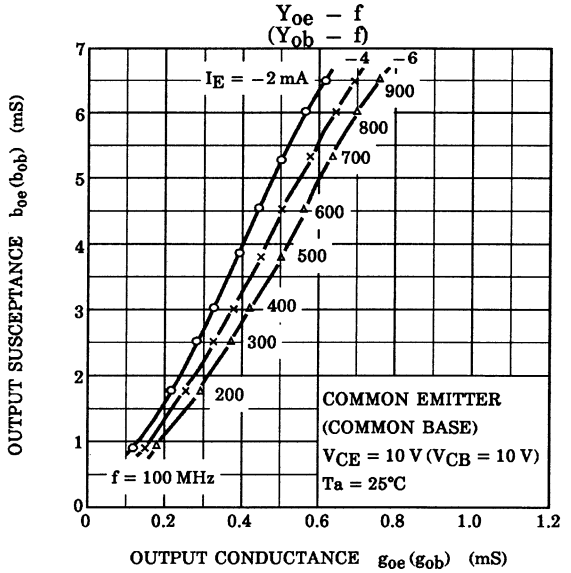

$Y_{fe}$ – f




$P_C$ – Ta




$Y_{oe}$ – f
($Y_{ob}$ – f)



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