HITACHI

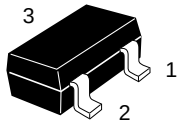
# 2SC4702

**Silicon NPN Epitaxial**
**High Voltage Amplifier**

## Features

- High breakdown voltage
  $V_{CEO}$ = 300 V
- Small Cob
  Cob = 1.5 pF Typ.

MPAK




1. Emitter
2. Base
3. Collector

**Table 1 Absolute Maximum Ratings** (Ta = 25°C)

| Item | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to base voltage | $V_{CBO}$ | 300 | V |
| Collector to emitter voltage | $V_{CEO}$ | 300 | V |
| Emitter to base voltage | $V_{EBO}$ | 5 | V |
| Collector current | $I_C$ | 50 | mA |
| Collector power dissipation | $P_C$ | 150 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | –55 to +150 | °C |

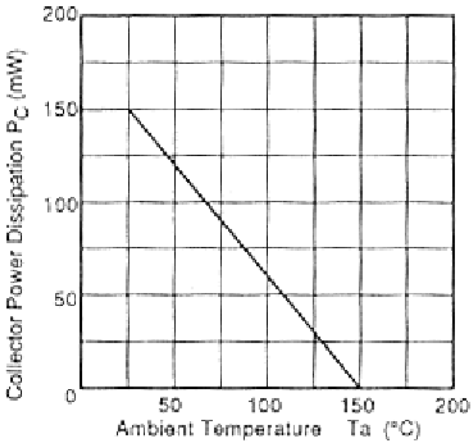
**Table 2 Electrical Characteristics** (Ta = 25°C)

| Item | Symbol | Min | Typ | Max | Unit | Test condition |
|---|---|---|---|---|---|---|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | 300 | — | — | V | $I_C$ = 10 µA, $I_E$ = 0 |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | 300 | — | — | V | $I_C$ = 1 mA, $R_{BE}$ = ∞ |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | 5 | — | — | V | $I_E$ = 10 µA, $I_C$ = 0 |
| Collector cutoff current | $I_{CBO}$ | — | — | 0.1 | µA | $V_{CB}$ = 250 V, $I_E$ = 0 |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | — | — | 0.5 | V | $I_C$ = 30 mA, $I_B$ = 3 mA |
| DC current transfer ratio | $h_{FE}$ | 60 | — | 150 | — | $V_{CE}$ = 6 V, $I_C$ = 2 mA |
| Gain bandwidth product | $f_T$ | — | 80 | — | MHz | $V_{CE}$ = 6 V, $I_C$ = 5 mA |
| Collector output capacitance | Cob | — | 1.5 | — | pF | $V_{CB}$ = 10 V, $I_E$ = 0<br>f = 1 MHz |

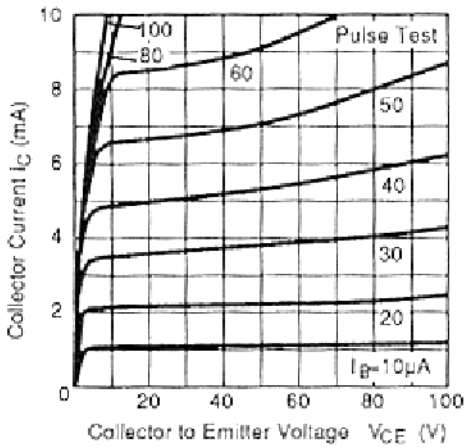
- Marking is “XV-”.

## 2SC4702

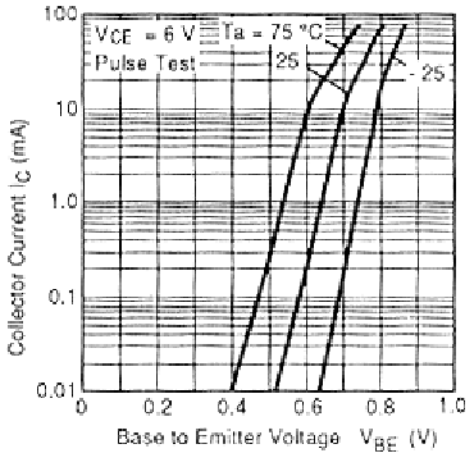
Maximum collector power dissipation curve



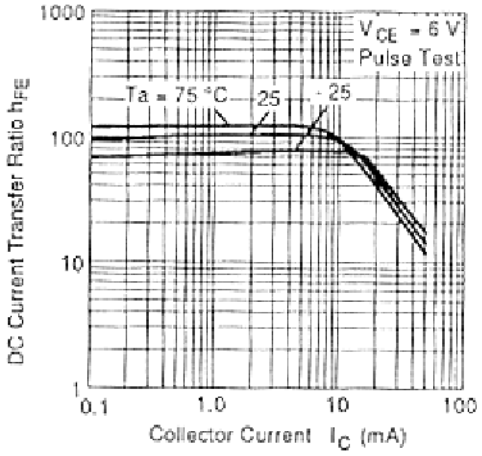

Typical output characteristics



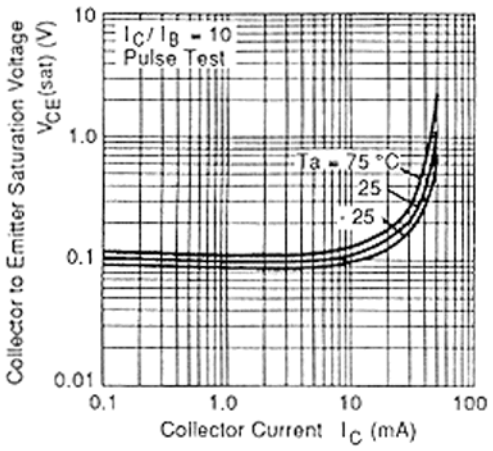

Typical transfer characteristics



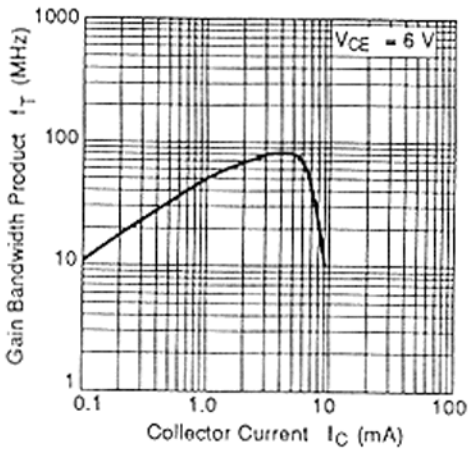

DC current transfer ratio vs. collector current



Collector to emitter saturation voltage
vs. collector current




Gain bandwidth product
vs. collector current




Collector output capacitance
vs. collector to base voltage