

**Silicon NPN transistor epitaxial type  
C5887**

**[ Applications ]**

General purpose amplifier  
For small surface mount package built-in with shrinked die

**[ Feature ]**

High collector-emitter breakdown voltage  $BV_{CEO}= 50V$   
High collector current  $I_C= 100mA$   
Excellent  $h_{FE}$  linearity

**[ Absolute maximum ratings (Ta=25C) ]**

| Characteristic            | Symbol | Maximum ratings | Unit |
|---------------------------|--------|-----------------|------|
| Collector-base voltage    | VCBO   | 60              | V    |
| Collector-emitter voltage | VCEO   | 50              | V    |
| Emitter-base voltage      | VEBO   | 5               | V    |
| Collector current         | IC     | 100             | mA   |
| Base current              | IB     | 30              | mA   |
| Junction temperature      | Tj     | 150             | C    |
| Storage temperature       | Tstg   | -55 to 150      | C    |

**[ Electrical characteristics (Ta=25C) ]**

| Characteristic                       | Symbol        | Min. | Typ. | Max. | Unit    | Conditions                       |
|--------------------------------------|---------------|------|------|------|---------|----------------------------------|
| Collector-base breakdown voltage     | BVCBO         | 60   | -    | -    | V       | $I_C= 10\mu A, I_E= 0A$          |
| Collector-emitter breakdown voltage  | BVCEO         | 50   | -    | -    | V       | $I_C= 100\mu A, I_B= 0A$         |
| Emitter-base breakdown voltage       | BVEBO         | 5    | -    | -    | V       | $I_E= 10\mu A, I_C= 0A$          |
| Collector cut-off current            | ICBO          | -    | -    | 0.1  | $\mu A$ | $V_{CB}= 60V, I_E= 0A$           |
| Emitter cut-off current              | IEBO          | -    | -    | 0.1  | $\mu A$ | $V_{EB}= 5V, I_E= 0A$            |
| DC current gain                      | $h_{FE}$      | 120  | -    | 400  | -       | $V_{CE}= 6V, I_C= 2mA$           |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | -    | 0.1  | 0.25 | V       | $I_C= 100mA, I_B= 10mA$          |
| Transition frequency                 | fT            | 60   | -    | -    | MHz     | $V_{CE}= 10V, I_E= -1mA$         |
| Collector output capacitance         | Cob           | -    | 1.4  | -    | pF      | $V_{CB}= 10V, f = 1MHz, I_E= 0A$ |

Notice 1) These are measured data of transistors assembled by PHENITEC SEMICONDUCTOR Corp. and are for reference only.

Notice 2) The contents described herein are subject to change without notice.

Fig.1 hFE - IC  
at VCE= 1V, Ta= 25C

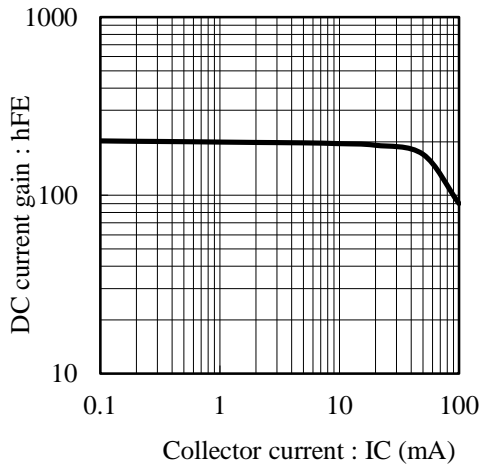


Fig.2 hFE - IC  
at VCE= 2V, Ta= 25C

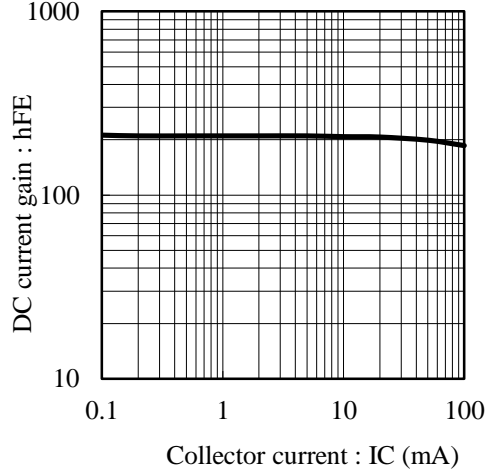


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

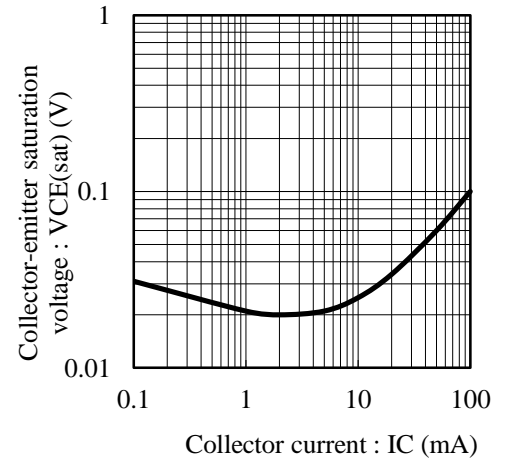


Fig.4 fT - IE  
at VCE= 10V, Ta= 25C

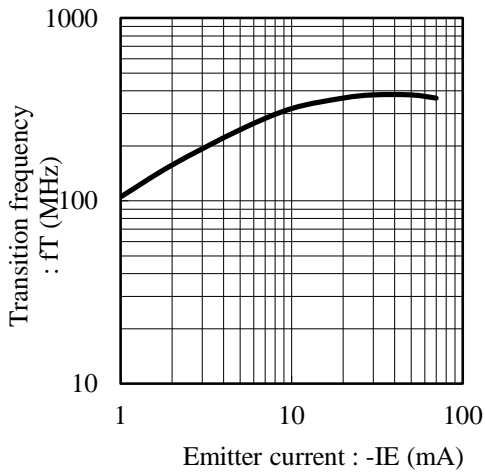


Fig.5 Cob - VCB  
at f= 1MHz, Ta= 25C

