

**Silicon NPN transistor epitaxial type
6C985**
[Applications]

General purpose amplifier

[Feature]

 Very low collector saturation voltage $V_{CE(sat)} = 0.5V$ (Max.) at $I_C = 1A$, $I_B = 100mA$
 PNP complementary pair with A5985

[Absolute maximum ratings (Ta=25C)]

| Characteristic | Symbol | Maximum ratings | Unit |
|---------------------------|--------|-----------------|------|
| Collector-base voltage | VCBO | 80 | V |
| Collector-emitter voltage | VCEO | 60 | V |
| Emitter-base voltage | VEBO | 5 | V |
| Collector current (DC) | IC | 1 | A |
| Collector current (Pulse) | IC | 2 | A |
| 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 | 80 | - | - | V | $I_C = 100\mu A$, $I_E = 0A$ |
| Collector-emitter breakdown voltage | BVCEO | 60 | - | - | V | $I_C = 10mA$, $I_B = 0A$ |
| Emitter-base breakdown voltage | BVEBO | 5 | - | - | V | $I_E = 100\mu A$, $I_C = 0A$ |
| Collector cut-off current | ICBO | - | - | 100 | nA | $V_{CB} = 60V$, $I_E = 0A$ |
| Collector cut-off current | ICES | - | - | 100 | nA | $V_{CES} = 60V$ |
| Emitter cut-off current | IEBO | - | - | 100 | nA | $V_{EB} = 4V$, $I_C = 0A$ |
| DC current gain 1 | hFE 1 | 130 | - | - | - | $V_{CE} = 5V$, $I_C = 1mA$ |
| DC current gain 2 | hFE 2 | 130 | - | 300 | - | $V_{CE} = 5V$, $I_C = 500mA$ |
| DC current gain 3 | hFE 3 | 80 | - | - | - | $V_{CE} = 5V$, $I_C = 1A$ |
| DC current gain 4 | hFE 4 | 30 | - | - | - | $V_{CE} = 5V$, $I_C = 2A$ |
| Collector-emitter saturation voltage 1 | $V_{CE(sat) 1}$ | - | - | 0.25 | V | $I_C = 500mA$, $I_B = 50mA$ |
| Collector-emitter saturation voltage 2 | $V_{CE(sat) 2}$ | - | - | 0.5 | V | $I_C = 1A$, $I_B = 100mA$ |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | - | - | 1.1 | V | $I_C = 1A$, $I_B = 100mA$ |
| Base-emitter on voltage | $V_{BE(on)}$ | - | - | 1.0 | V | $V_{CE} = 5V$, $I_C = 1A$ |
| Transition frequency | fT | 150 | - | - | MHz | $V_{CE} = 10V$, $I_E = -50mA$ |
| Collector output capacitance | Cob | - | - | 10 | 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.

No. 6C985-20190910

Fig.1 IC - VBE(on)
at VCE= 5V, Ta= 25C

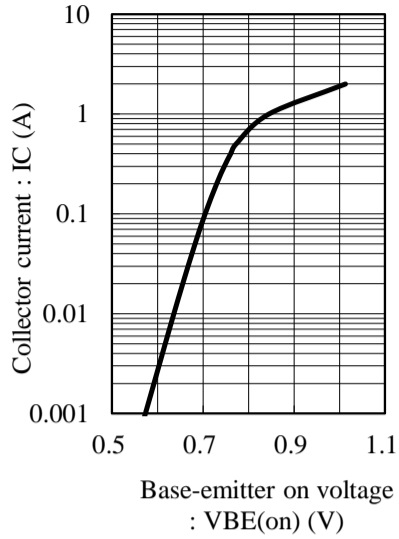


Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

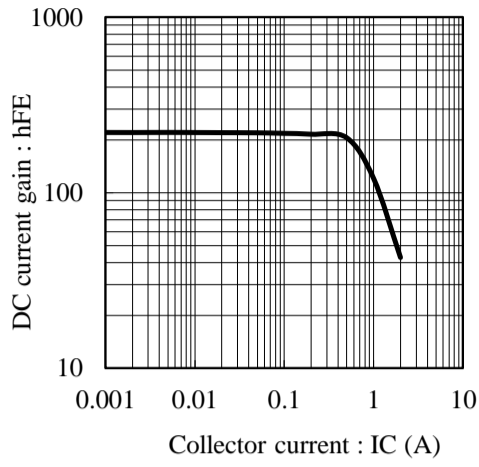


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

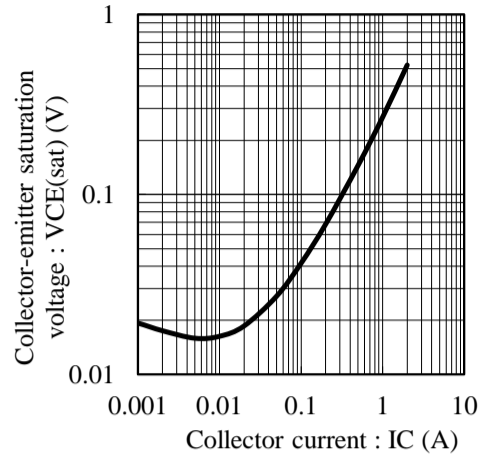


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

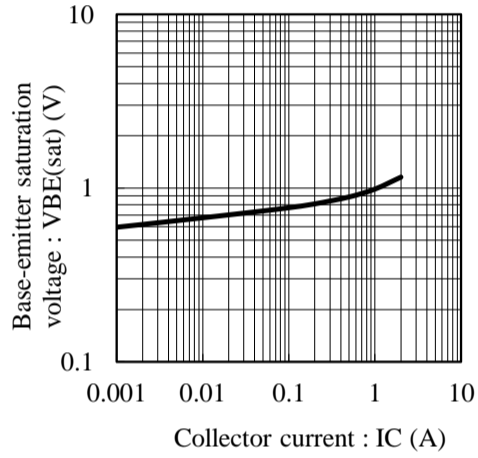


Fig.5 fT - IE
at VCE= 10V, Ta= 25C

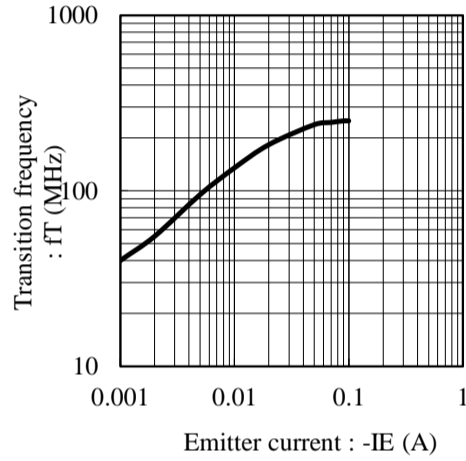


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

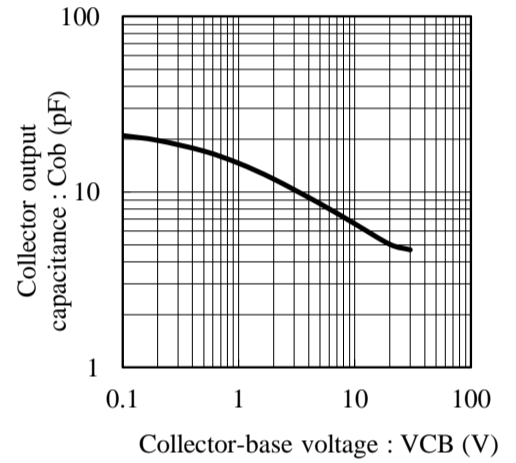


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

