

Silicon PNP transistor epitaxial type AP958

[Applications]

High voltage switching and amplifier

[Feature]

High voltage $V_{CEO} = -400V$

Low collector saturation voltage $V_{CE(sat)} = -0.75V$ (Max.) at $I_C = -50mA$, $I_B = -5mA$

Small collector output capacitance $C_{ob} = 3.5pF$ (Typ.) at $V_{CB} = -20V$

NPN complementary pair with CP958

[Absolute maximum ratings ($T_a = 25C$)]

| Characteristic | Symbol | Maximum ratings | Unit |
|---------------------------|--------|-----------------|------|
| Collector-base voltage | VCBO | -400 | V |
| Collector-emitter voltage | VCEO | -400 | V |
| Emitter-base voltage | VEBO | -6 | V |
| Collector current | IC | -300 | mA |
| Junction temperature | Tj | 150 | C |
| Storage temperature | Tstg | -55 to 150 | C |

[Electrical characteristics ($T_a = 25C$)]

| Characteristic | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--|-----------------|------|------|-------|---------|---|
| Collector-base breakdown voltage | BVCBO | -400 | - | - | V | $I_C = -100\mu A$ |
| Collector-emitter breakdown voltage | BVCEO | -400 | - | - | V | $I_C = -1mA$ |
| Collector-emitter breakdown voltage | BVCES | -400 | - | - | V | $I_C = -100\mu A$ |
| Emitter-base breakdown voltage | BVEBO | -6 | - | - | V | $I_E = -10\mu A$ |
| Collector cut-off current | ICBO | - | - | -0.1 | μA | $V_{CB} = -400V$ |
| Collector cut-off current | ICES | - | - | -1 | μA | $V_{CE} = -400V$ |
| Emitter cut-off current | IEBO | - | - | -0.1 | μA | $V_{EB} = -4V$ |
| DC current gain 1 | hFE 1 | 40 | - | - | - | $V_{CE} = -10V$, $I_C = -1mA$ |
| DC current gain 2 | hFE 2 | 80 | - | 300 | - | $V_{CE} = -10V$, $I_C = -10mA$ |
| DC current gain 3 | hFE 3 | 45 | - | - | - | $V_{CE} = -10V$, $I_C = -50mA$ |
| DC current gain 4 | hFE 4 | 40 | - | - | - | $V_{CE} = -10V$, $I_C = -100mA$ |
| Collector-emitter saturation voltage 1 | $V_{CE(sat) 1}$ | - | - | -0.5 | V | $I_C = -10mA$, $I_B = -1mA$ |
| Collector-emitter saturation voltage 2 | $V_{CE(sat) 2}$ | - | - | -0.75 | V | $I_C = -50mA$, $I_B = -5mA$ |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | - | - | -0.75 | V | $I_C = -10mA$, $I_B = -1mA$ |
| Transition frequency | fT | 50 | - | - | MHz | $V_{CE} = -10V$, $I_E = 10mA$ |
| Collector output capacitance | Cob | - | 3.5 | - | pF | $V_{CB} = -20V$, $f = 1MHz$, $I_E = 0A$ |

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 IC - VBE(on)
at VCE= -10V, Ta= 25C

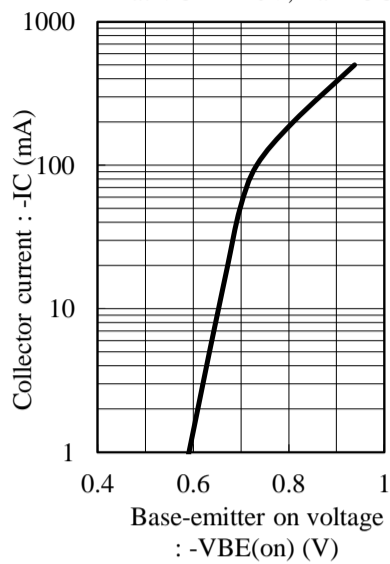


Fig.2 hFE - IC
at VCE= -10V, Ta= 25C

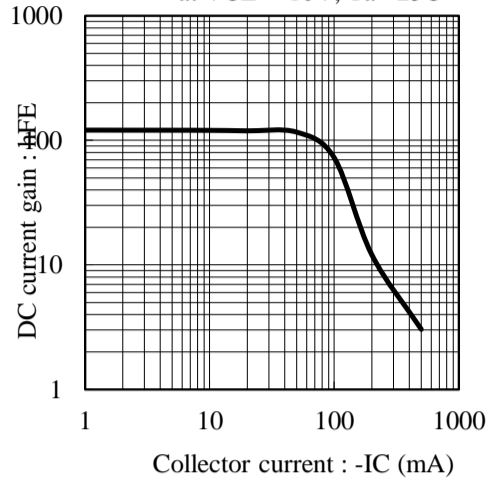


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

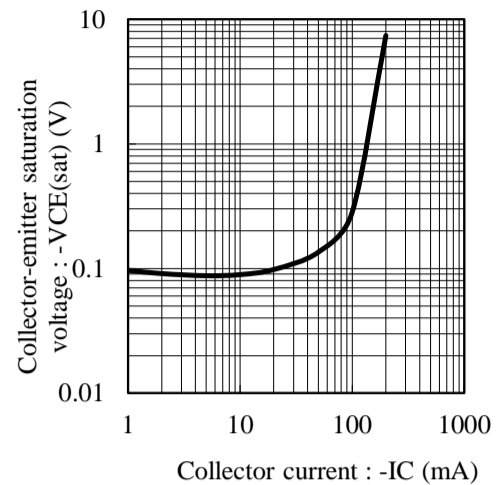


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

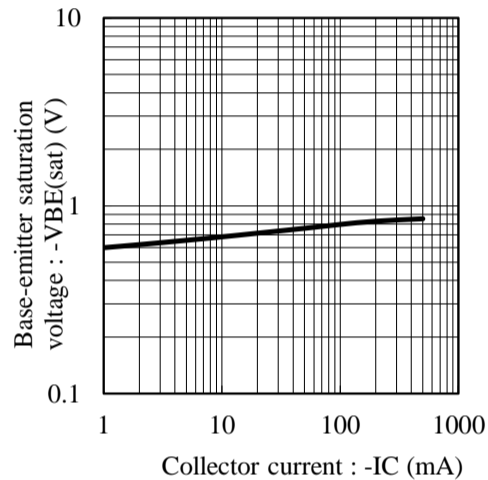


Fig.5 fT - IE
at VCE= -10V, Ta= 25C

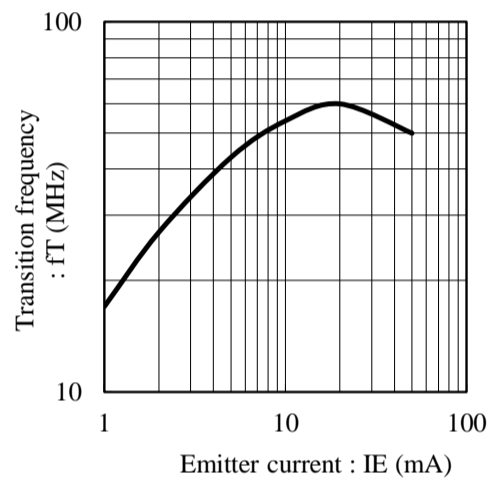


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

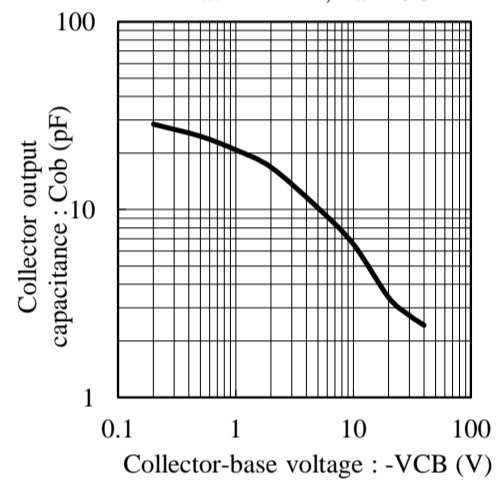


Fig.7 Cib - VEB
at f=1MHz, Ta= 25C

