

**Silicon PNP transistor epitaxial type
AP969**
[Applications]

Chopper

[Feature]

High VEBO voltage VEBO= -25V

[Absolute maximum ratings (Ta=25C)]

| Characteristic | Symbol | Maximum ratings | Unit |
|---------------------------|--------|-----------------|------|
| Collector-base voltage | VCBO | -40 | V |
| Collector-emitter voltage | VCEO | -35 | V |
| Emitter-base voltage | VEBO | -25 | V |
| Collector current | IC | -150 | 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 | -40 | - | - | V | IC= -10uA, IE= 0A |
| Collector-emitter breakdown voltage | BVCEO | -35 | - | - | V | IC= -10mA, IB= 0A |
| Emitter-base breakdown voltage | BVEBO | -25 | - | - | V | IE= -10uA, IC= 0A |
| Collector cut-off current | ICBO | - | - | -100 | nA | VCB= -10V, IE= 0A |
| Emitter cut-off current | IEBO | - | - | -100 | nA | VEB= -10V, IC= 0A |
| DC current gain | hFE | 100 | - | 400 | - | VCE= -0.15V, IC= -12mA |
| Collector-emitter saturation voltage 1 | VCE(sat) 1 | - | - | -0.15 | V | IC= -12mA, IB= -400uA |
| Collector-emitter saturation voltage 2 | VCE(sat) 2 | - | - | -0.2 | V | IC= -24mA, IB= -1mA |
| Base-emitter saturation voltage 1 | VBE(sat) 1 | - | - | -0.85 | V | IC= -12mA, IB= -400uA |
| Base-emitter saturation voltage 2 | VBE(sat) 2 | - | - | -1 | V | IC= -24mA, IB= -1mA |
| Transition frequency | fT | - | 30 | - | MHz | VCE= -6V, IE= 10mA |
| Collector output capacitance | Cob | - | 20 | - | pF | VCB= -6V, f = 1MHz, IE= 0A |
| Turn on time | ton | - | 550 | - | ns | VCC= -10V, IC= -10mA |
| Storage time | tstg | - | 3 | - | us | -IB1= IB2= 1mA |
| Fall time | tf | - | 750 | - | ns | |

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

No. AP969-20071128

Fig.1 IC - VBE(on)
at VCE = -0.15V, Ta = 25C

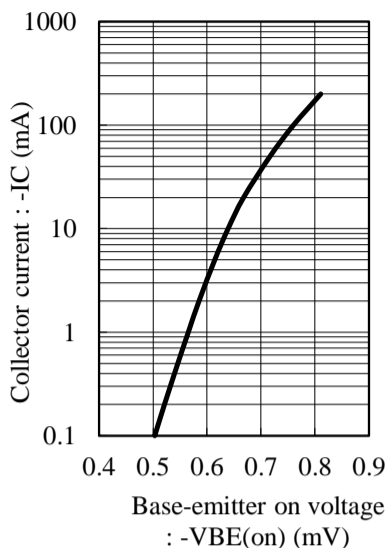


Fig.2 hFE - IC
at VCE = -0.15V, Ta = 25C

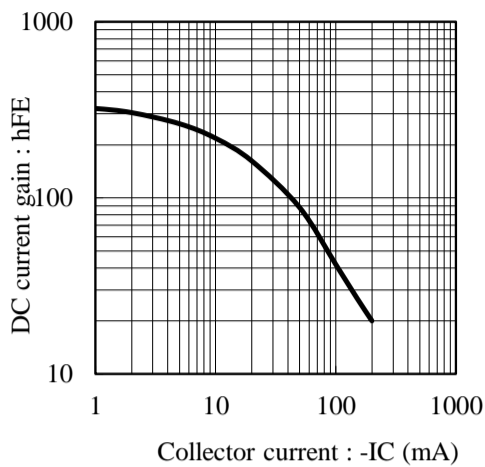


Fig.3 VCE(sat) - IC
at IC/IB = 30, Ta = 25C

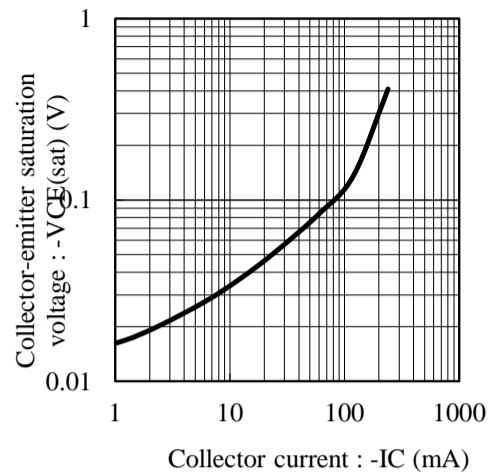


Fig.4 VCE(sat) - IC
at IC/IB = 24, Ta = 25C

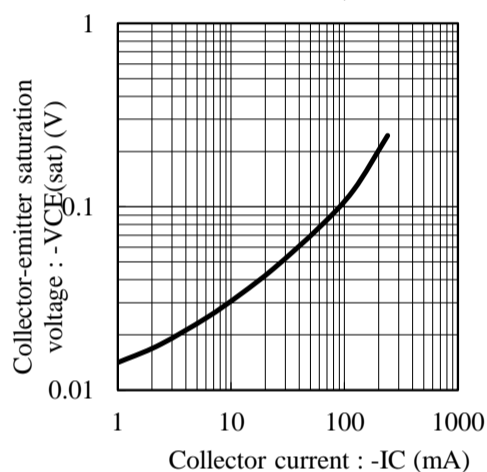


Fig.5 VBE(sat) - IC
at IC/IB = 30, Ta = 25C

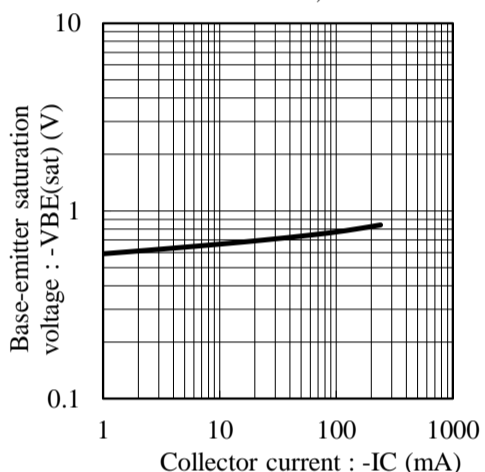


Fig.6 VBE(sat) - IC
at IC/IB = 24, Ta = 25C

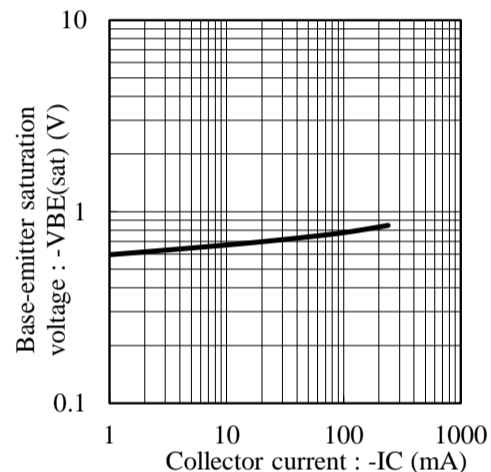


Fig.7 fT - IE
at VCE = -6V, Ta = 25C

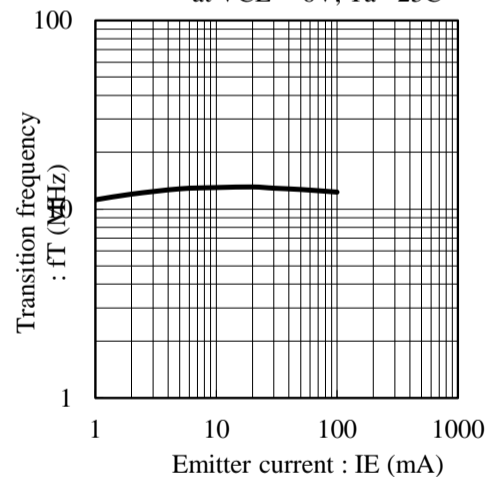


Fig.8 Cob - VCB
at f = 1MHz, Ta = 25C

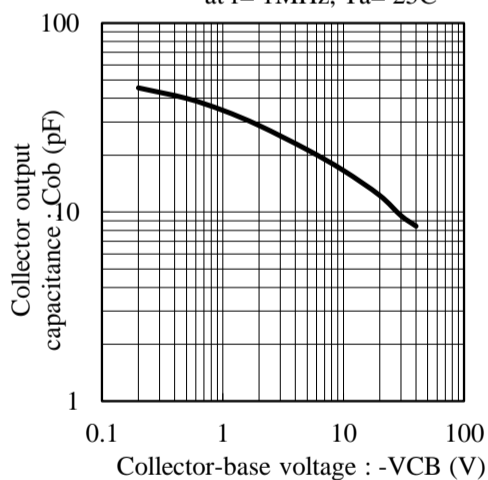


Fig.9 Cib - VEB
at f = 1MHz, Ta = 25C

