Ordering number:4633

PNP/NPN Epitaxial Planar Silicon Transistor

# 2SA1882/2SC4984

## Low-Frequency General-Purpose Amplifier Applications

## Applcations

- Low-frequency power amplifier applications.
- Medium-speed switching.
- Small-sized motor drivers.

## Features

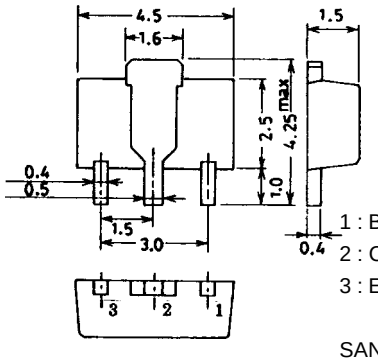
- Large current cpacity.
- Low collector-to-emitter saturation voltage.

## Package Dimensions

unit:mm

2038A

[2SA1882/2SC4984]




1 : Base
2 : Collector
3 : Emitter

SANYO : PCP
(Bottom view)

( ) : 2SA1882

## Specifications

### Absolute Maximum Ratings at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Collector-to-Base Voltage | $V_{CBO}$ | | (–)15 | V |
| Collector-to-Emitter Voltage | $V_{CEO}$ | | (–)15 | V |
| Emitter-to-Base Voltage | $V_{EBO}$ | | (–)5 | V |
| Collector Current | $I_C$ | | (–)1.5 | A |
| Collector Current (Pulse) | $I_{CP}$ | | (–)3 | A |
| Base Current | $I_B$ | | (–)300 | mA |
| Collector Dissipation | $P_C$ | Mounted on ceramic board (250mm$^2$×0.8mm) | 1.3 | W |
| Junction Temperature | Tj | | 150 | ˚C |
| Storage Temperature | Tstg | | –55 to +150 | ˚C |

### Electrical Characteristics at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=(–)12V, $I_E$=0 | | | (–)100 | nA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=(–)4V, $I_C$=0 | | | (–)100 | nA |
| DC Current Gain | $h_{FE}1$ | $V_{CE}$=(–)2V, $I_C$=(–)50mA | 140* | | 560* | |
| | $h_{FE}2$ | $V_{CE}$=(–)2V, $I_C$=(–)1A | 70 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=(–)2V, $I_C$=(–)50mA | | (300) | | MHz |
| | | | | 200 | | MHz |
| Output Capacitance | $C_{ob}$ | $V_{CB}$=(–)10V, f=1MHz | | (15)10 | | pF |

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges,or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

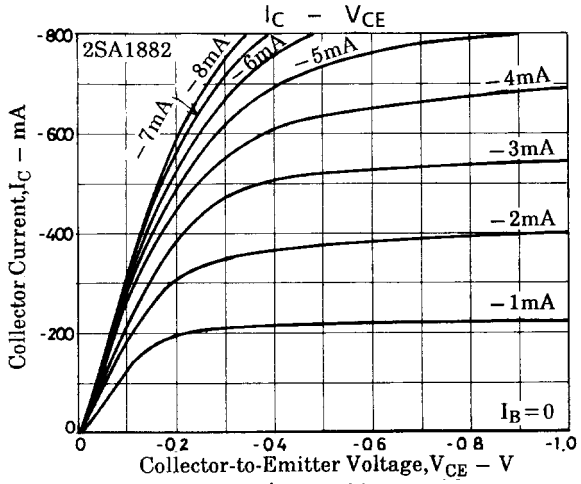

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

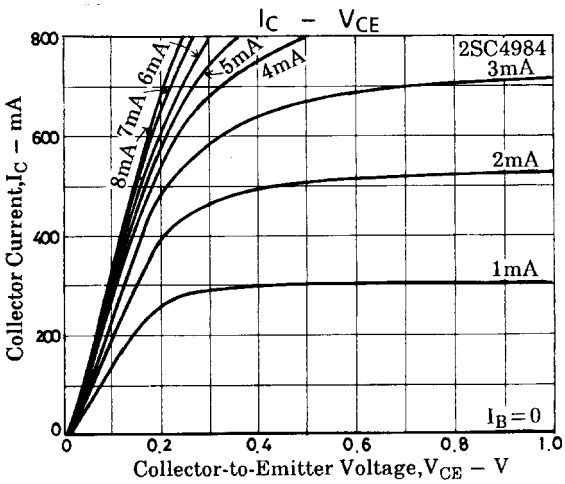
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}1$ | $I_C$=(–)5mA, $I_B$=(–)0.5mA | | (–)10 | (–)25 | mV |
| | $V_{CE(sat)}2$ | $I_C$=(–)500mA, $I_B$=(–)25mA | | (–)120 | (–)240 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=(–)500mA, $I_B$=(–)25mA | | (–)0.9 | (–)1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=–10μA, $I_E$=0 | (–)15 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=–1mA, $R_{BE}$=∞ | (–)15 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=–10μA, $I_C$=0 | (–)5 | | | V |

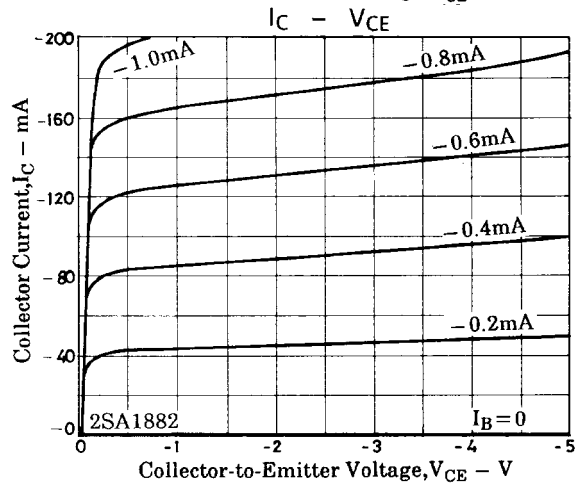
* : The 2SA1882/2SC4984 are classified by 50mA $h_{FE}$ as follows :

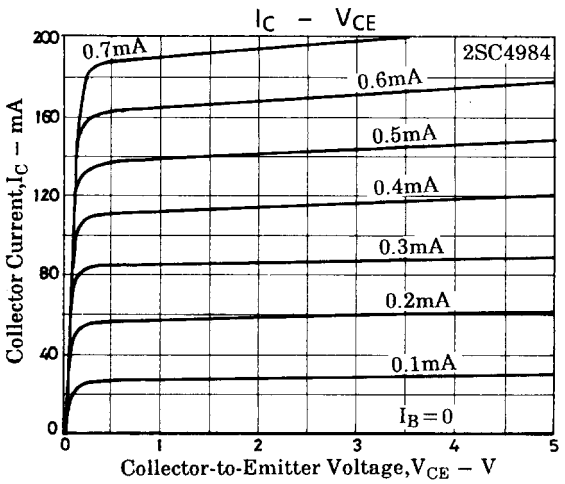
| | | |
|---|---|---|
| 140 S 280 | 200 T 400 | 280 U 560 |

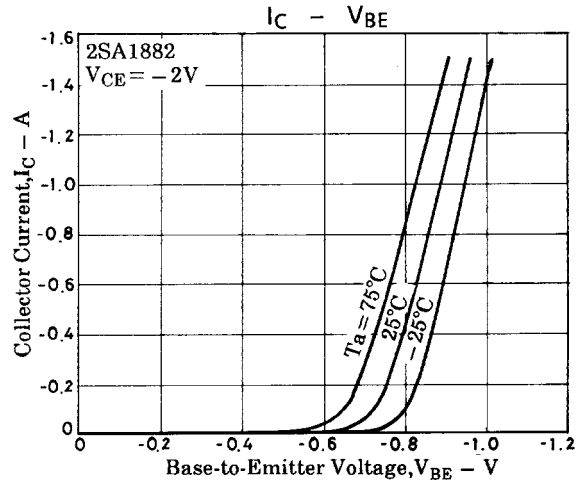
Marking : 2SA1882 : AI
2SC4984 : CT

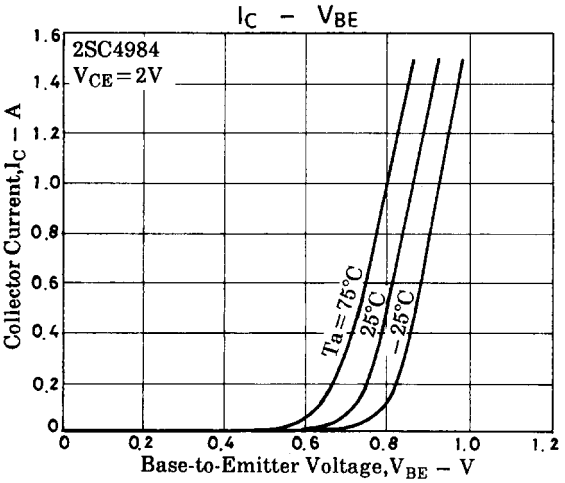


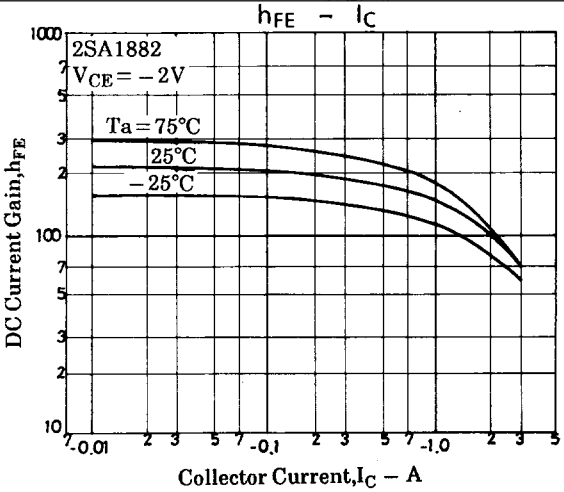



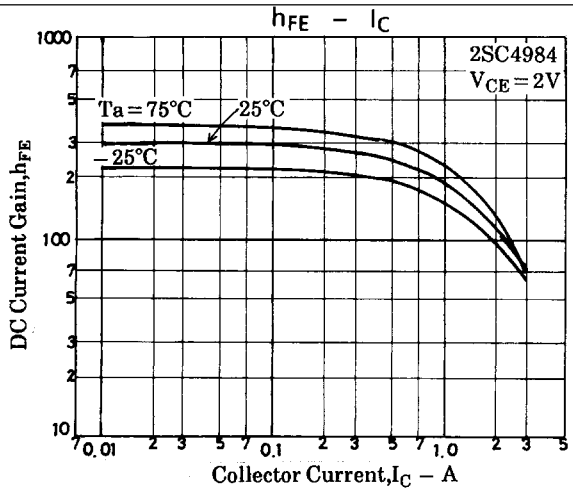



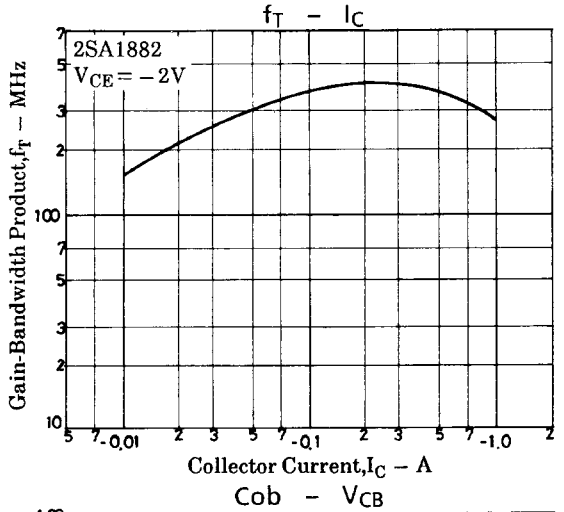
$h_{FE}$ – $I_C$



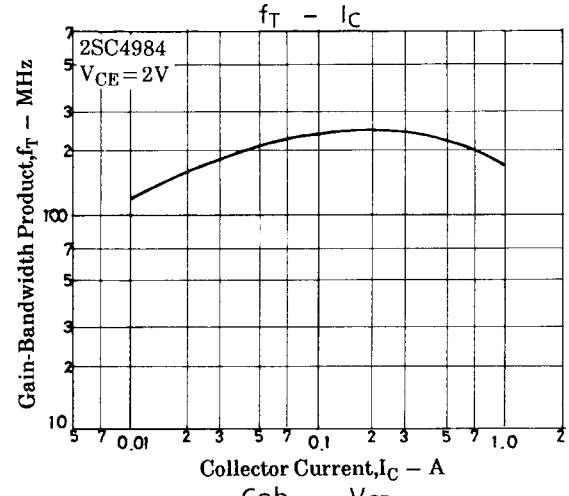

$h_{FE}$ – $I_C$



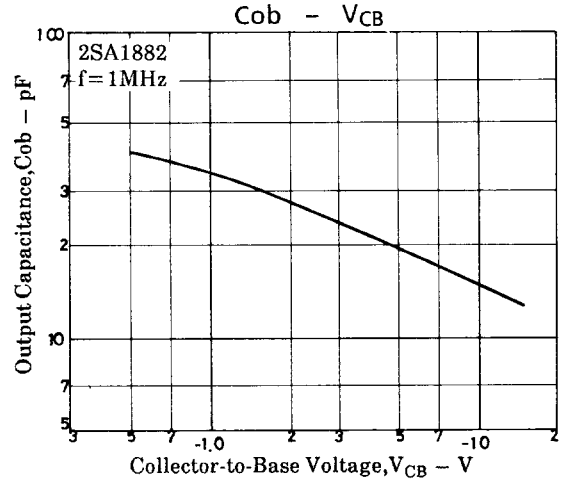

$f_T$ – $I_C$



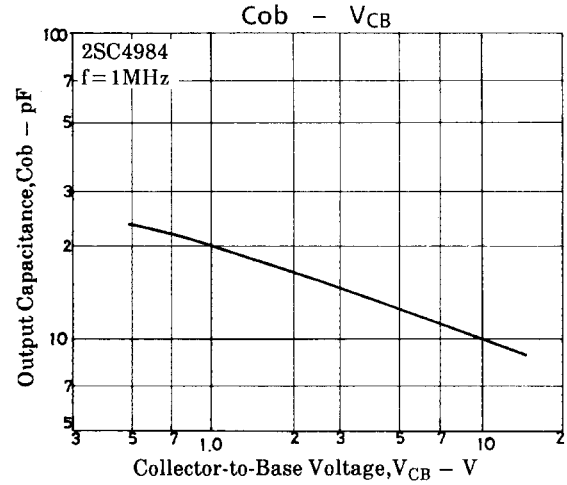

$f_T$ – $I_C$



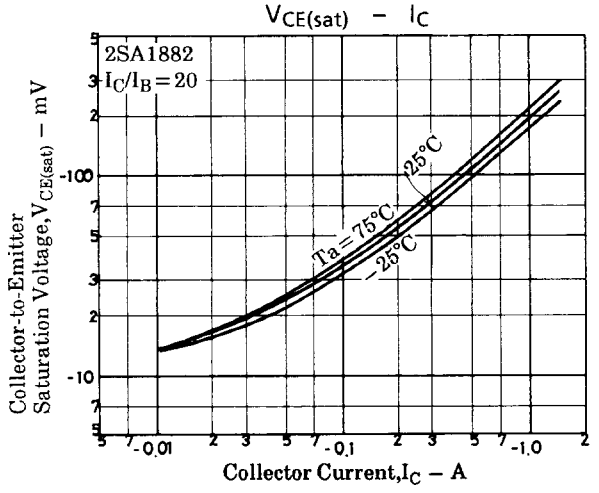

Cob – $V_{CB}$



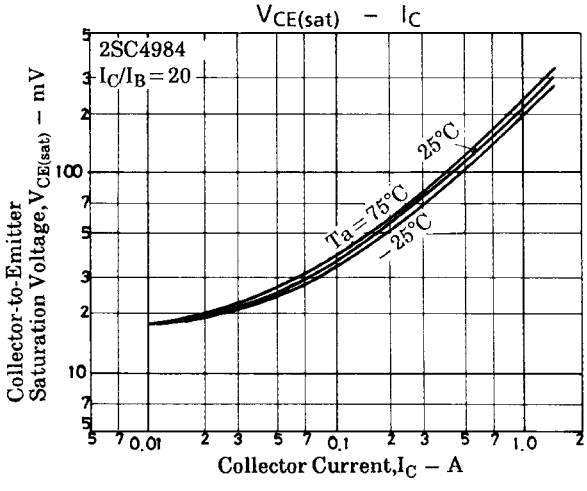

Cob – $V_{CB}$

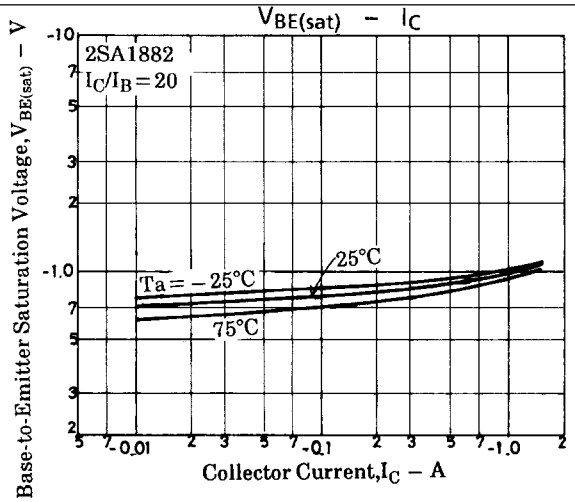


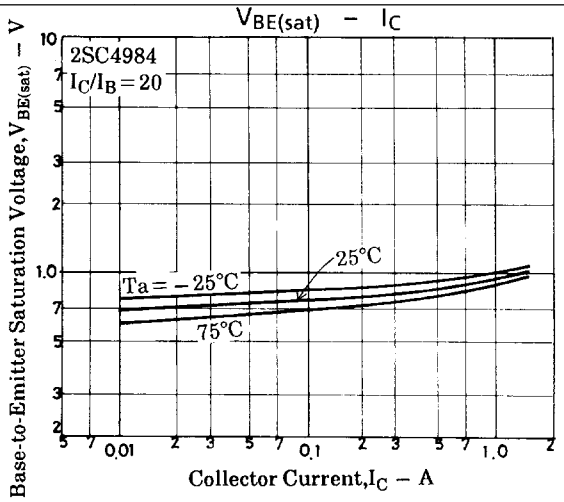

$V_{CE(sat)}$ – $I_C$

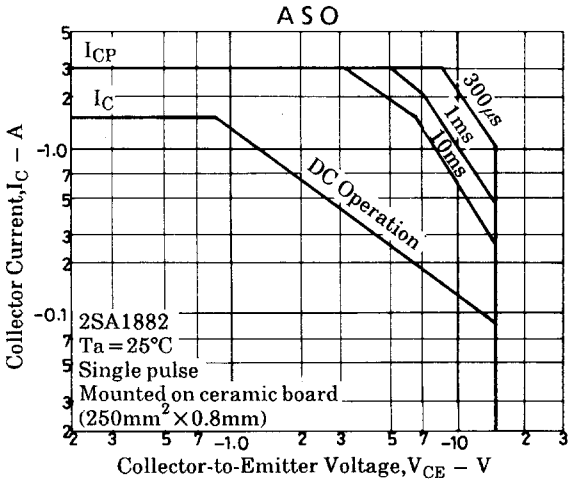


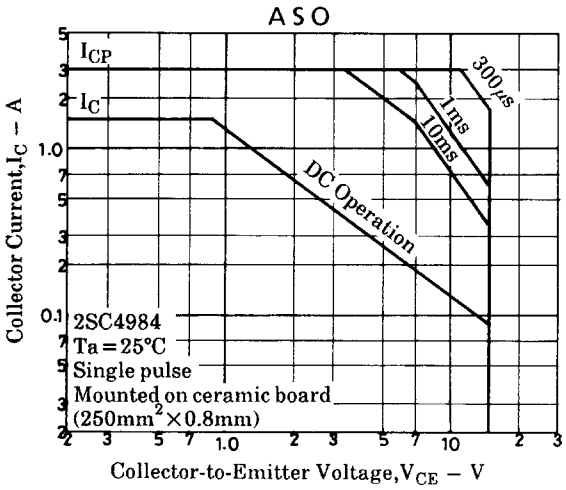

$V_{CE(sat)}$ – $I_C$




VBE(sat) – IC
2SA1882
IC/IB=20
Ta=–25°C
25°C
75°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A


VBE(sat) – IC
2SC4984
IC/IB=20
Ta=–25°C
25°C
75°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A


ASO
ICP
IC
300μs
1ms
10ms
DC Operation
2SA1882
Ta=25°C
Single pulse
Mounted on ceramic board
(250mm2×0.8mm)
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V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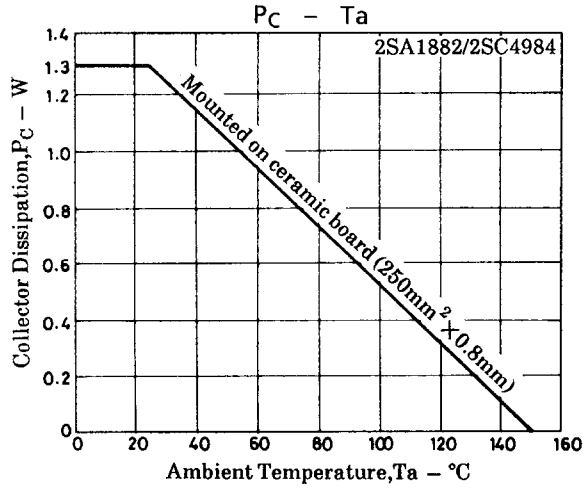
Collector-to-Emitter Voltage, VCE – V


PC – Ta
2SA1882/2SC4984
Mounted on ceramic board (250mm2×0.8mm)
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C