Ordering number: EN 2516

SANYO

No.2516

# 2SB1295/2SD1935

PNP/NPN Epitaxial Planar Silicon Transistors

## Low-Frequency General-Purpose Amp Applications

**Applications**

. AF power amp, medium-speed switching, small-sized motor drivers

**Features**

. Large current capacity
. Low collector to emitter saturation voltage
. Very small-sized package permitting sets to be made smaller and slimer

( ): 2SB1295

**Absolute Maximum Ratings** at Ta=25°C

| | | | 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 | $I_C$ | (-)0.8 | A |
| Collector Current(Pulse) | $I_{CP}$ | (-)3 | A |
| Collector Dissipation | $P_C$ | 200 | mW |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | -55 to +150 | °C |

**Electrical Characteristics** at Ta=25°C

| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=(-)12V,$I_E$=0 | | | (-)100 | nA |
| Emitter Curoff Current | $I_{EBO}$ | $V_{EB}$=(-)4V,$I_C$=0 | | | (-)100 | nA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=(-)2V,$I_C$=(-)50mA | 135* | | 900* (600) | |
| | $h_{FE(2)}$ | $V_{CE}$=(-)2V,$I_C$=(-)800mA | 80 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=(-)2V,$I_C$=(-)50mA | | 200 (300) | | MHz |
| Output Capacitance | $c_{ob}$ | $V_{CB}$=(-)10V,f=1MHz | | (15)10 | | pF |

Continued on next page.

*: The 2SB1295/2SD1935 are classified by 50mA $h_{FE}$ as follows:

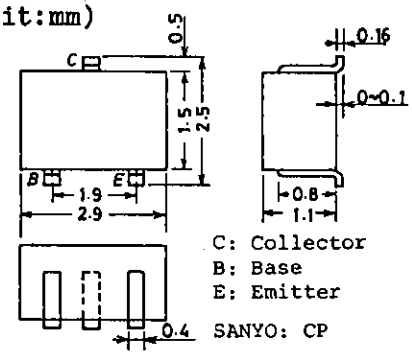
| | | | | |
|---|---|---|---|---|
| 2SB1295 | 135 5 270 | 200 6 400 | 300 7 600 | |
| 2SD1935 | 135 5 270 | 200 6 400 | 300 7 600 | 450 8 900 |

Marking : 2SB1295:UL/2SD1935:CT

$h_{FE}$ rank: 2SB1295:5,6,7/2SD1935:5,6,7,8

**Package Dimensions** 2018A

(unit:mm)




C: Collector
B: Base
E: Emitter

SANYO: CP

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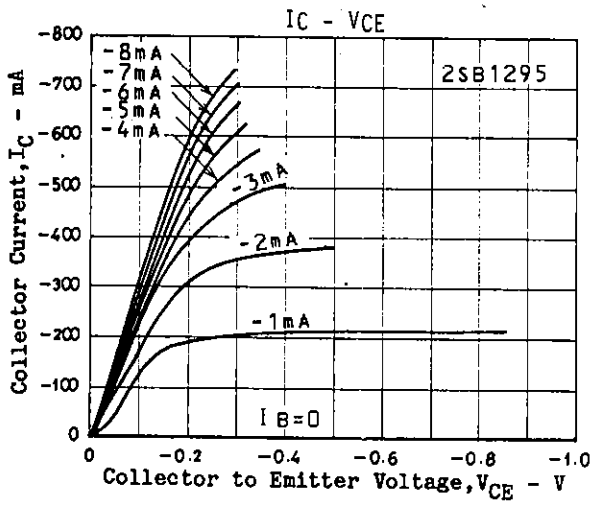
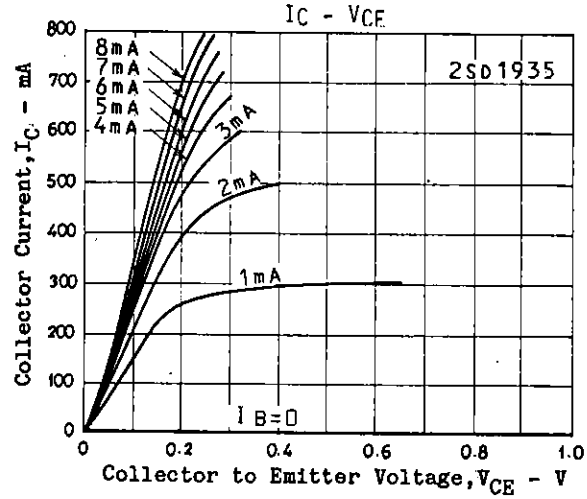
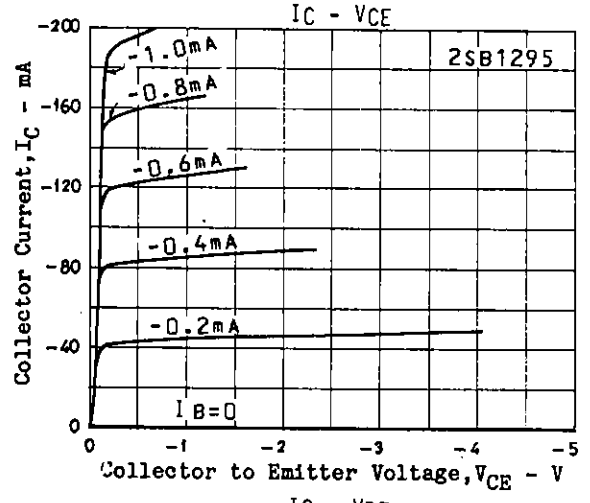
TOKYO OFFICE Tokyo Bldg.,1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

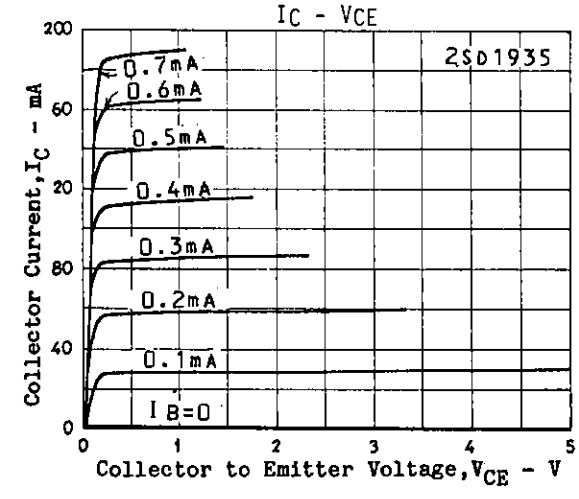
Continued from preceding page.

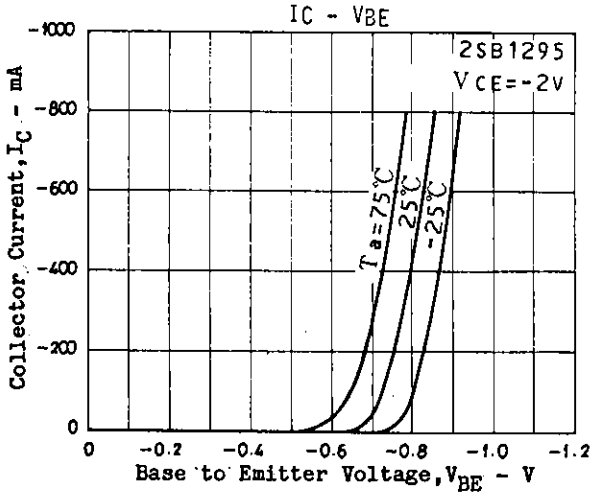
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| C-E Saturation Voltage | $V_{CE(sat)1}$ | $I_C$=(-)5mA, $I_B$=(-)0.5mA | | (-)10 | (-)25 | mV |
| | $V_{CE(sat)2}$ | $I_C$=(-)400mA, $I_B$=(-)20mA | | (-)100 | (-)200 | mV |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C$=(-)400mA, $I_B$=(-)20mA | | (-)0.9 | (-)1.2 | V |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=(-)10μA, $I_E$=0 | (-)15 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=(-)1mA, $R_{BE}$=∞ | (-)15 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=(-)10μA, $I_C$=0 | (-)5 | | | V |

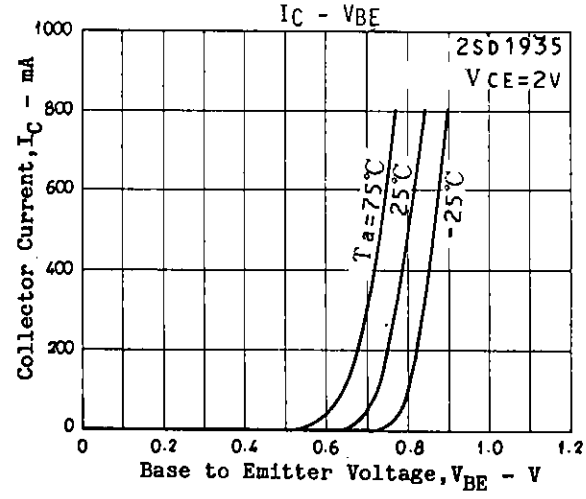


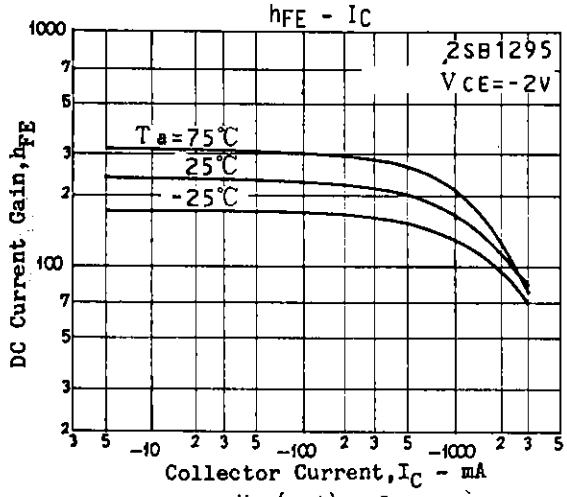



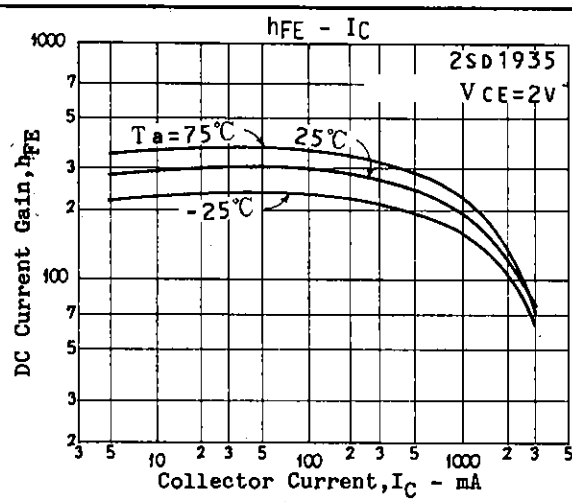



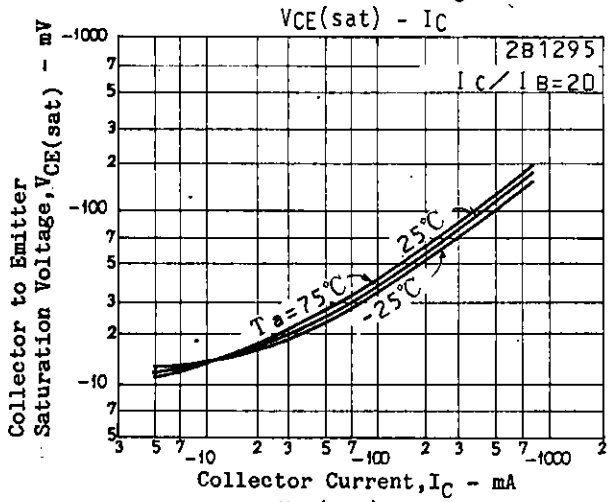



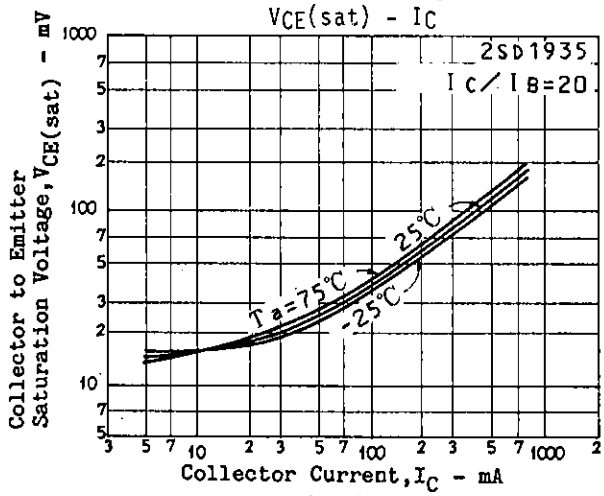



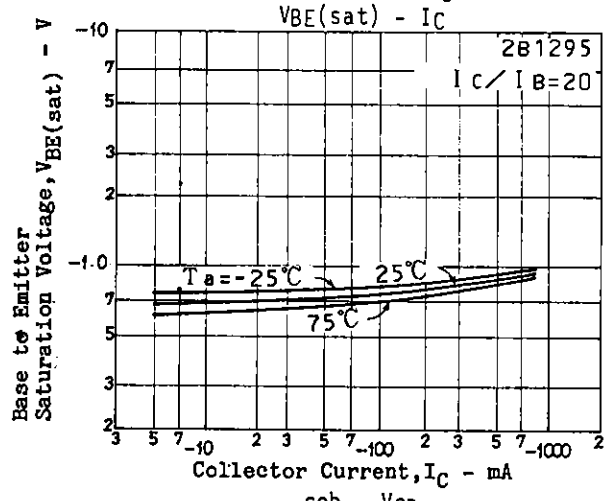



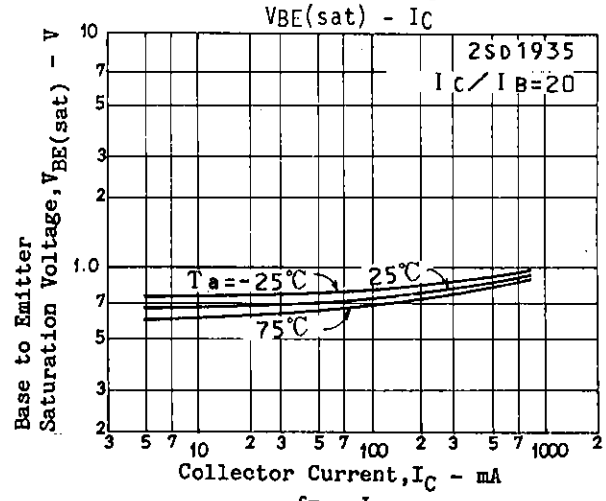

hFE - IC
2SB1295
VCE=-2V
Ta=75℃
25℃
-25℃
DC Current Gain, hFE
Collector Current, IC - mA

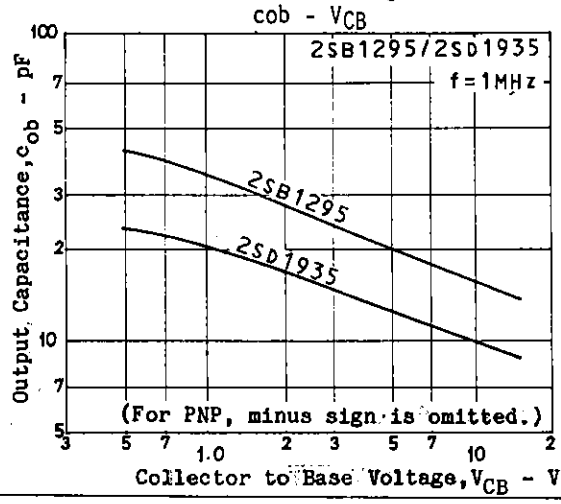

hFE - IC
2SD1935
VCE=2V
Ta=75℃
25℃
-25℃
DC Current Gain, hFE
Collector Current, IC - mA

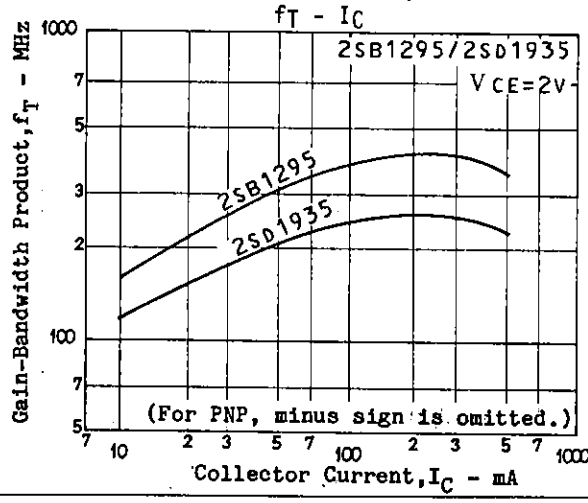

VCE(sat) - IC
2B1295
IC/IB=20
Ta=75℃
25℃
-25℃
Collector to Emitter Saturation Voltage, VCE(sat) - mV
Collector Current, IC - mA

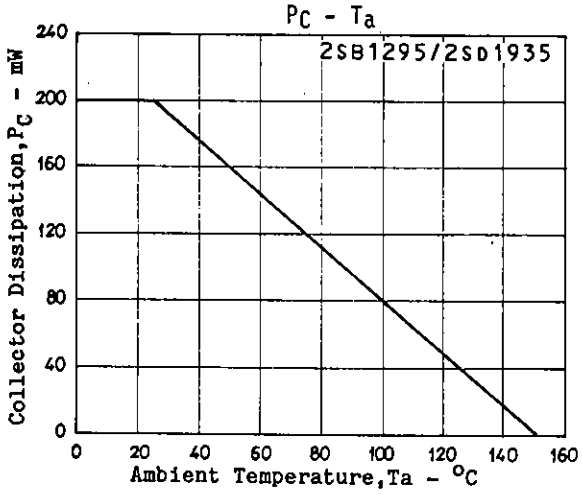

VCE(sat) - IC
2SD1935
IC/IB=20
Ta=75℃
25℃
-25℃
Collector to Emitter Saturation Voltage, VCE(sat) - mV
Collector Current, IC - mA


VBE(sat) - IC
2B1295
IC/IB=20
Ta=-25℃
25℃
75℃
Base to Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA


VBE(sat) - IC
2SD1935
IC/IB=20
Ta=-25℃
25℃
75℃
Base to Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - mA


cob - VCB
2SB1295/2SD1935
f=1MHz
2SB1295
2SD1935
(For PNP, minus sign is omitted.)
Output Capacitance, cob - pF
Collector to Base Voltage, VCB - V


fT - IC
2SB1295/2SD1935
VCE=2V
2SB1295
2SD1935
(For PNP, minus sign is omitted.)
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA

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