



2SB1295/2SD1935

Low-Frequency General-Purpose Amplifier Applications

Applications

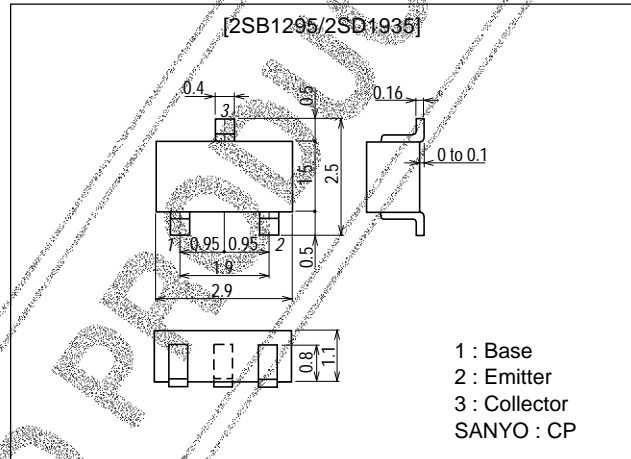
AF power amplifier, medium-speed switching, small-sized motor drivers.

Features

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

Package Dimensions

unit:mm
2018B



() : 2SB1295

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 | | (-)0.8 | A |
| Collector Current (Pulse) | I_{CP} | | (-)3 | A |
| Collector Dissipation | P_C | | 200 | mW |
| Junction Temperature | T_j | | 150 | °C |
| Storage Temperature | T_{stg} | | -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_{FE1} | $V_{CE}=(-)2V, I_C=(-)50mA$ | 135* | | 900* | |
| | h_{FE2} | $V_{CE}=(-)2V, I_C=(-)800mA$ | 80 | | (600) | |

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

Continued on next page.

| 2SB1295 | Rank | 5 | 6 | 7 |
|----------|------|------------|------------|------------|
| h_{FE} | | 135 to 270 | 200 to 400 | 300 to 600 |

| 2SB1935 | Rank | 5 | 6 | 7 | 8 |
|----------|------|------------|------------|------------|------------|
| h_{FE} | | 135 to 270 | 200 to 400 | 300 to 600 | 450 to 900 |

Marking: 2SB1295 : UL/2SD1935 : CT

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

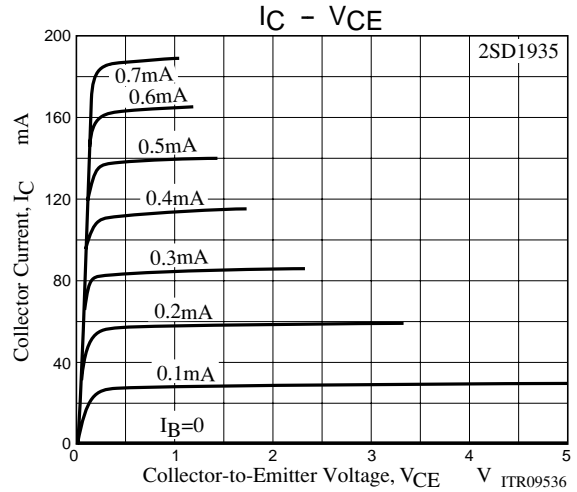
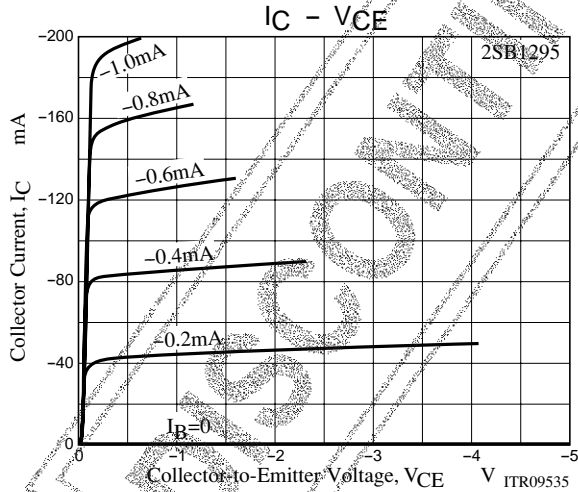
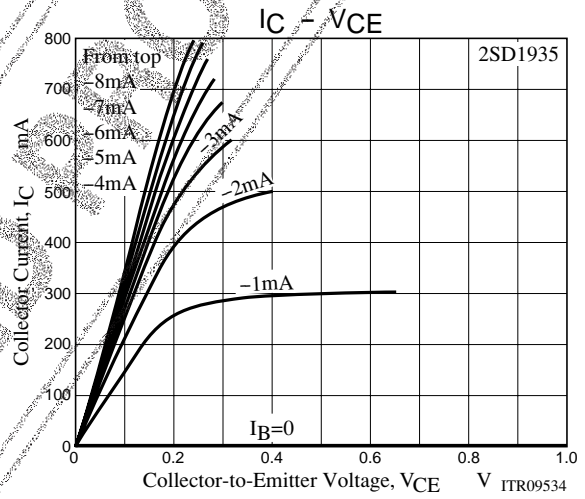
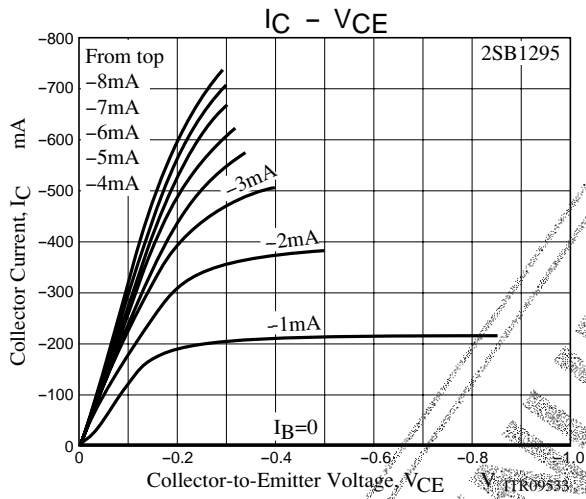
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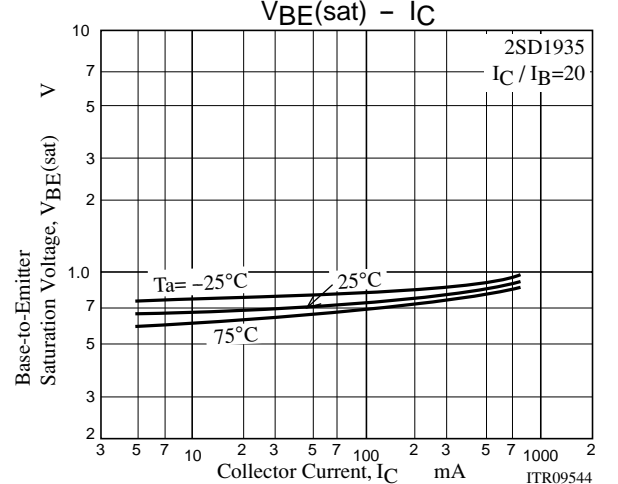
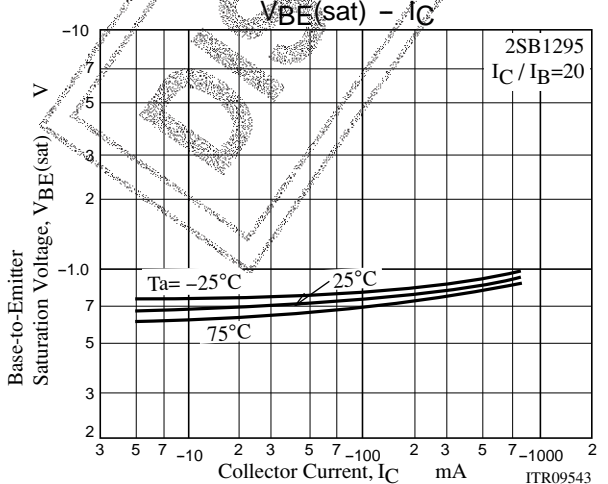
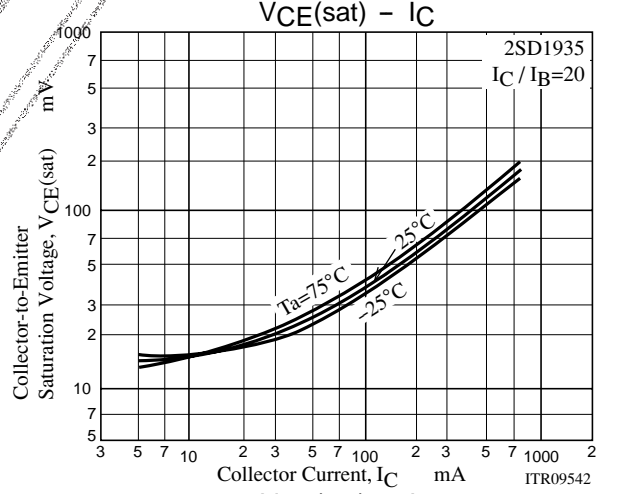
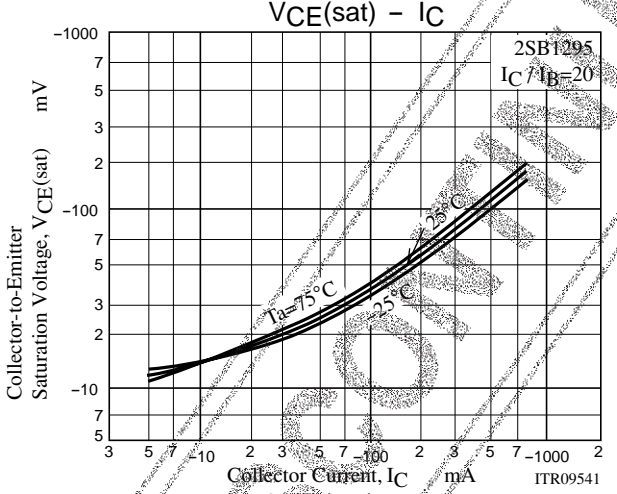
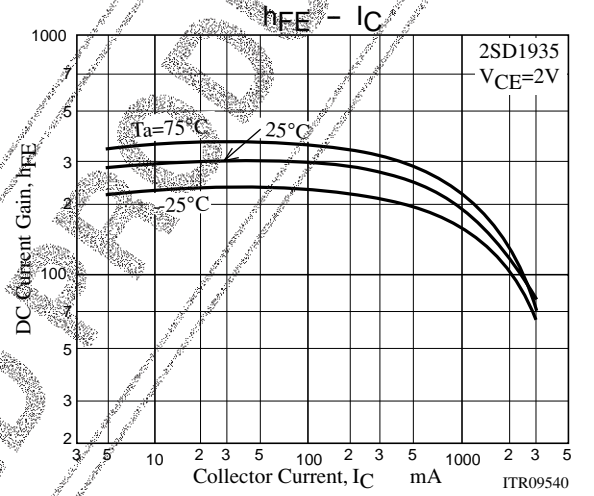
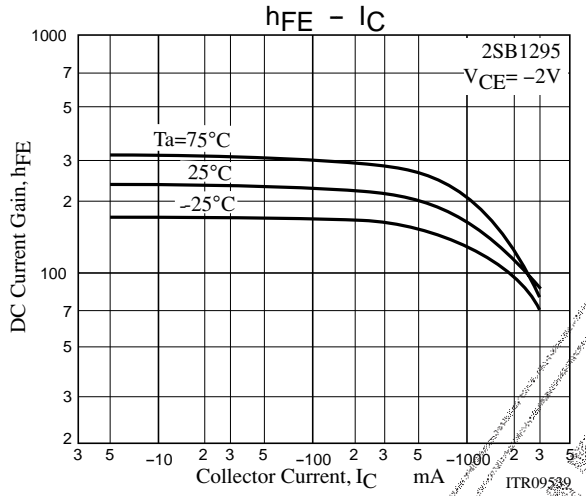
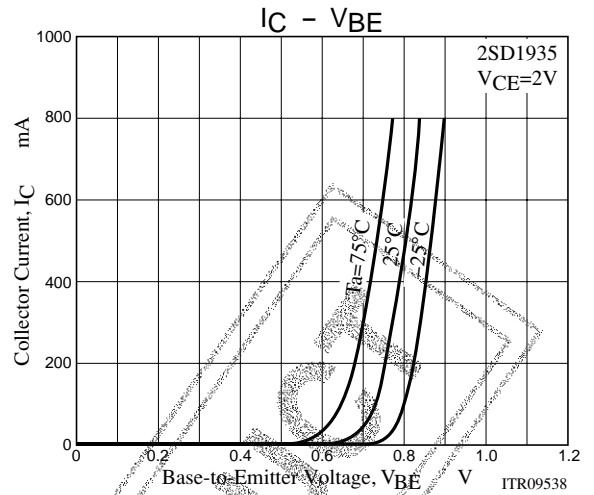
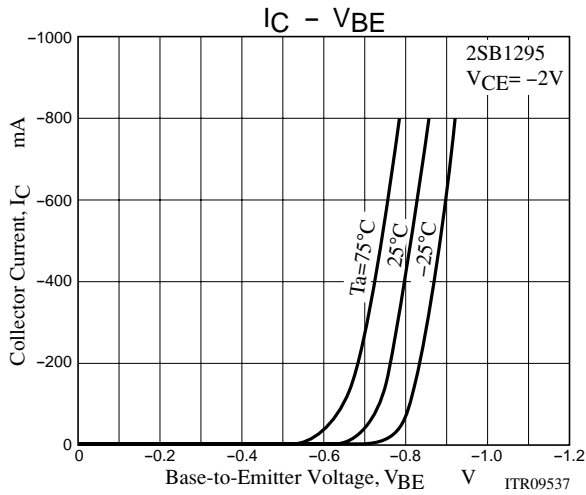
2SB1295/2SD1935

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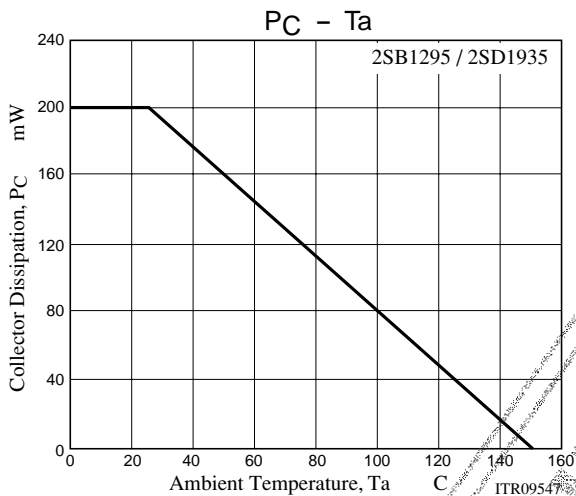
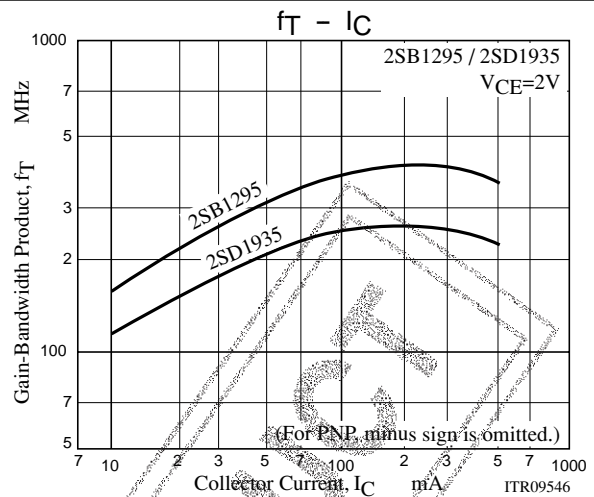
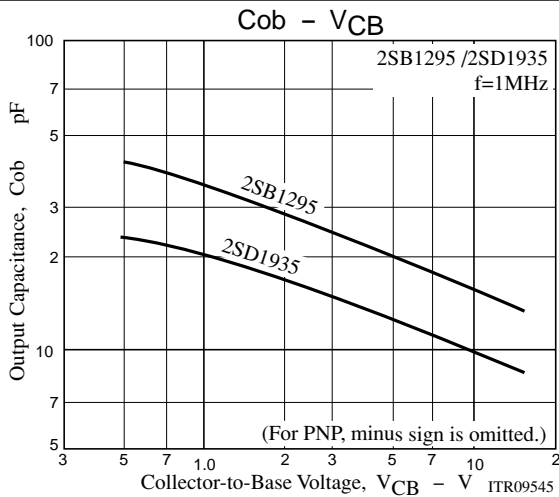
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------|-----------------------------|---------|--------|--------|------|
| | | | min | typ | max | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)2V, I_C=(-)50mA$ | | 200 | | MHz |
| | | | | (300) | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | (15) | | pF |
| | | | | 10 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)1}$ | $I_C=(-)5mA, I_B=(-)0.5mA$ | | (-)10 | (-)25 | mV |
| | $V_{CE(sat)2}$ | $I_C=(-)400mA, I_B=(-)20mA$ | | (-)100 | (-)200 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=(-)400mA, I_B=(-)20mA$ | | (-)0.9 | (-)1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$ | | (-)15 | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | | (-)15 | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)10\mu A, I_C=0$ | | (-)5 | | V |



2SB1295/2SD1935



2SB1295/2SD1935



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