



2SB1133 / 2SD1666

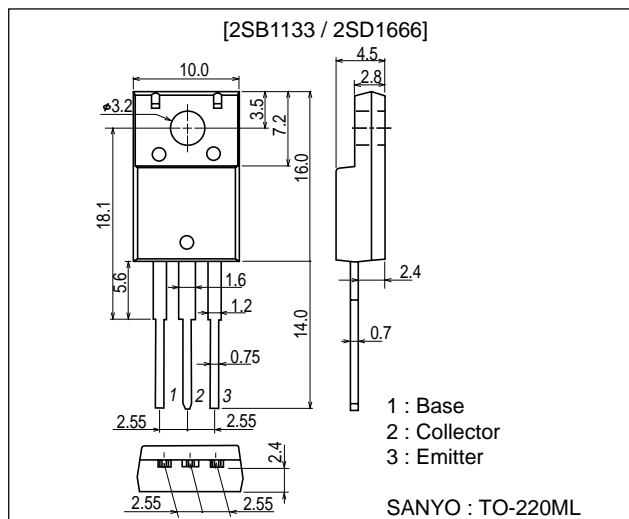
Low-Frequency General-Purpose Amplifier Applications

Features

- Wide ASO(Adoption of MBIT process).
- Micaless package facilitating easy mounting.
- High reliability.

Package Dimensions

unit : mm
2041A



Specifications

() : 2SB1133

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | (-)60 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | (-)60 | V |
| Emitter-to-Base Voltage | V _{EBO} | | (-)6 | V |
| Collector Current | I _C | | (-)3 | A |
| Collector Current (Pulse) | I _{CP} | | (-)8 | A |
| Collector Dissipation | P _C | | 2 | W |
| | | T _c =25°C | 25 | W |
| Junction Temperature | T _j | | 150 | °C |
| Storage Temperature | T _{stg} | | -40 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|---------------------|---|---------|-----|--------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I _{CB0} | V _{CB} =(-)40V, I _E =0 | | | (-)100 | μA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =(-)4V, I _C =0 | | | (-)100 | μA |
| DC Current Gain | h _{FE} (1) | V _{CE} =(-)5V, I _C =(-)0.5A | *70 | | *280 | |
| | h _{FE} (2) | V _{CE} =(-)5V, I _C =(-)3A | 20 | | | |

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* : The 2SB1133 / 2SD1666 are classified by 0.5A h_{FE} as follows :

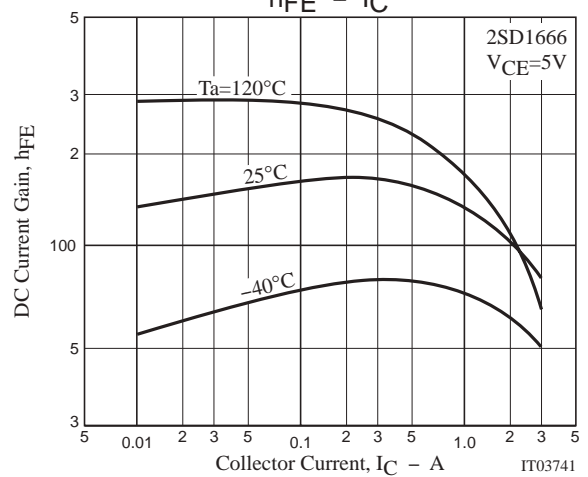
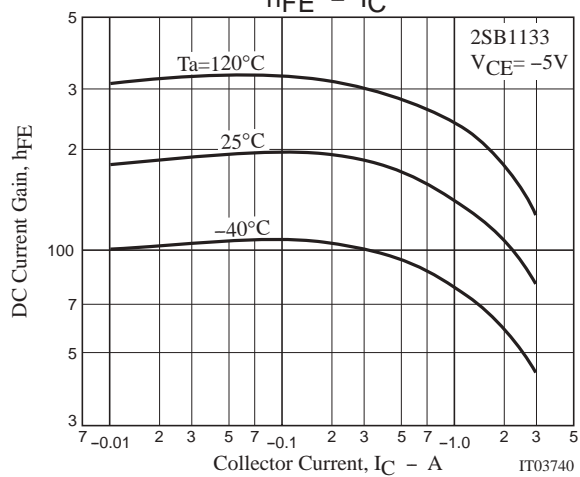
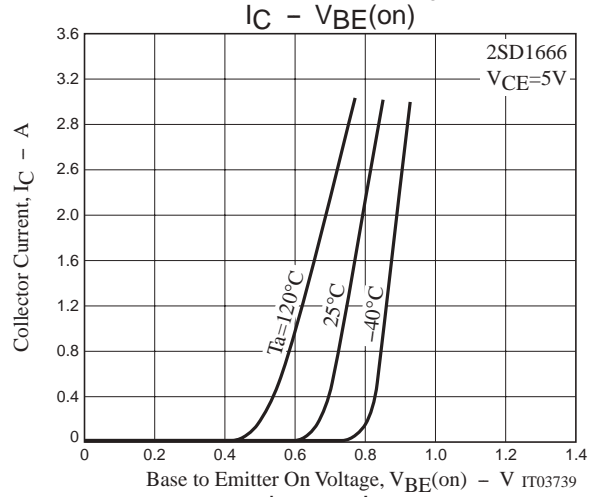
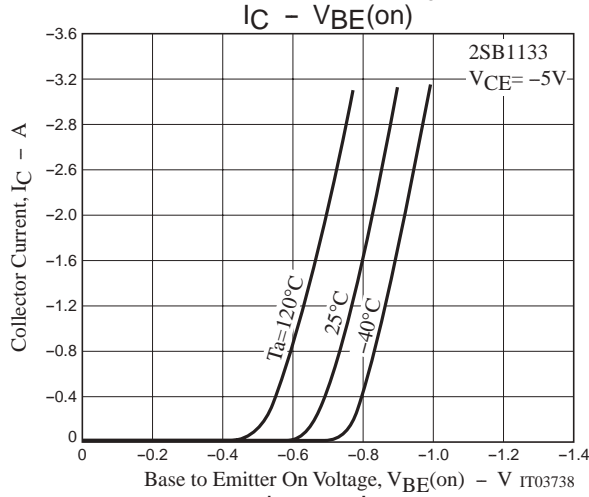
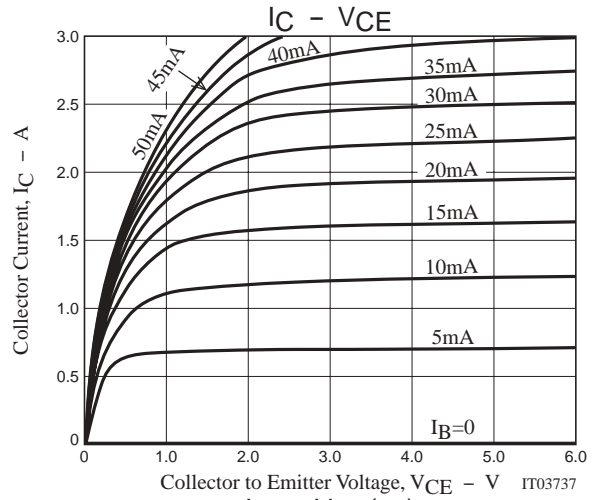
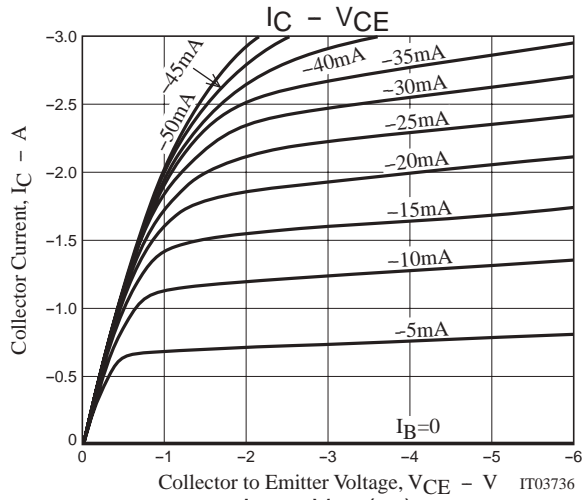
| Rank | Q | R | S |
|-----------------|-----------|------------|------------|
| h _{FE} | 70 to 140 | 100 to 200 | 140 to 280 |

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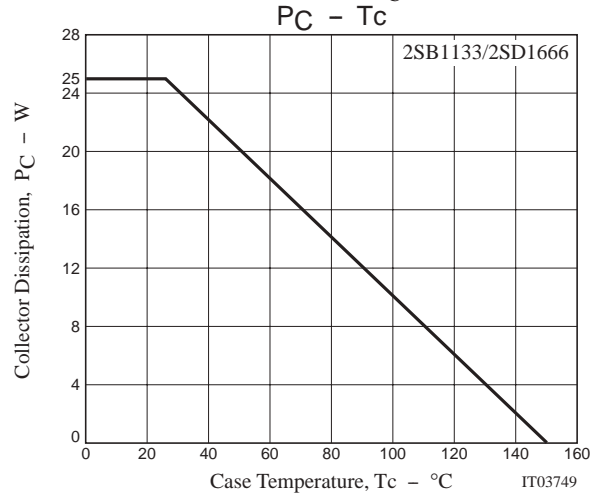
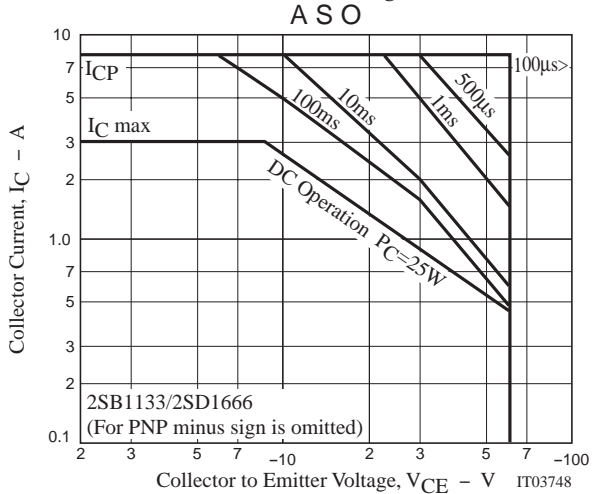
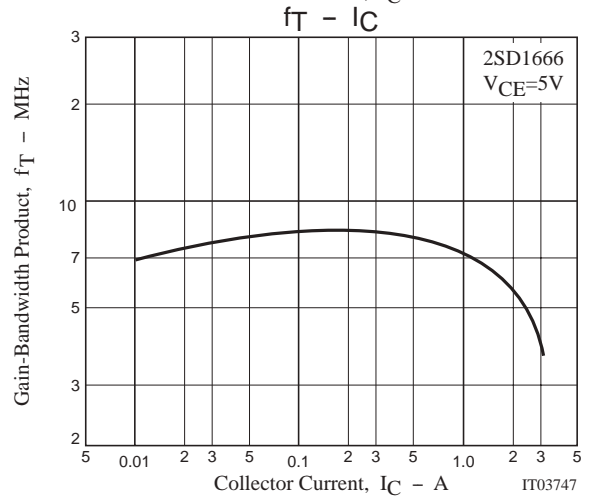
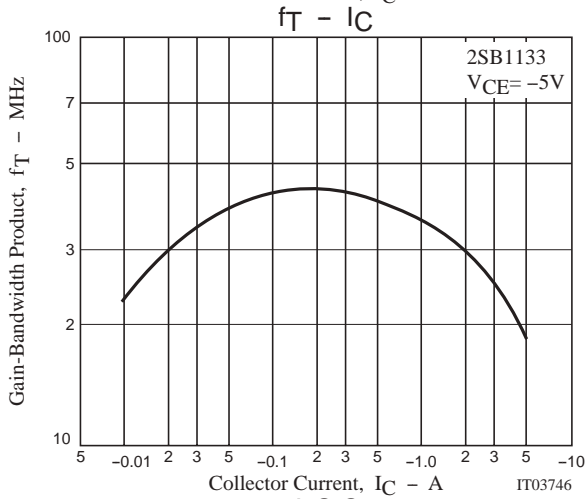
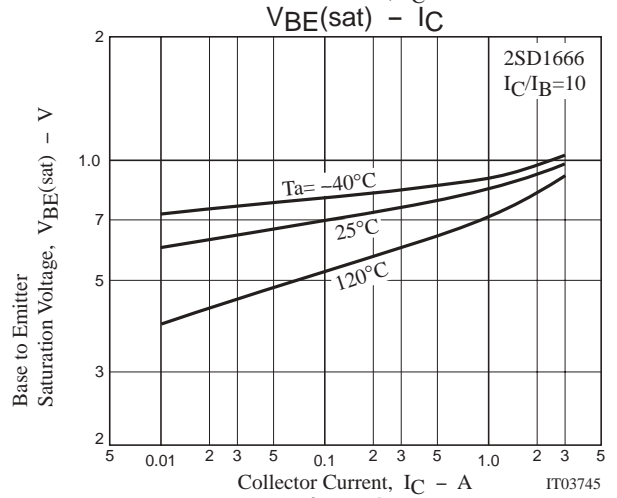
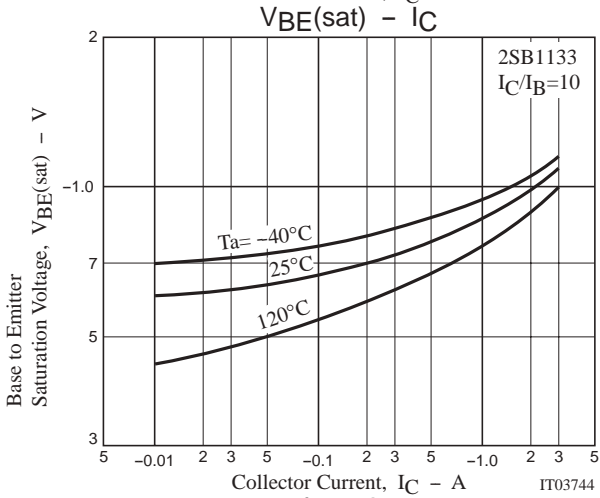
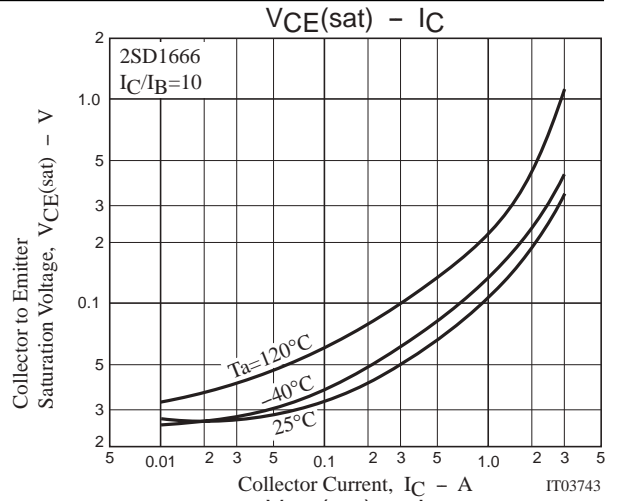
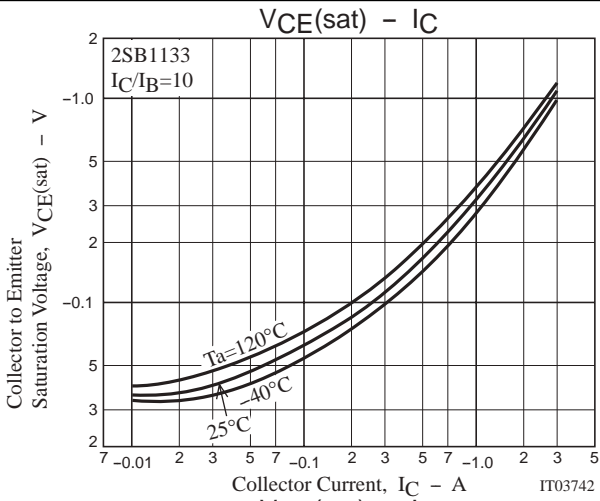
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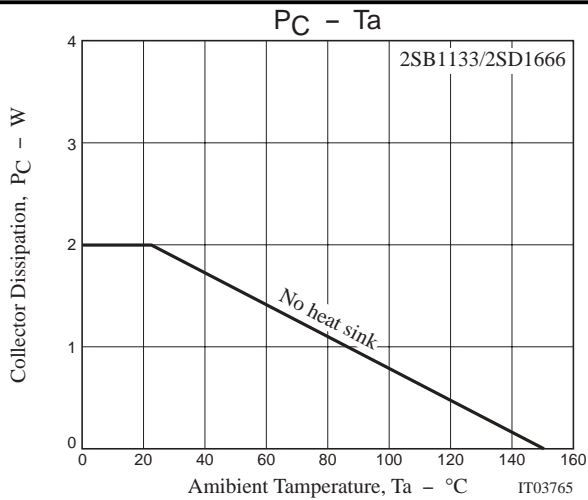
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|---------|------|------|
| | | | min | typ | max | |
| Gain-Bandwidth Product | f_T | $V_{CE}=(-)5V, I_C=(-)0.5A$ | | (40)8 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=(-)10V, f=1MHz$ | | (110)60 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)2A, I_B=(-)0.2A$ | | (-)0.6 | (-)1 | V |
| Base-to-Emitter Saturation Voltage | V_{BE} | $V_{CE}=(-)5V, I_C=(-)0.5A$ | | (-)0.7 | (-)1 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=(-)1mA, I_E=0$ | (-)60 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=(-)5mA, R_{BE}=\infty$ | (-)60 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=(-)1mA, I_C=0$ | (-)6 | | | V |



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