

**2SA1814**

Low-Frequency General-Purpose Amplifier Driver, Muting Circuit Applications

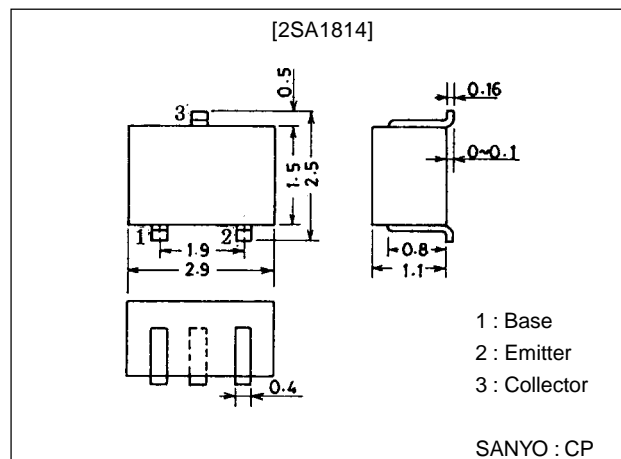
Features

- Very small-sized package permitting 2SA1814-applied sets to be made smaller and slimmer.
- Adoption of FBET process.
- High DC current gain ($h_{FE}=500$ to 1200).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)} \leq 0.3V$).
- High V_{EBO} ($V_{EBO} \geq 15V$).

Package Dimensions

unit:mm

2018B



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CB0} | | -30 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | -25 | V |
| Emitter-to-Base Voltage | V_{EBO} | | -15 | V |
| Collector Current | I_C | | -150 | mA |
| Collector Current (Pulse) | I_{CP} | | -300 | mA |
| Base Current | I_B | | -30 | mA |
| Collector Dissipation | P_C | Mounted on board | 250 | mW |
| Junction Temperature | T_J | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Electrical Characteristics at $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--------------------------|---------|-------|------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-20V, I_E=0$ | | | -0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=-10V, I_C=0$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-5V, I_C=-1mA$ | 500 | 800 | 1200 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=-10V, I_C=-10mA$ | | 210 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=-10V, f=1MHz$ | | 2.6 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-50mA, I_B=-1mA$ | | -0.15 | -0.3 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-50mA, I_B=-1mA$ | | -0.78 | -1.1 | V |

Marking : KS

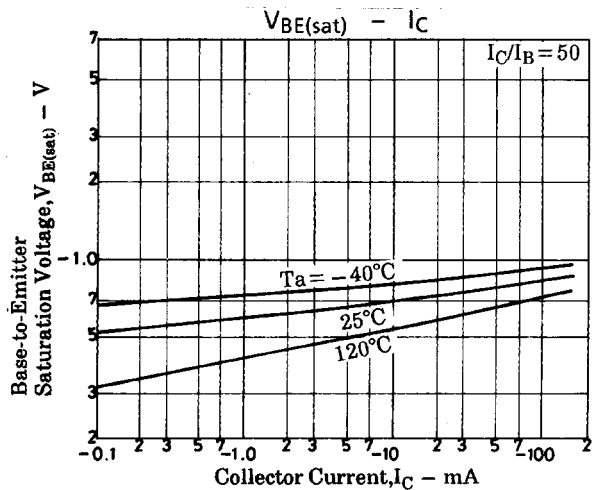
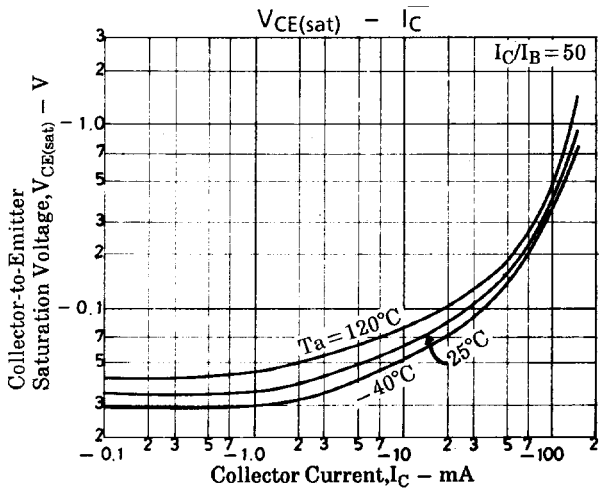
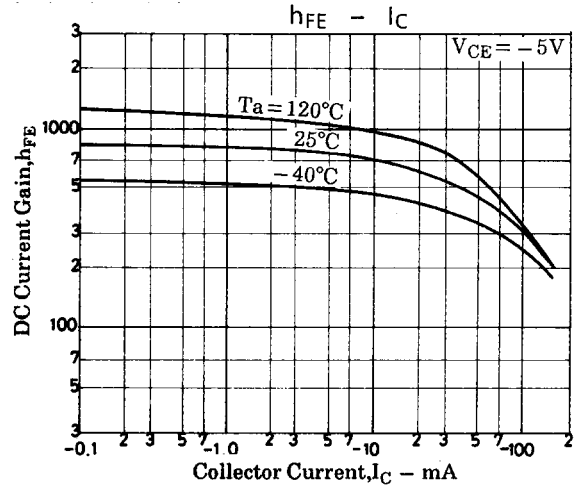
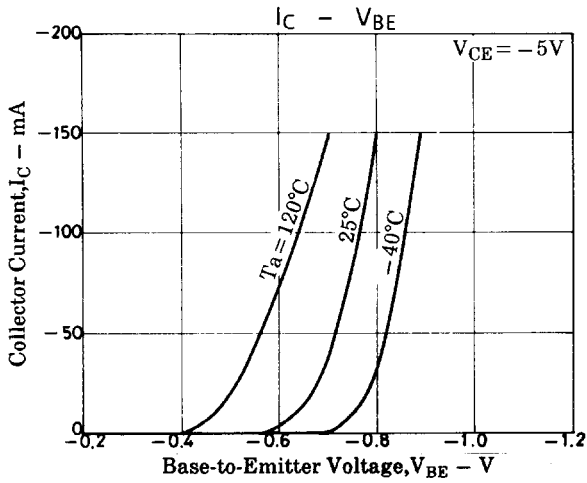
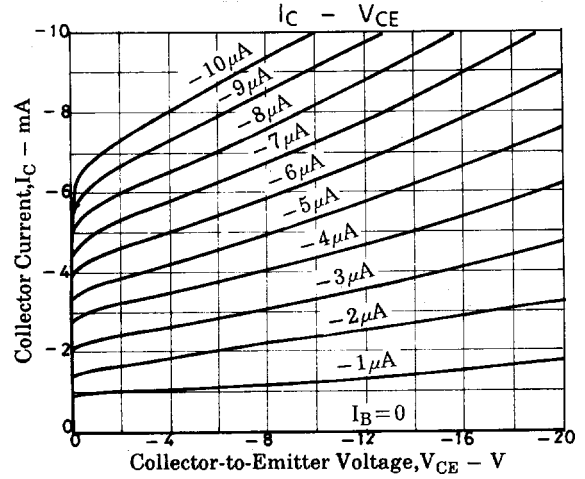
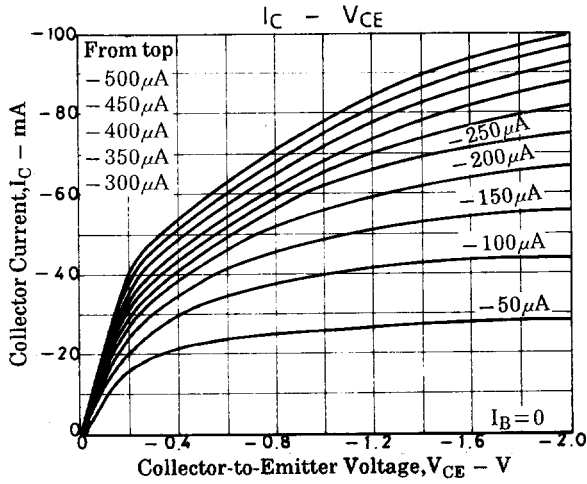
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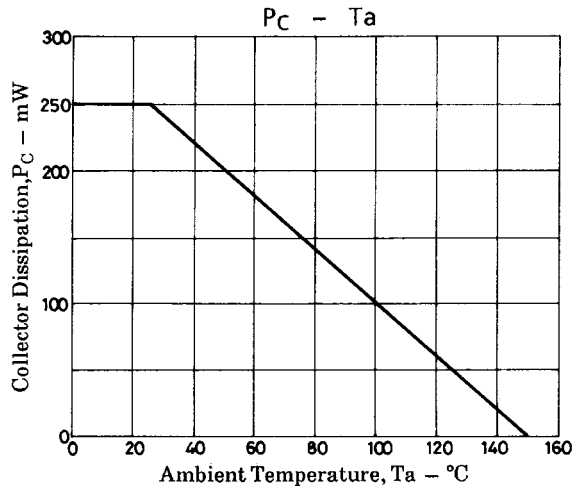
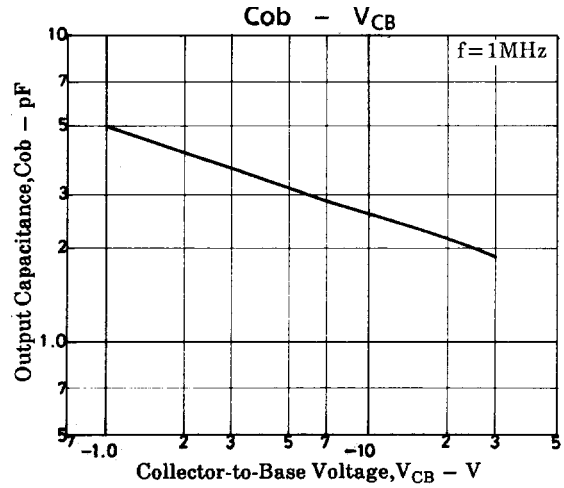
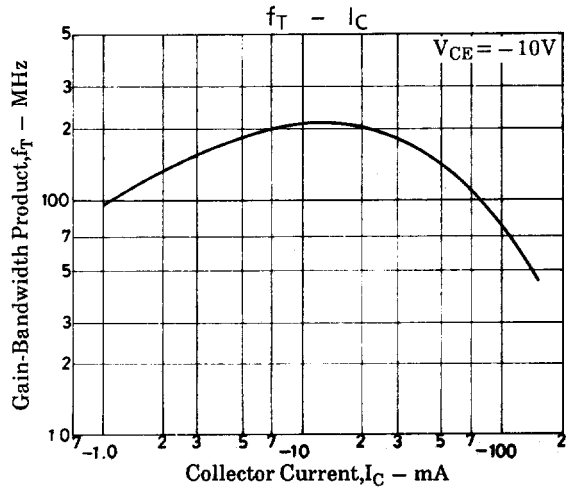
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|---------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | -30 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | -25 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0$ | -15 | | | V |



2SA1814



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