



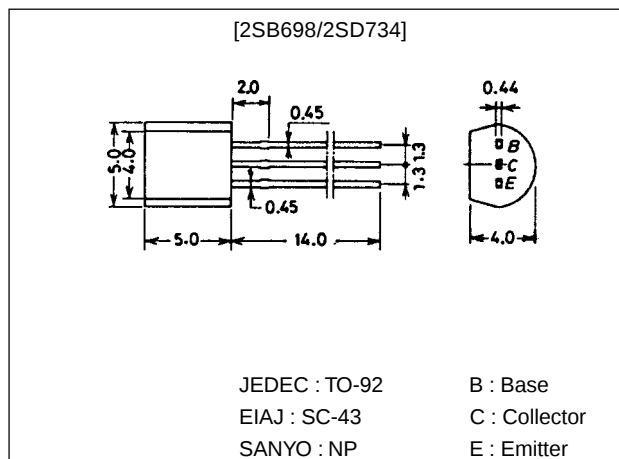
## 2SB698/2SD734

### 1W AF Output, Electronic Governor, DC-DC Converter Applications

#### Package Dimensions

unit:mm

2003A



( ) : 2SB698 for audio 1W output.

#### Specifications

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

| Parameter                    | Symbol    | Conditions | Ratings     | Unit |
|------------------------------|-----------|------------|-------------|------|
| Collector-to-Base Voltage    | $V_{CBO}$ |            | (-)25       | V    |
| Collector-to-Emitter Voltage | $V_{CEO}$ |            | (-)20       | V    |
| Emitter-to-Base Voltage      | $V_{EBO}$ |            | (-)5        | V    |
| Collector Current            | $I_C$     |            | (-)0.7      | A    |
| Collector Current (Pulse)    | $I_{CP}$  |            | (-)1.5      | A    |
| Collector Dissipation        | $P_C$     |            | 0.6         | W    |
| 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 | $I_{CBO}$ | $V_{CB}=(-)20V, I_E=0$       |         |      | (-)1.0 | μA   |
| Emitter Cutoff Current   | $I_{EBO}$ | $V_{EB}=(-)4V, I_C=0$        |         |      | (-)1.0 | μA   |
| DC Current Gain          | $h_{FE1}$ | $V_{CE}=(-)2V, I_C=(-)50mA$  | 60*     |      | 560*   |      |
|                          | $h_{FE2}$ | $V_{CE}=(-)2V, I_C=(-)500mA$ | 50      |      |        |      |
| Gain-Bandwidth Product   | $f_T$     | $V_{CE}=(-)10V, I_C=(-)50mA$ |         | 250  |        | MHz  |
| Output Capacitance       | $C_{ob}$  | $V_{CB}=(-)10V, f=1MHz$      |         | (13) |        | pF   |
|                          |           |                              |         | 8    |        | pF   |

\* : The 2SB698/2SD734 are classified by 50mA  $h_{FE}$  as follows :

|    |   |     |     |   |     |     |   |     |     |   |     |
|----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|
| 60 | D | 120 | 100 | E | 200 | 160 | F | 320 | 280 | G | 560 |
|----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|

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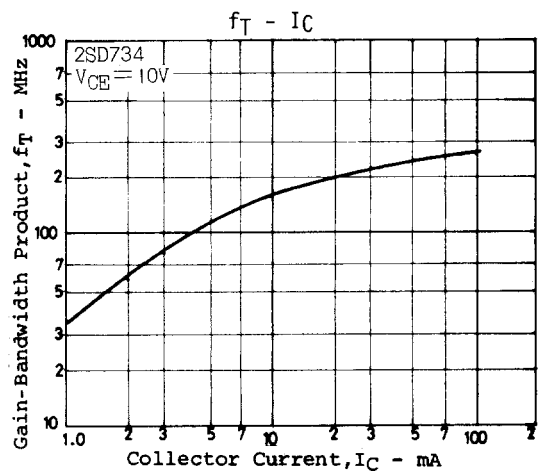
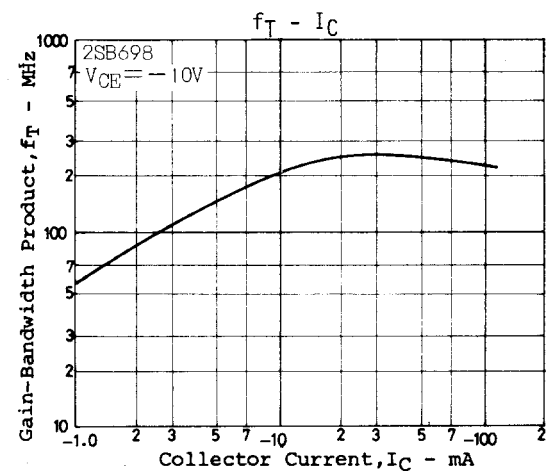
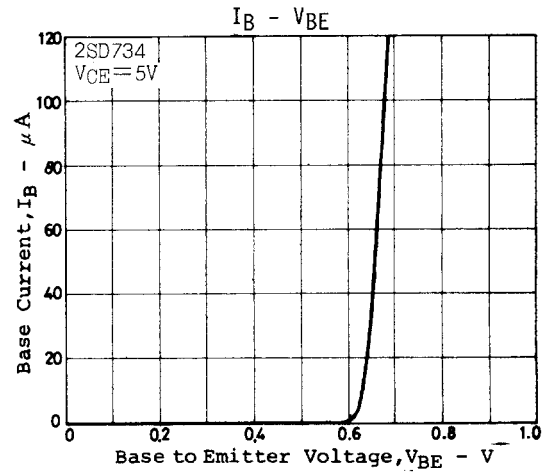
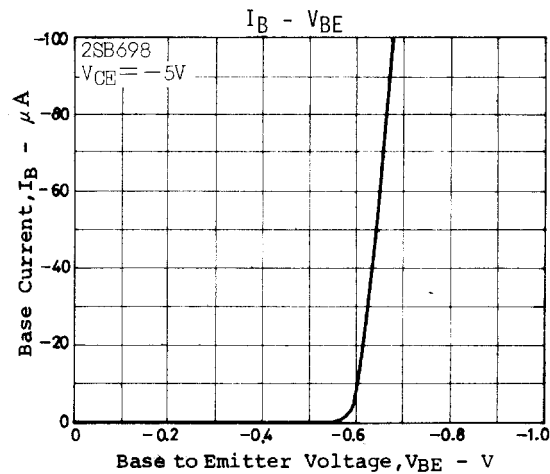
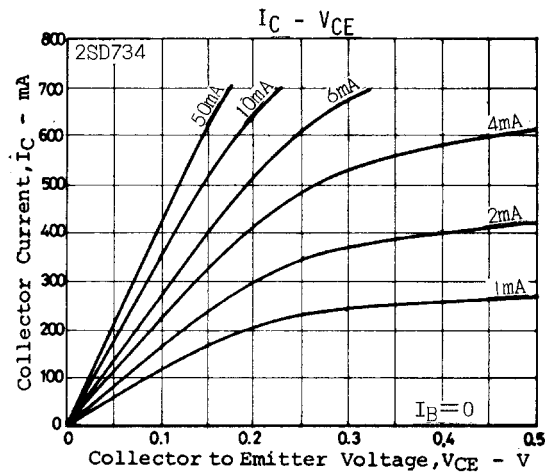
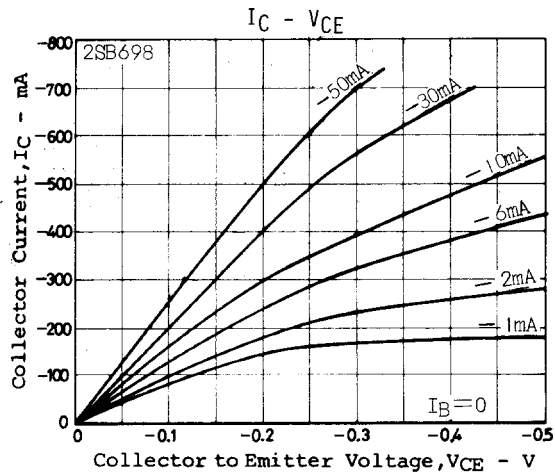
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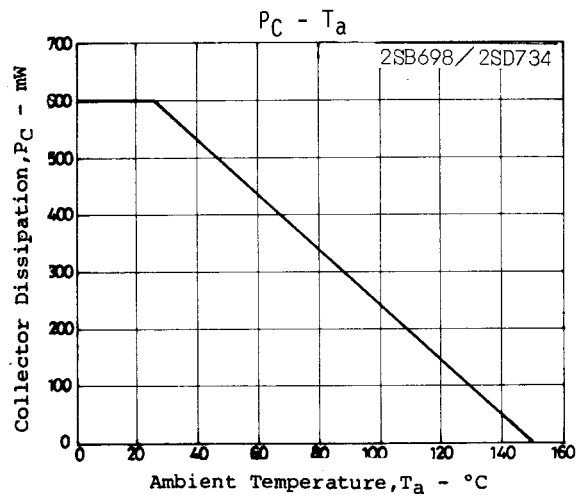
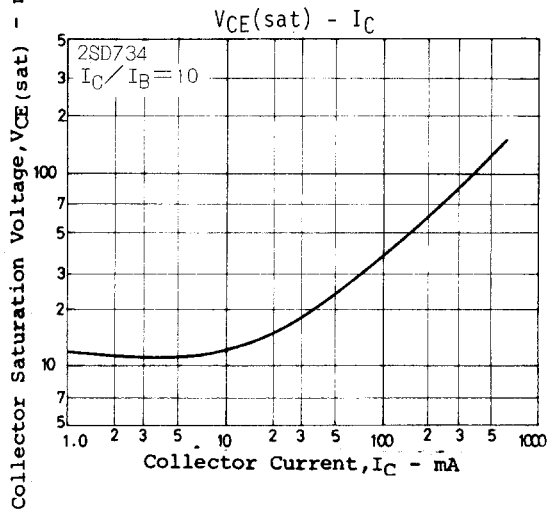
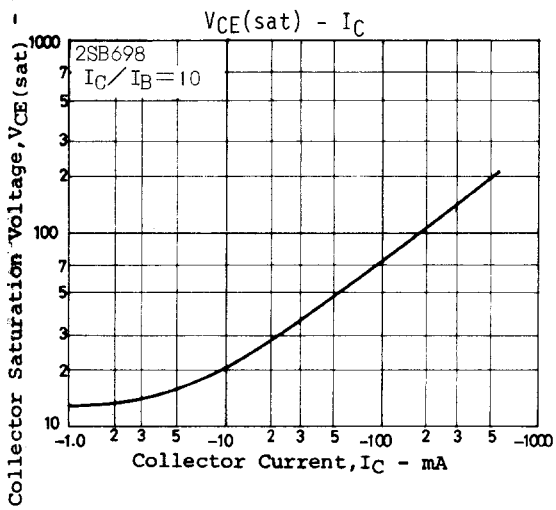
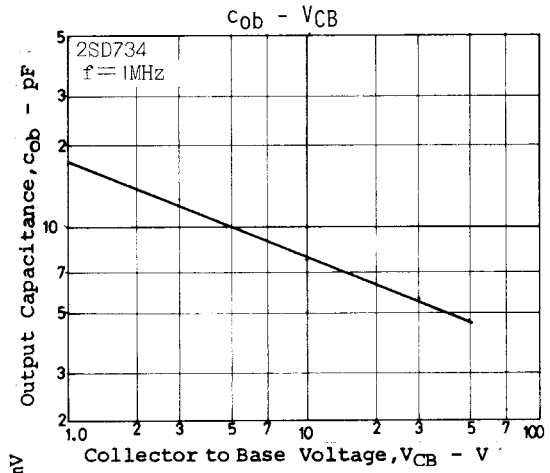
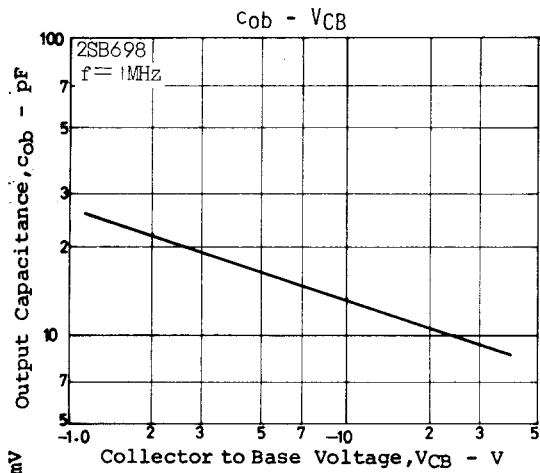
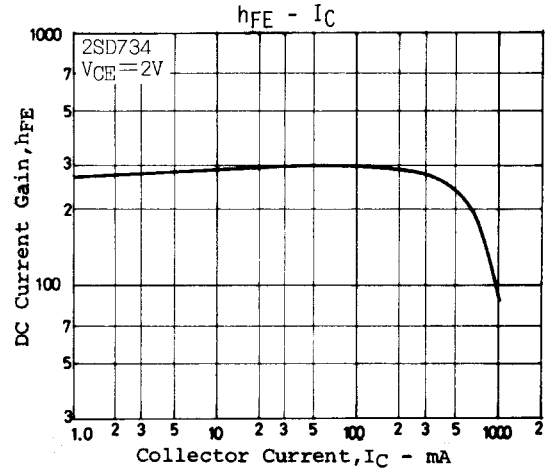
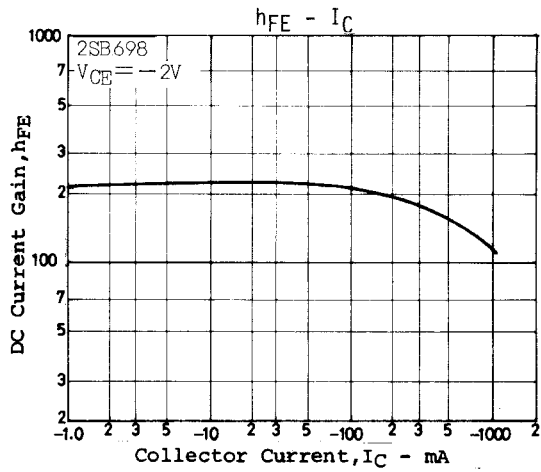
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| Parameter                               | Symbol        | Conditions                  | Ratings |        |         | Unit |
|-----------------------------------------|---------------|-----------------------------|---------|--------|---------|------|
|                                         |               |                             | min     | typ    | max     |      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=(-)500mA, I_B=(-)50mA$ |         | (-0.2) | (-0.45) | V    |
|                                         |               |                             |         | 0.13   | 0.3     | V    |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=(-)500mA, I_B=(-)50mA$ |         | (-0.9) |         | V    |
| Collector-to-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C=(-)10\mu A, I_E=0$     | (-)25   |        |         | V    |
| Collector-to-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C=(-)1mA, R_{BE}=\infty$ | (-)20   |        |         | V    |
| Emitter-to-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E=(-)10\mu A, I_C=0$     | (-)5    |        |         | V    |



# 2SB698/2SD734



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