Low frequency amplifier 2SB1708

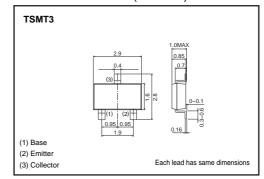
Application

Low frequency amplifier Driver

● Features

- 1) A collector current is large. (3A)
- 2) $V_{CE(sat)} \le -250 mV$ At $I_{C} = -1.5 A / I_{B} = -30 mA$

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|------------------------------|--------|-------------|------|
| Collector-base voltage | Vсво | -30 | V |
| Collector-emitter voltage | Vceo | -30 | V |
| Emitter-base voltage | Vево | -6 | V |
| Collector current | Ic | -3 | Α |
| Collector current | Іср | -6 | Α* |
| Power dissipation | Pc | 500 | mW |
| Junction temperature | Tj | 150 | °C |
| Range of storage temperature | Tstg | -55 to +150 | °C |

^{*}Single pulse, Pw=1ms

Packaging specifications

| | Package | Taping |
|---------|------------------------------|--------|
| Туре | Code | TL |
| | Basic ordering unit (pieces) | 3000 |
| 2SB1708 | | 0 |

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Conditions | | |
|--------------------------------------|----------|------|------|------|------|---------------------------------|--|--|
| Collector-base breakdown voltage | ВУсво | -30 | _ | _ | V | Ic=-10μA | | |
| Collector-emitter breakdown voltage | BVceo | -30 | _ | _ | V | Ic=-1mA | | |
| Emitter-base breakdown voltage | ВVево | -6 | _ | _ | V | I _E =-10μA | | |
| Collector cutoff current | Ісво | _ | _ | -100 | nA | Vcb=-30V | | |
| Emitter cutoff current | ІЕВО | _ | _ | -100 | nA | V _{EB} =-6V | | |
| Collector-emitter saturation voltage | VCE(sat) | _ | -180 | -250 | mV | Ic=-1.5A, I _B =-30mA | | |
| DC current gain | hfe | 270 | _ | 680 | _ | Vce=-2V, Ic=-200mA* | | |
| Transition frequency | f⊤ | _ | 200 | _ | MHz | Vce=-2V, Ie=200mA, f=100MHz* | | |
| Collector output capacitance | Cob | _ | 40 | _ | pF | Vcb=-10V, Ie=0A, f=1MHz | | |

^{*} Pulsed

Rev.B

Electrical characteristic curves

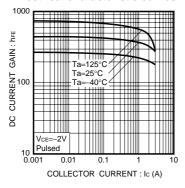


Fig.1 DC Current Gain vs. Collector Current

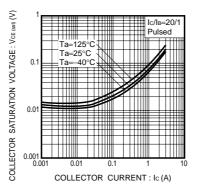


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

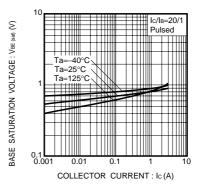


Fig.3 Base-emitter saturation voltage vs. Collector Current

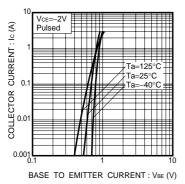


Fig.4 Grounded Emitter
Propagation Characteristics

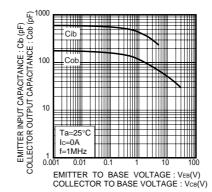


Fig.5 Collector Output Capacitance vs. Collector-Base Voltage Emitter Input Capacitance vs. Emitter-Base Voltage

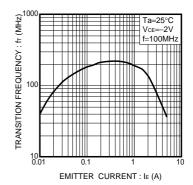


Fig.6 Gain Bandwidth Product vs. Emitter Current

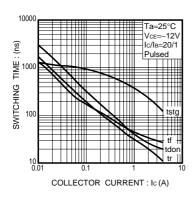


Fig.7 Switching Time

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