

DESCRIPTION The 2SB564 is designed for use in driver and output stages of audio frequency amplifiers.

- FEATURES**
- High Total Power Dissipation:
1.0 W at 25 °C Ambient Temperature.
 - Complementary to the NEC 2SD471 Transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

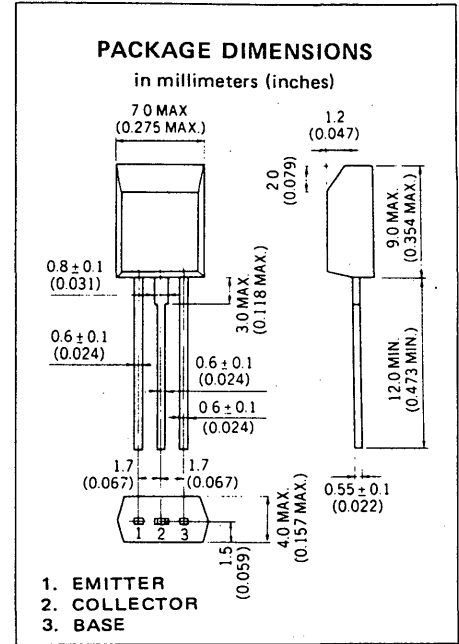
Storage Temperature -55 to +150 °C
 Junction Temperature +150 °C Maximum

Maximum Power Dissipation (Ta = 25 °C)

Total Power Dissipation 1.0 W
 Thermal Resistance(Junction to Ambient) . . 125 °C/W

Maximum Voltages and Currents (Ta = 25 °C)

V_{CB0} Collector to Base Voltage -30 V
 V_{CEO} Collector to Emitter Voltage -25 V
 V_{EBO} Emitter to Base Voltage -5.0 V
 I_C Collector Current -1.0 A
 I_B Base Current -0.1 A



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

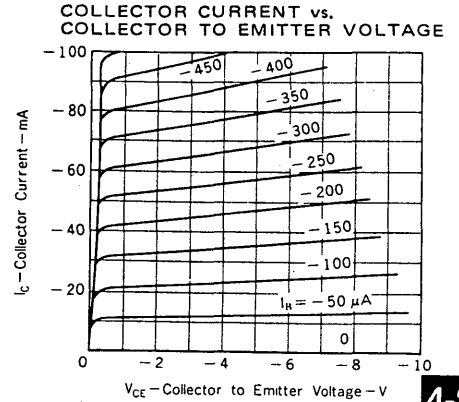
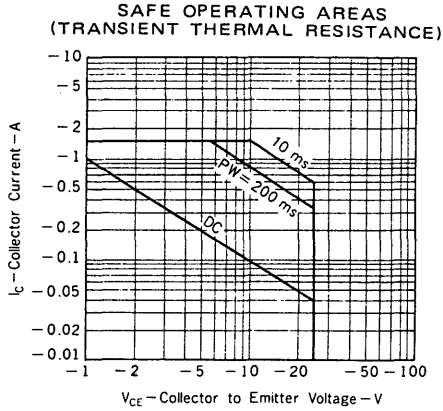
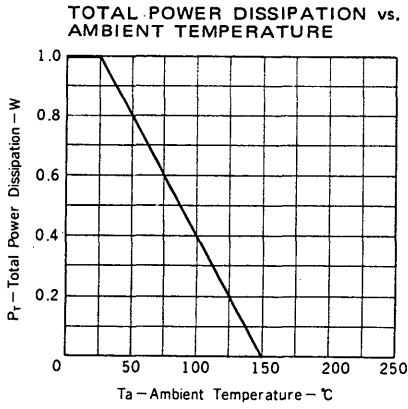
| SYMBOL | CHARACTERISTIC | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|----------------------|-------------------------------|------|-------|-------|------|---|
| h _{FE1} | DC Current Gain | 90 | 200 | 400 | — | V _{CE} =-1.0 V, I _C =-0.1 A |
| h _{FE2} | DC Current Gain | 50 | 100 | | — | V _{CE} =-1.0 V, I _C =-1.0 A |
| f _T | Gain Bandwidth Product | | 110 | | MHz | V _{CE} =-6.0 V, I _E =-10 mA |
| C _{ob} | Collector to Base Capacitance | | 36 | | pF | V _{CB} =-6.0 V, I _E =0, f=1.0 MHz |
| I _{CBO} | Collector Cutoff Current | | | -100 | nA | V _{CB} =-30 V, I _E =0 |
| I _{EBO} | Emitter Cutoff Current | | | -100 | nA | V _{EB} =-5.0 V, I _C =0 |
| V _{BE} | Base to Emitter Voltage | -600 | -640 | -700 | mV | V _{CE} =-6.0 V, I _C =-10 mA |
| V _{CE(sat)} | Collector Saturation Voltage | | -0.25 | -0.35 | V | I _C =-1.0 A, I _B =-0.1 A |
| V _{BE(sat)} | Base Saturation Voltage | | -1.0 | -1.2 | V | I _C =-1.0 A, I _B =-0.1 A |

Classification of h_{FE1}

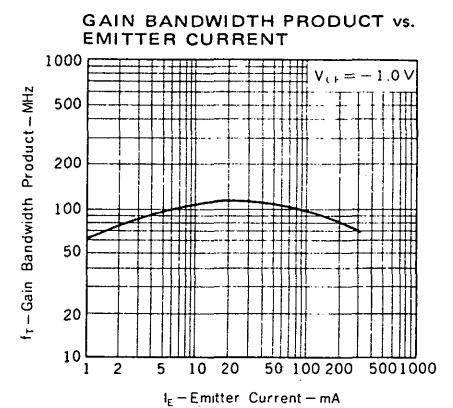
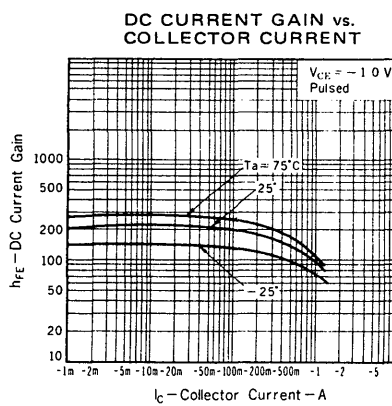
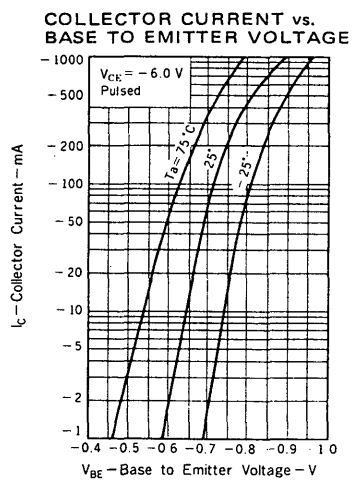
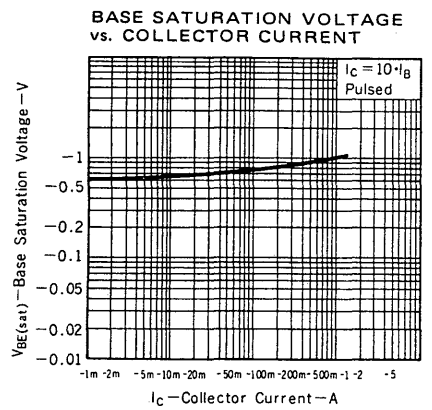
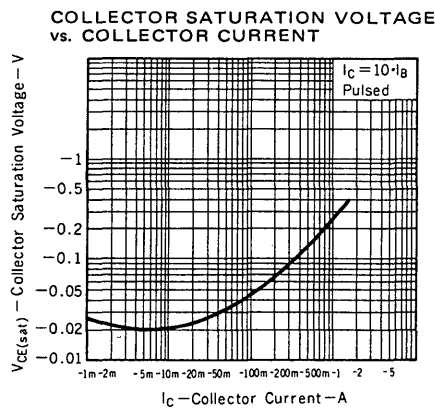
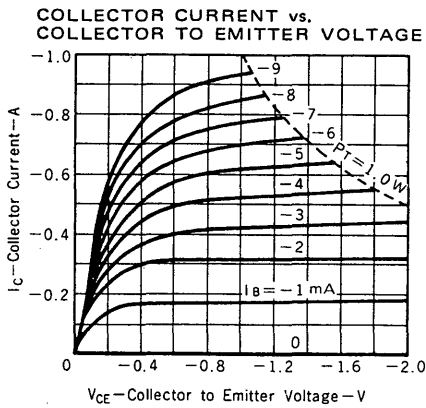
| Rank | M | L | K |
|-------|----------|-----------|-----------|
| Range | 90 - 180 | 135 - 270 | 200 - 400 |

h_{FE1} Test Conditions: V_{CE}=-1.0 V, I_C=-0.1 A

TYPICAL CHARACTERISTICS (Ta=25 °C unless otherwise noted)



4-2



COLLECTOR TO BASE CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE

