

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)

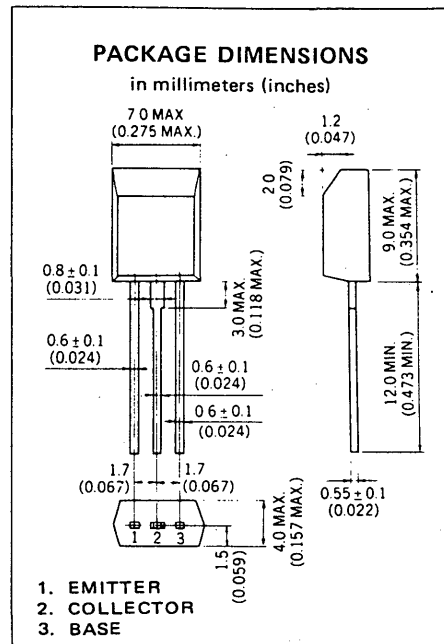
V_{CBO} Collector to Base Voltage -30 V

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)

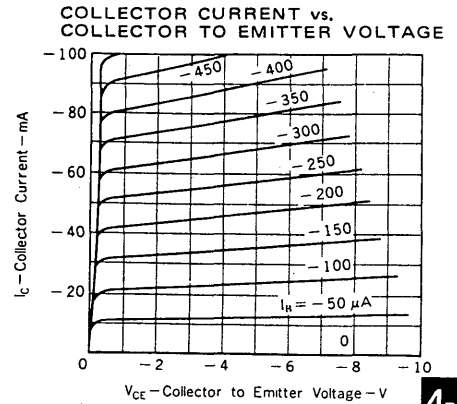
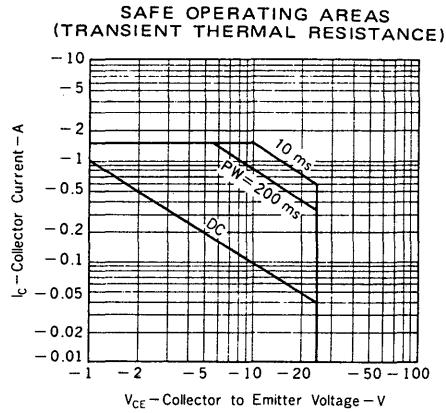
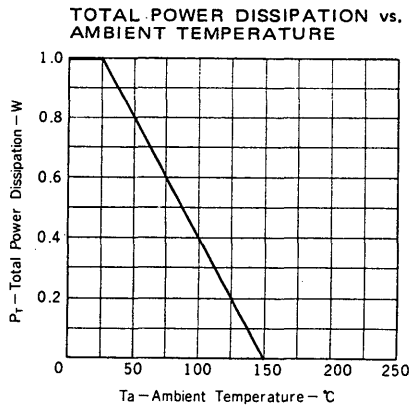
SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h _{FE1}	DC Current Gain	90	200	400	—	V _{CE} =-1.0 V, I _C =-0.1 A
h _{FE2}	DC Current Gain	50	100		—	V _{CE} =-1.0 V, I _C =-1.0 A
f _T	Gain Bandwidth Product		110		MHz	V _{CE} =-6.0 V, I _E =-10 mA
C _{ob}	Collector to Base Capacitance		36		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}

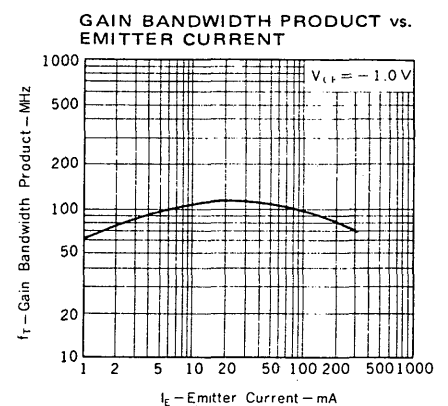
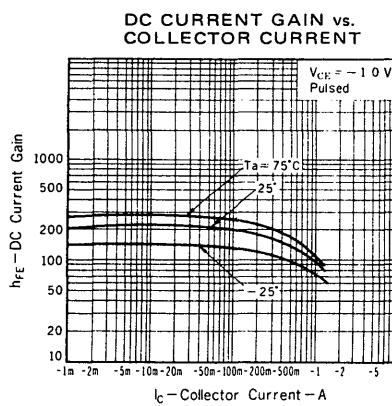
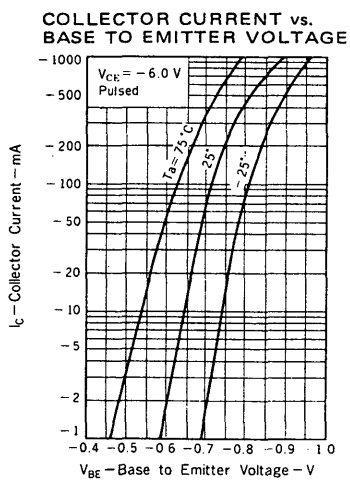
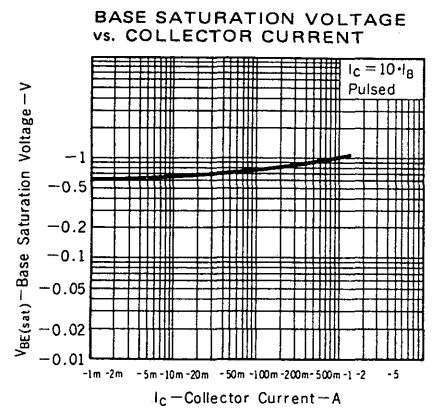
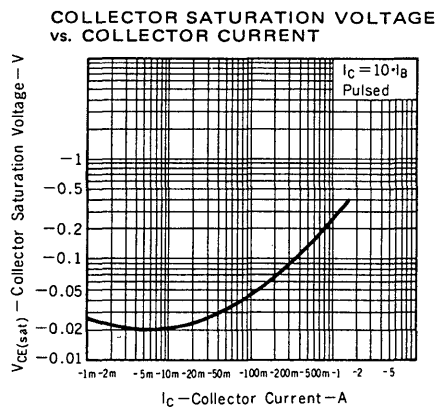
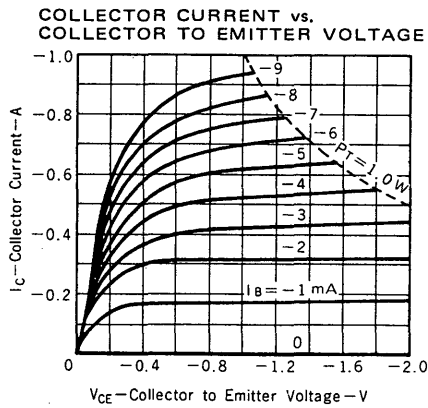
Rank	M	L	K
Range	90 - 180	135 - 270	200 - 400

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

TYPICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise noted)



4-2



COLLECTOR TO BASE CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE