NEC

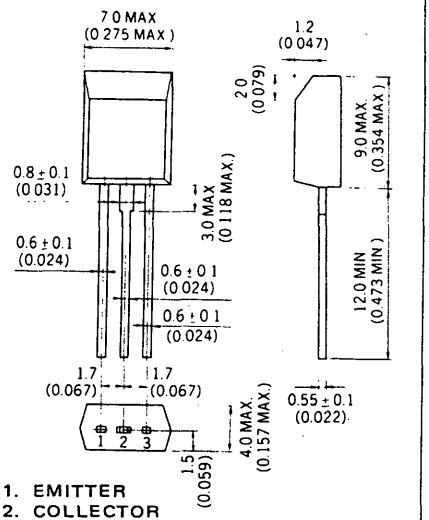
PNP SILICON TRANSISTOR
2SB605

DESCRIPTION The 2SB605 is designed for use in driver and output stages of audio frequency amplifiers.

FEATURES

- High Total Power Dissipation and High Breakdown Voltage: 1.0 W at 25 °C Ambient Temperature/V_{CEO} = −50 V
- Complementary to the NEC 2SD571 NPN Transistor.

PACKAGE DIMENSIONS
in millimeters (inches)



1. EMITTER
2. COLLECTOR
3. BASE

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 . . . . . −60 V
- V_{CEO} Collector to Emitter Voltage . . . . . −50 V
- V_{EBO} Emitter to Base Voltage . . . . . −5.0 V
- I_C Collector Current . . . . . −0.7 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	120		−	V_{CE}=−1.0 V, I_C=−0.5 A
f_T	Gain Bandwidth Product		120		MHz	V_{CE}=−6.0 V, I_E=−10 mA
C_{ob}	Collector to Base Capacitance		25		pF	V_{CB}=−6.0 V, I_E=0, f=1.0 MHz
I_{CBO}	Collector Cutoff Current			−100	nA	V_{CB}=−60 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	−630	−700	mV	V_{CE}=−6.0 V, I_C=−10 mA
$V_{CE(sat)}$	Collector Saturation Voltage		−0.16	−0.35	V	I_C=−0.5 A, I_B=−0.05 A
$V_{BE(sat)}$	Base Saturation Voltage		−0.90	−1.2	V	I_C=−0.5 A, I_B=−0.05 A

Classification of h_{FE1}

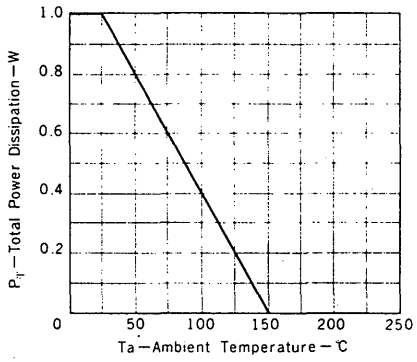
Rank	M	L	K
Range	90 − 180	135 − 270	200 − 400

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

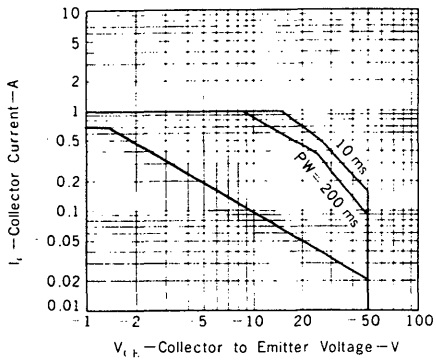
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TYPICAL CHARACTERISTICS (Ta=25 °C unless otherwise noted)

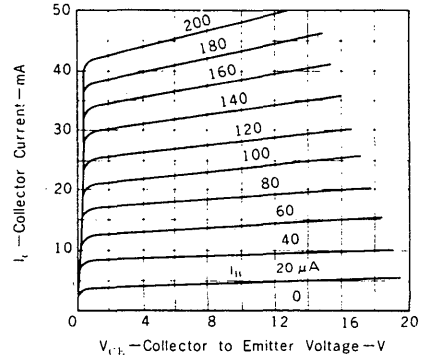
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



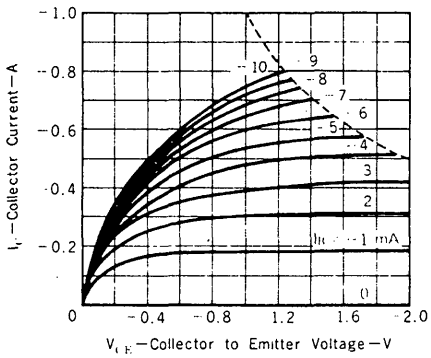
SAFE OPERATING AREAS (TRANSIENT THERMAL RESISTANCE)



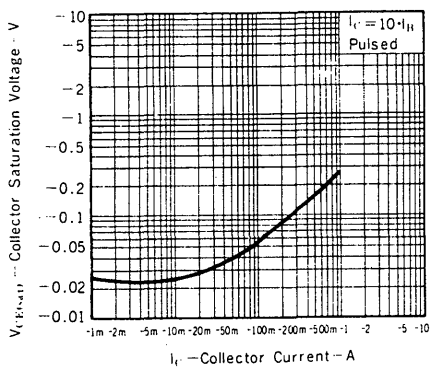
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



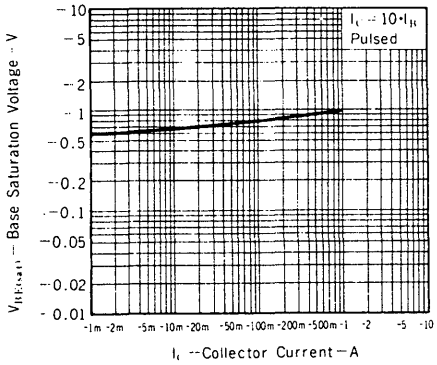
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



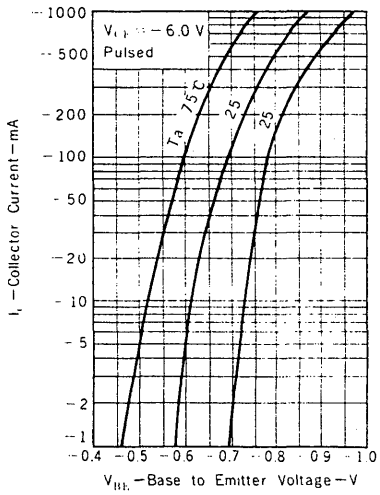
COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



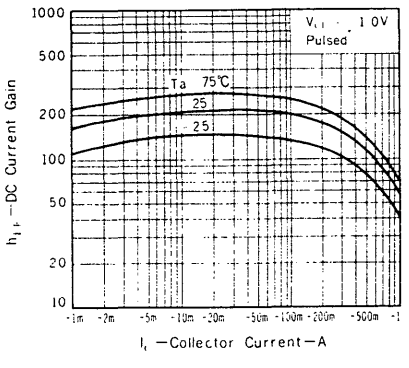
BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



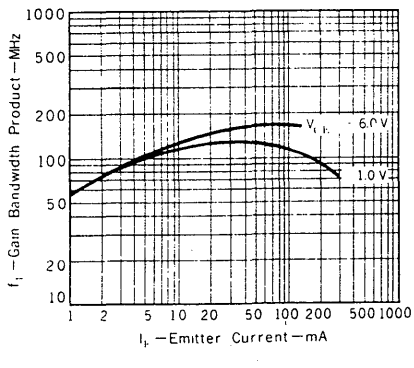
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT

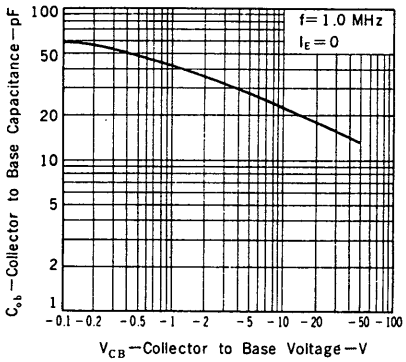


GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



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COLLECTOR TO BASE CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



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