SURFACE-MOUNT
NPN POWER TRANSISTORS

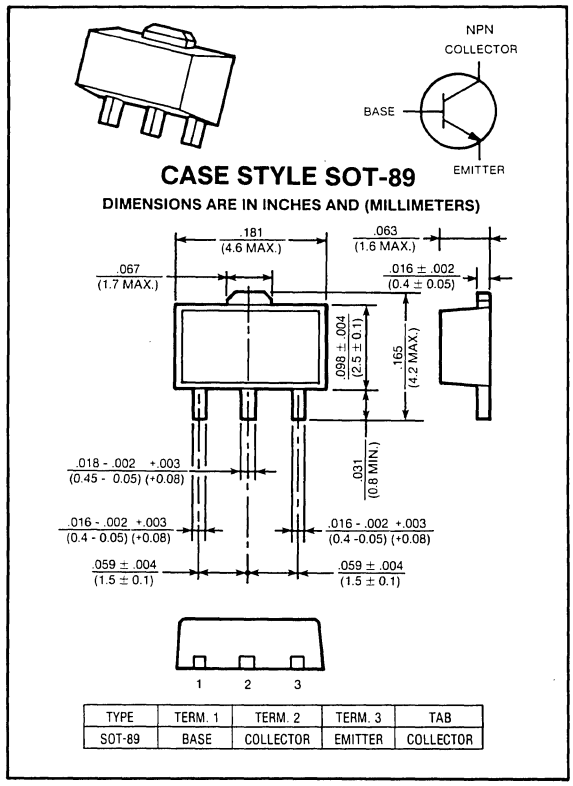
D70Y.8T1

30 VOLTS
800 mAMP, 500 mWATTS

Designed for audio frequency amplifier applications.

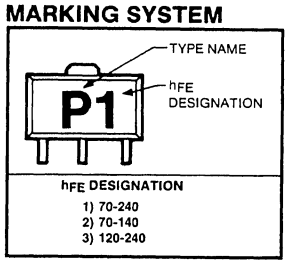
Features:

- High DC current: h_{FE} = 100 ~ 320
- Suitable for output stage of 1-Watt amplifier
- P_D=1 ~ 2W (Mounted on ceramic substrate)
- Small flat package
- Complementary to D71Y.8T1
- See page 840 for mounting and handling considerations.



TYPE	TERM. 1	TERM. 2	TERM. 3	TAB
SOT-89	BASE	COLLECTOR	EMITTER	COLLECTOR

MARKING SYSTEM



maximum ratings (T_A = 25°C) (unless otherwise specified)

RATING	SYMBOL	D70Y.8T1	UNITS
Collector-Emitter Voltage	V_{CEO}	30	Volts
Collector-Base Voltage	V_{CBO}	35	Volts
Emitter Base Voltage	V_{EBO}	5	Volts
Collector Current — Continuous	I_C	800	mA
Base Current — Continuous	I_B	160	mA
Total Power Dissipation @ T_C = 25°C @ T_C = 25°C(1)	P_D	500 1000	mWatts
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	°C

thermal characteristics(2)

(1) Mounted on ceramic substrate (250mm² x 0.8t).
(2) See page 841 for thermal considerations.

electrical characteristics (T_A = 25° C) (unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
off characteristics					
Collector-Emitter Breakdown Voltage (I_C = 10mA, I_B = 0)	$V_{(BR)CEO}$	30	—	—	Volts
Collector Cut-off Current (V_{CB} = 35V, I_E = 0)	I_{CBO}	—	—	100	nA
Emitter Cutoff Current (V_{EB} = 5V, I_C = 0)	I_{EBO}	—	—	100	nA
on characteristics					
DC Current Gain(3) (I_C = 100mA, V_{CE} = 1V) (I_C = 700mA, V_{CE} = 1V)	h_{FE}	100 35	— —	320 —	—
Collector-Emitter Saturation Voltage (I_C = 500mA, I_B = 20mA)	$V_{CE(sat)}$	—	—	0.5	V
Base-Emitter Voltage (V_{CE} = 1V, I_C = 10mA)	$V_{BE(on)}$	0.5	—	0.8	V

(3) See page 44 for h_{FE} range.

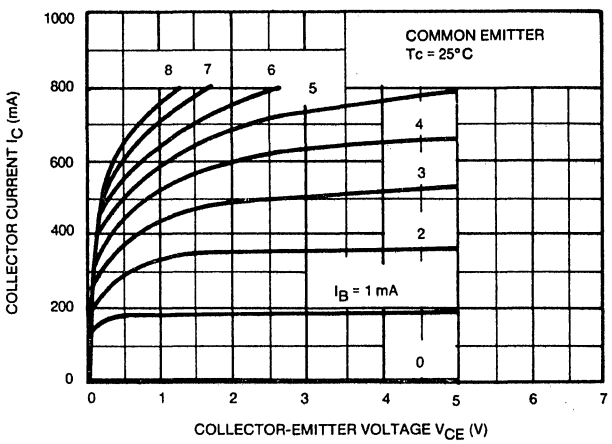


FIG. 1 I_C - V_{CE}

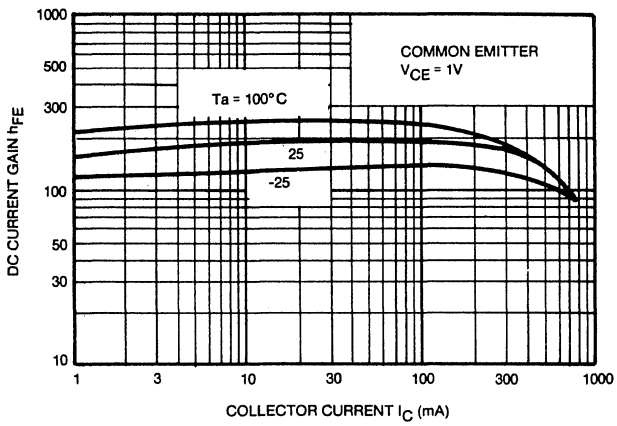


FIG. 2 h_{FE} - I_C

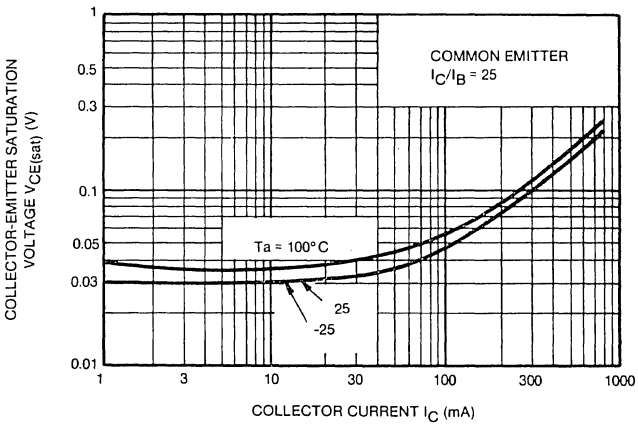


FIG. 3 $V_{CE(sat)}$ - I_C

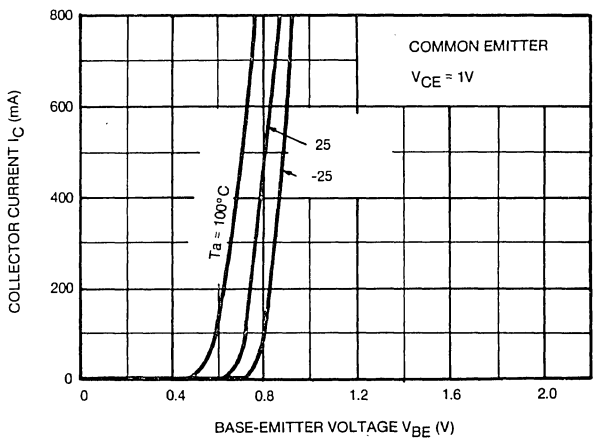


FIG. 4 I_C - V_{BE}

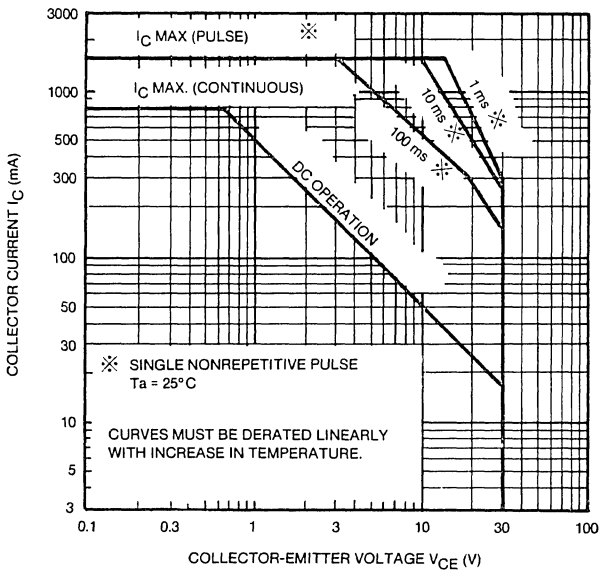


FIG. 5 SAFE OPERATING AREA

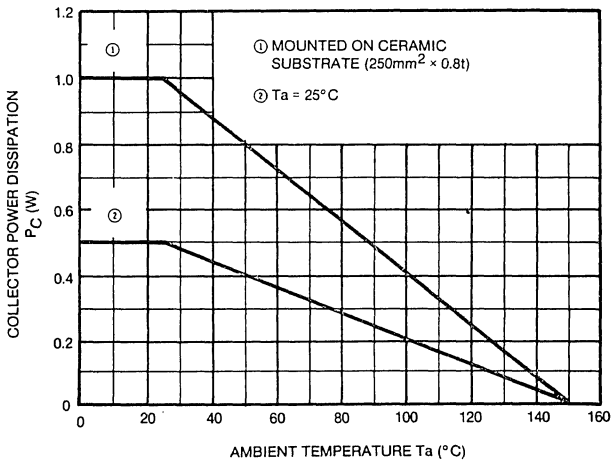


FIG. 6 P_C - Ta