SURFACE-MOUNT
NPN POWER TRANSISTORS

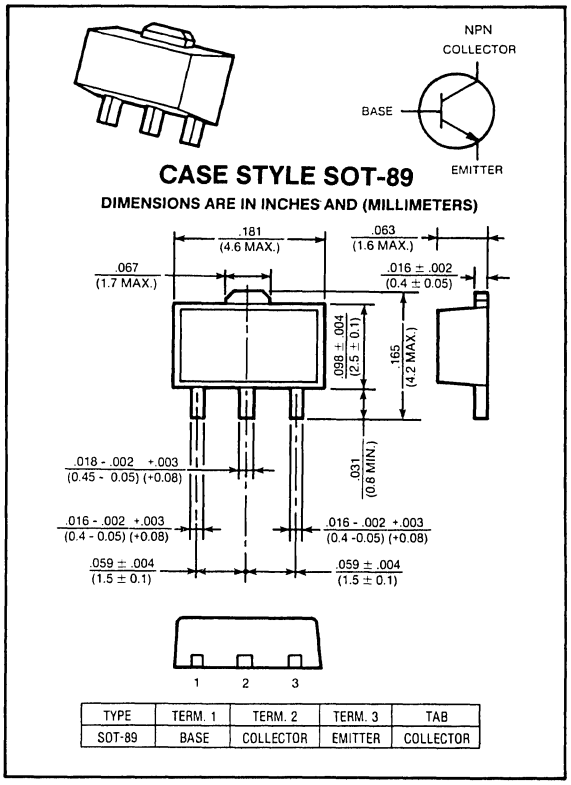
D70G.05T1

150 VOLTS
50 mAMP, 500 mWATTS

Designed for high voltage switching applications.

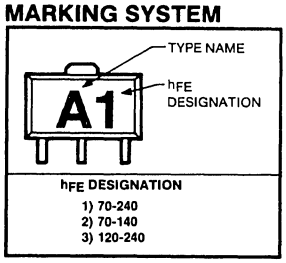
Features:

- High voltage: V_{CEO} = 150V
- High transition frequency: f_T = 120MHz
- P_D=1 ~ 2W (Mounted on ceramic substrate)
- Small flat package
- Complementary to D71G.05T1
- 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	D70G.05T1	UNITS
Collector-Emitter Voltage	V_{CEO}	150	Volts
Collector-Base Voltage	V_{CBO}	200	Volts
Emitter Base Voltage	V_{EBO}	5	Volts
Collector Current — Continuous	I_C	50	mA
Base Current — Continuous	I_B	10	mA
Total Power Dissipation @ T_C = 25°C(1) @ T_C = 25°C	P_D	800 500	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 Sustaining Voltage (I_C = 10mA, I_B = 0)	$V_{CEO(sus)}$	150	—	—	Volts
Collector Cut-off Current (V_{CB} = 200V, I_E = 0)	I_{CBO}	—	—	0.1	μA
Emitter Cutoff Current (V_{EB} = 5V, I_C = 0)	I_{EBO}	—	—	0.1	μA
on characteristics					
DC Current Gain(3) (I_C = 10mA, V_{CE} = 5V)	h_{FE}	70	—	240	—
Collector-Emitter Saturation Voltage (I_C = 10mA, I_B = 1mA)	$V_{CE(sat)}$	—	—	0.5	V
Base-Emitter Voltage (V_{CE} = 5V, I_C = 30mA)	$V_{BE(on)}$	—	—	1	V

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

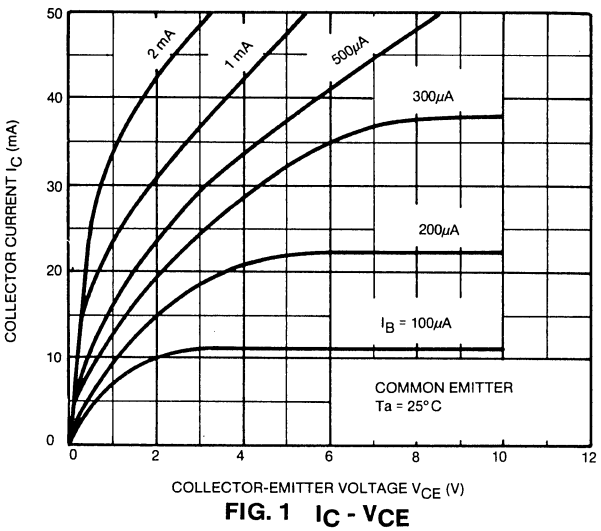


FIG. 1 I_C - V_{CE}

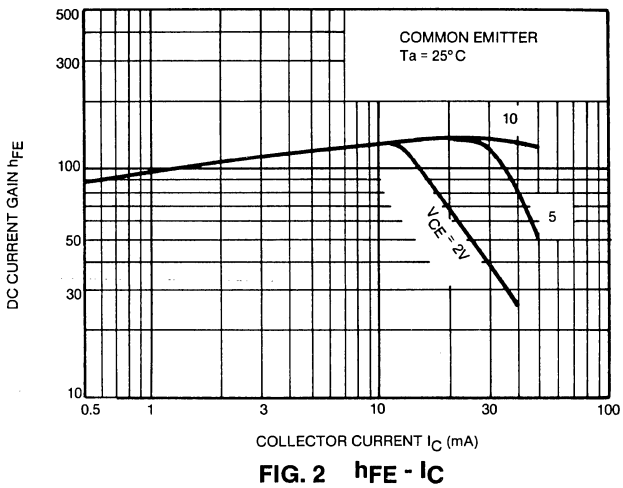


FIG. 2 h_{FE} - I_C

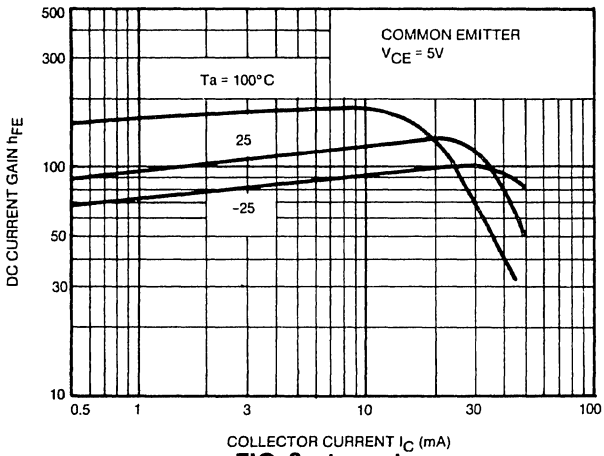


FIG. 3 h_{FE} - I_C

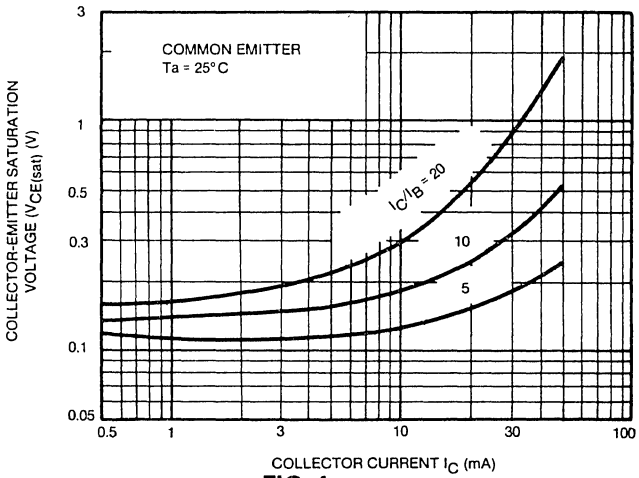


FIG. 4 $V_{CE(sat)}$ - I_C

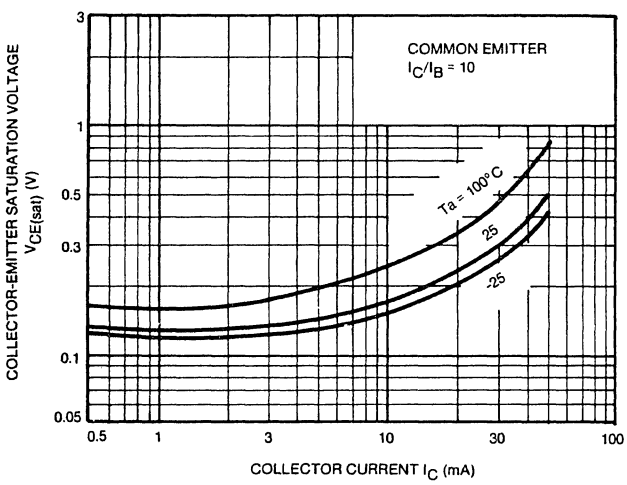


FIG. 5 $V_{CE(sat)}$ - I_C

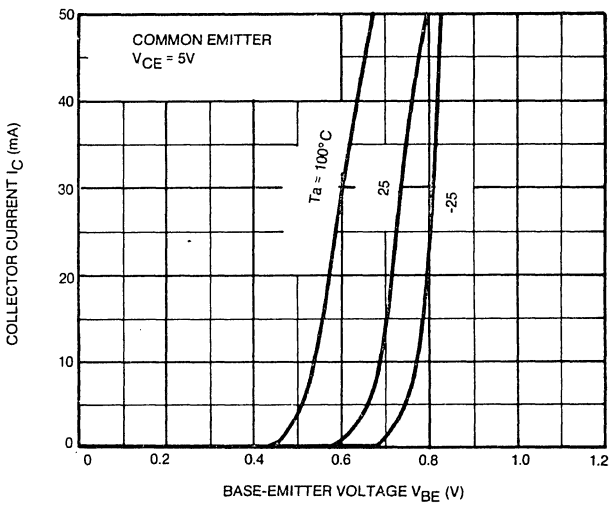


FIG. 6 I_C - V_{BE}

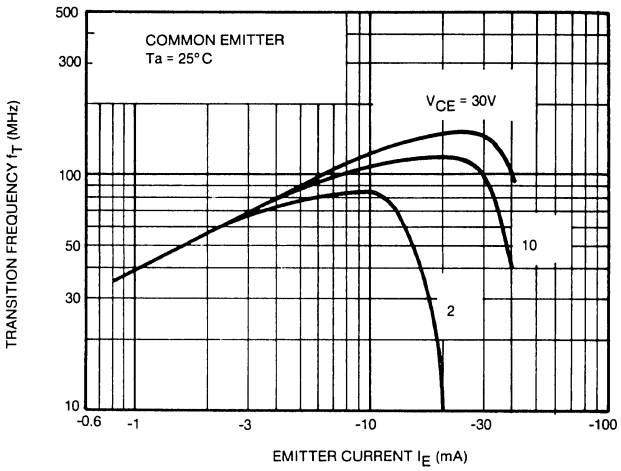


FIG. 7 f_T - I_E

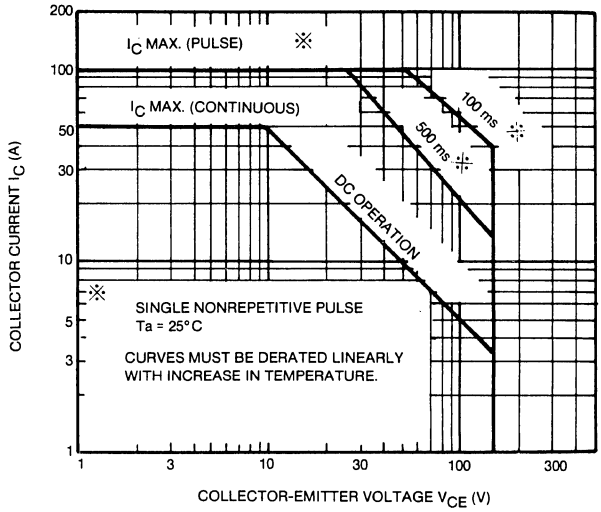


FIG. 8 SAFE OPERATING AREA

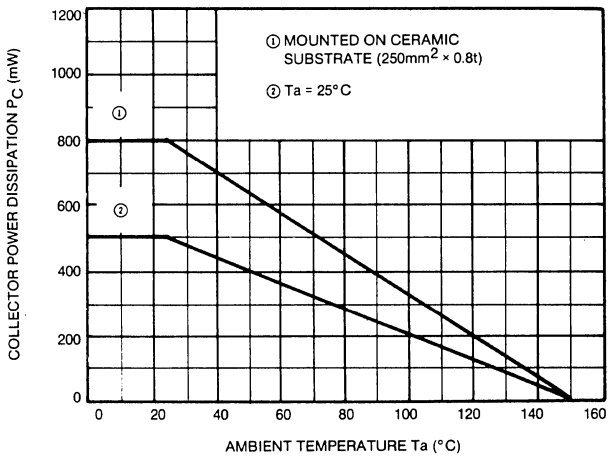


FIG. 9 P_C - Ta