

Silicon PNP Power Transistors

2SA1771

DESCRIPTION

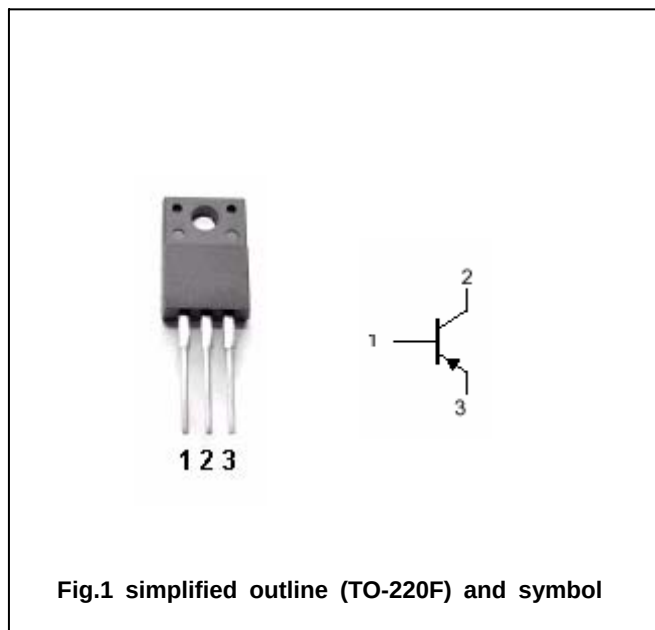
- With TO-220F package
- Low collector saturation voltage
- High speed switching time

APPLICATIONS

- High current switching

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-80	V
V_{CEO}	Collector-emitter voltage	Open base	-80	V
V_{EBO}	Emitter-base voltage	Open collector	-14	V
I_C	Collector current		-12	A
I_B	Base current		-1.2	A
P_C	Collector dissipation	$T_C=25^{\circ}\text{C}$	30	W
T_j	Junction temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-55~150	$^{\circ}\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-50mA$; $I_B=0$	-80			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-6A$; $I_B=-0.3A$			-0.4	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=-6A$; $I_B=-0.3A$			-1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=-80V$; $I_E=0$			-10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-14V$; $I_C=0$			-10	μA
h_{FE-1}	DC current gain	$I_C=-1A$; $V_{CE}=-1V$	100		320	
h_{FE-2}	DC current gain	$I_C=-6A$; $V_{CE}=-1V$	40			
f_T	Transition frequency	$I_C=-1A$; $V_{CE}=-5V$		50		MHz
C_{OB}	Collector output capacitance	$f=1MHz$; $V_{CB}=-10V$		300		pF

t_{on}	Turn-on time	$I_{B1}=-I_{B2}=-0.3A$; $V_{CC}=-30V$ $R_L=5\Omega$ Duty cycle $\leq 1\%$		0.2		μs
t_s	Storage time			0.6		μs
t_f	Fall time			0.1		μs

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Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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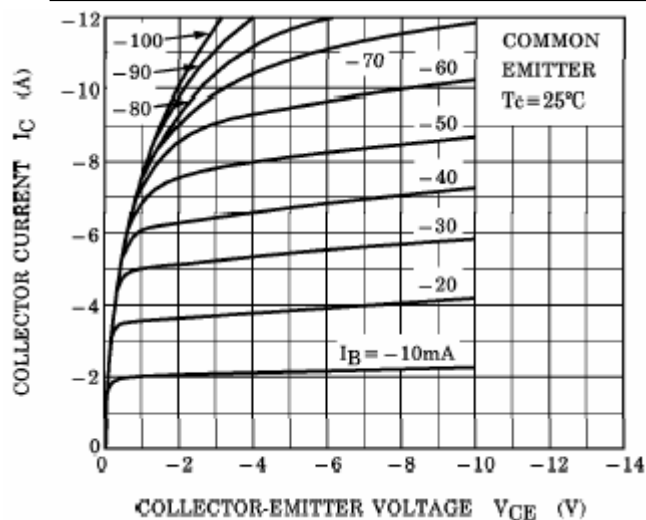


Fig.3 Static Characteristic

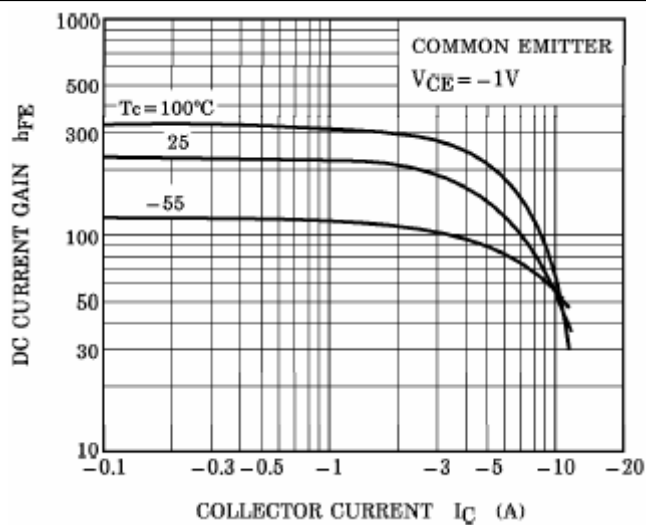


Fig.4 DC current Gain

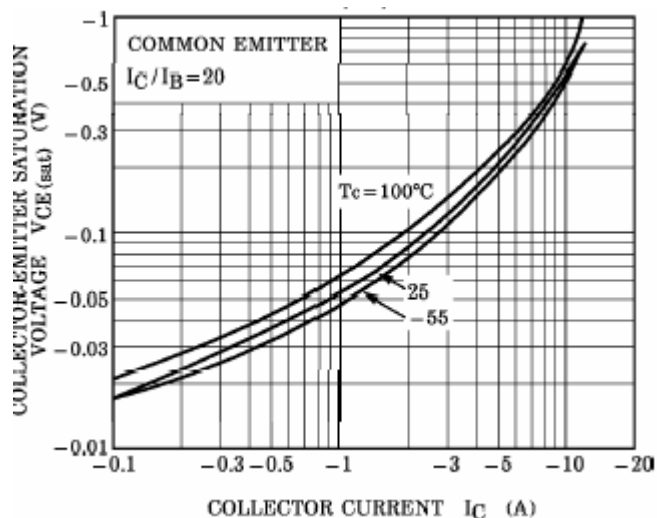


Fig.5 Collector-Emitter Saturation Voltage

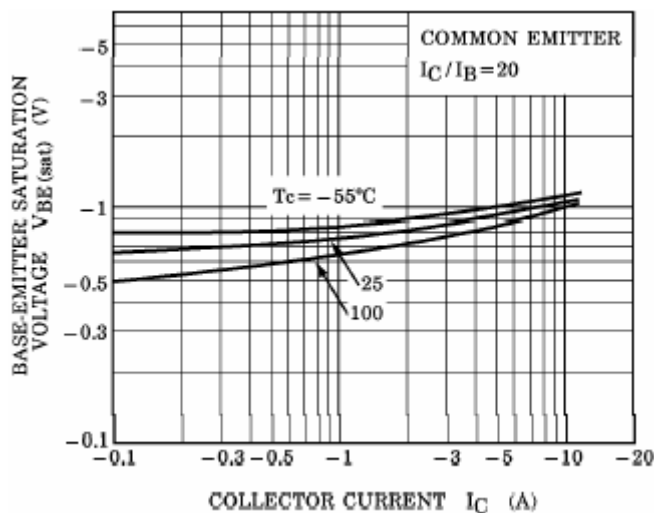


Fig.6 Base-Emitter Saturation Voltage

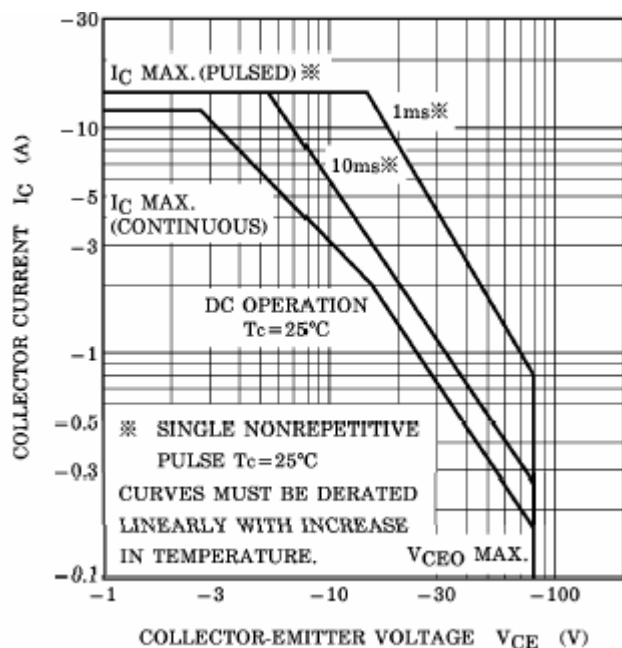


Fig.7 Safe Operating Area