Silicon PNP Power Transistors 2SA1451

DESCRIPTION

- With TO-220Fa package
- Low collector saturation voltage
- High speed switching time
- Complement to type 2SC3709

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

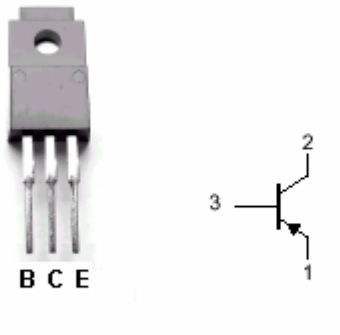

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-50	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-12	A
I_B	Base current		-2	A
P_C	Collector power dissipation	T_C=25℃	30	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

Silicon PNP Power Transistors 2SA1451

CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=-50mA ;I_B=0	-50			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=-6A ;I_B=-0.3A		-0.15	-0.4	V
V_{BEsat}	Base-emitter saturation voltage	I_C=-6A ;I_B=-0.3A		-0.9	-1.2	V
I_{CBO}	Collector cut-off current	V_{CB}=-60V; I_E=0			-10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=-6V; I_C=0			-10	μA
h_{FE-1}	DC current gain	I_C=-1A ; V_{CE}=-1V	70		240	
h_{FE-2}	DC current gain	I_C=-6A ; V_{CE}=-1V	40			
f_T	Transition frequency	I_C=-1A ; V_{CE}=-5V		70		MHz
C_{ob}	Collector output capacitance	I_E=0; V_{CE}=-10V;f=1MHz		320		pF

Switching times

t_{on}	Turn-on time	I_{B1}=-I_{B2}=-0.3A V_{CC}≈-30V;R_L=5Ω		0.3		μs
t_s	Storage time			1.0		μs
t_f	Fall time			0.5		μs

◆ **h_{FE-1} Classifications**

O	Y
70-140	120-240

PACKAGE OUTLINE

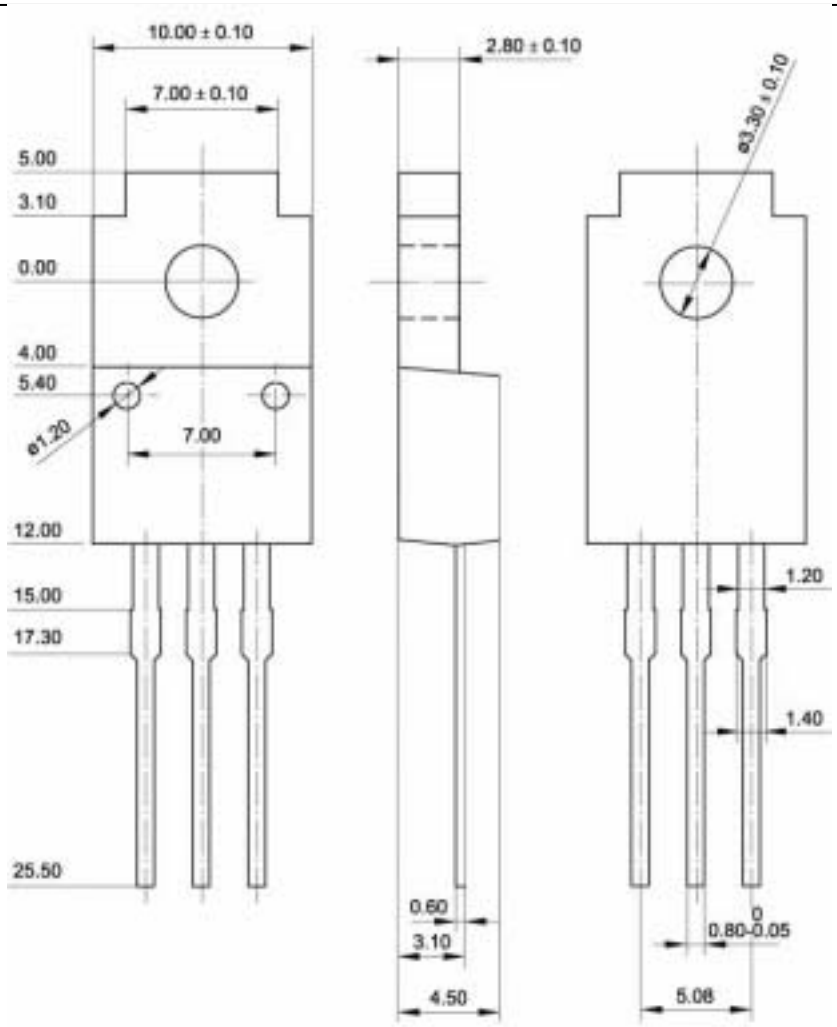

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

Silicon PNP Power Transistors 2SA1451

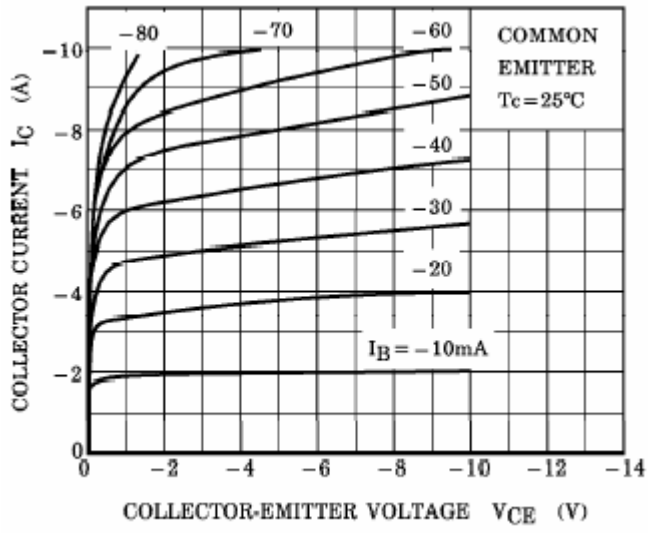

Fig.3 Static Characteristic

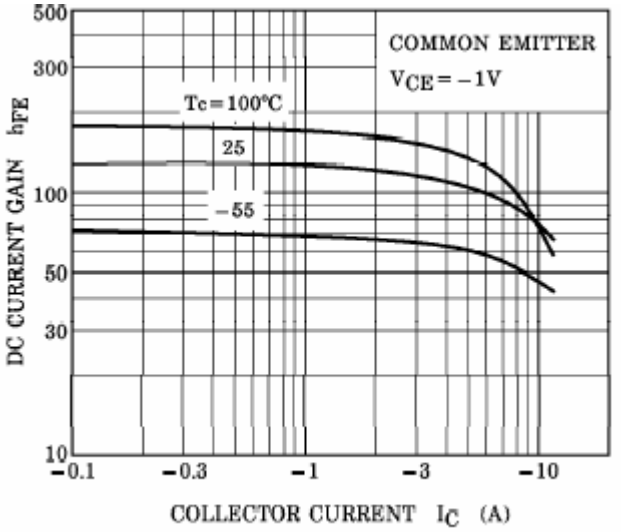

Fig.4 DC current Gain

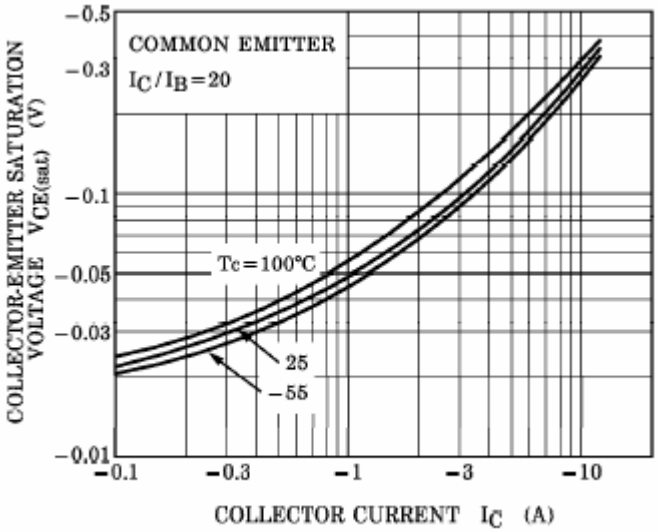

Fig.5 Collector-Emitter Saturation Voltage

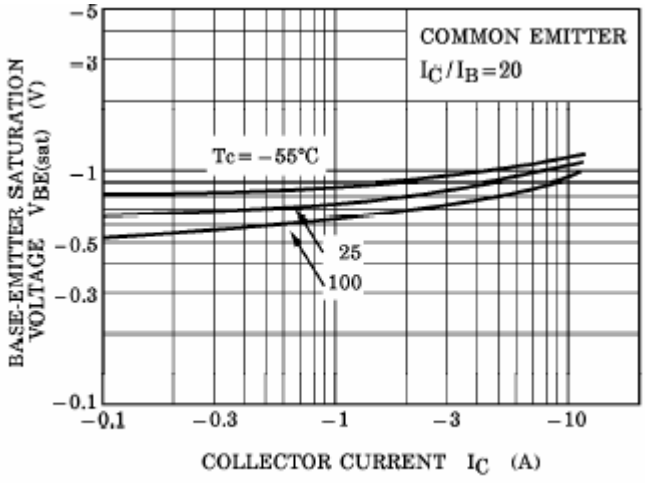

Fig.6 Base-Emitter Saturation Voltage

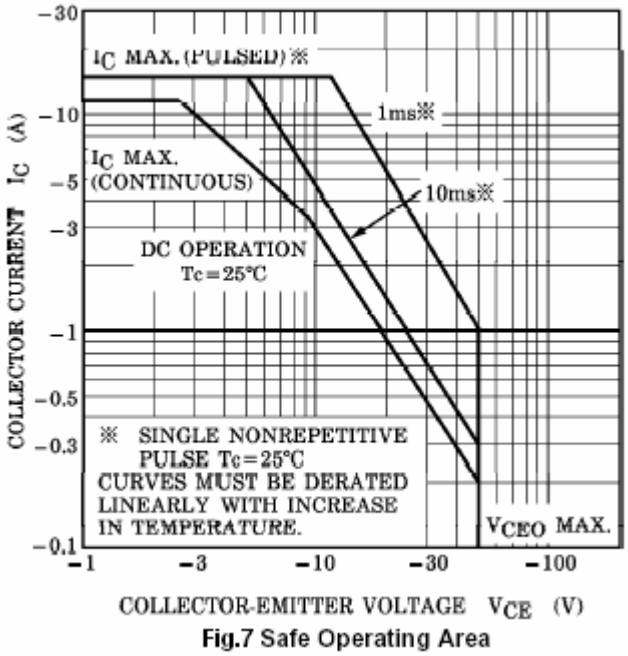

Fig.7 Safe Operating Area