

Silicon NPN Power Transistors

2SC4511

DESCRIPTION

- With TO-220F package
- Complement to type 2SA1725

APPLICATIONS

- Audio and general purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

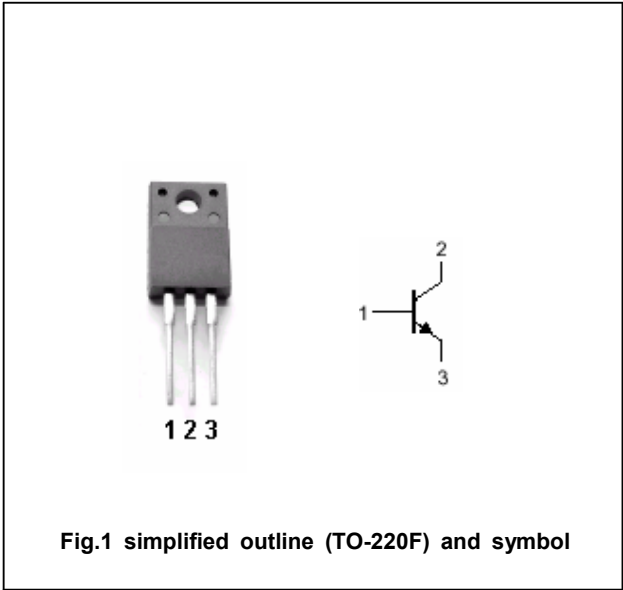


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	120	V
V _{CEO}	Collector-emitter voltage	Open base	80	V
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current		6	A
I _B	Base current		3	A
P _C	Collector dissipation	T _C =25℃	30	W
T _J	Junction temperature		150	℃
T _{stg}	Storage temperature		-55~150	℃

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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	$I_C=25mA$; $I_B=0$	80			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2A$; $I_B=0.2A$			0.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=120V$; $I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=6V$; $I_C=0$			10	μA
h_{FE}	DC current gain	$I_C=2A$; $V_{CE}=4V$	50		180	
C_{OB}	Output capacitance	$I_E=0$; $V_{CB}=10V$; $f=1MHz$		110		pF
f_T	Transition frequency	$I_E=-0.5A$; $V_{CE}=12V$		20		MHz

Switching times

t_{on}	Turn-on time	$I_C=3.0A$ $I_{B1}=-I_{B2}=0.3A$ $V_{CC}=30V$, $R_L=10\Omega$		0.16		μs
t_s	Storage time			2.60		μs
t_f	Fall time			0.34		μs

◆ h_{FE} Classifications

O	P	Y
50-100	70-140	90-180

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PACKAGE OUTLINE

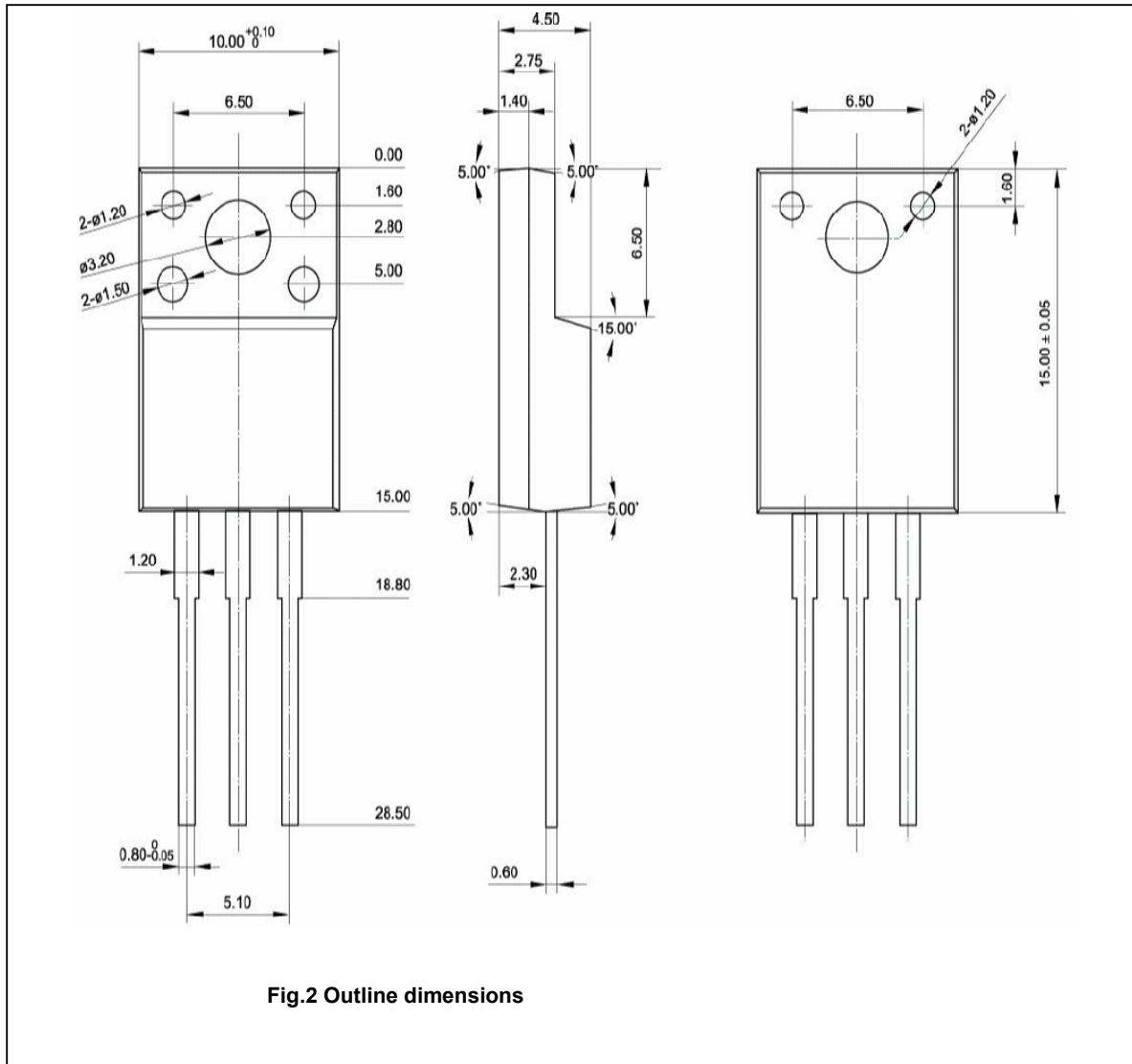


Fig.2 Outline dimensions

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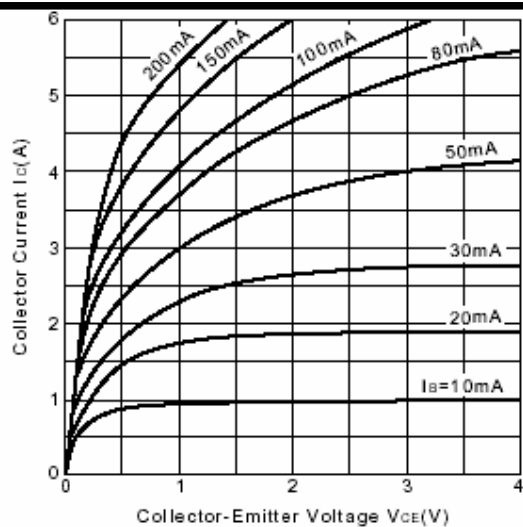


Fig.3 Static Characteristic

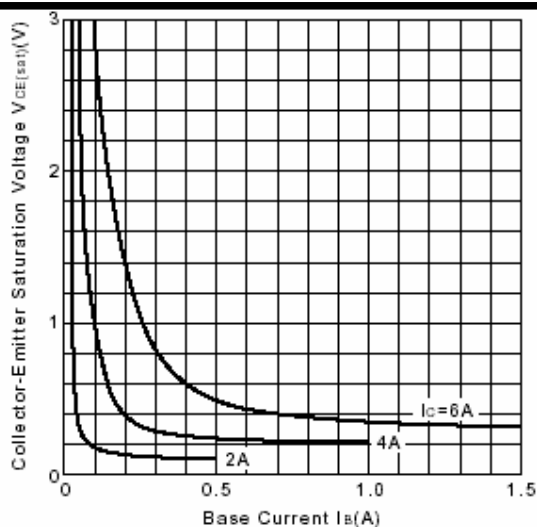
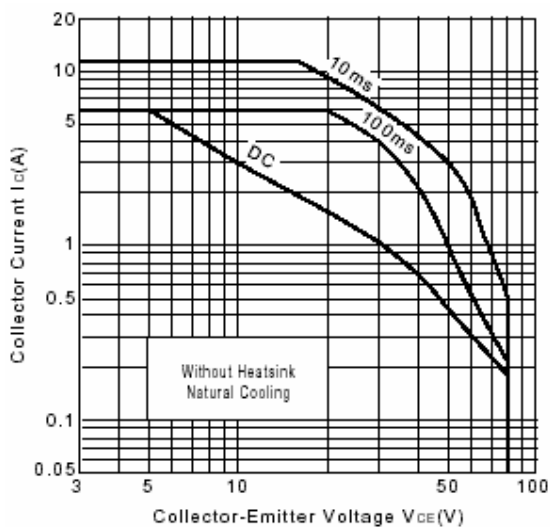
Fig.4 $V_{CE(sat)} - I_B$ Characteristics

Fig.5 Safe Operating Area

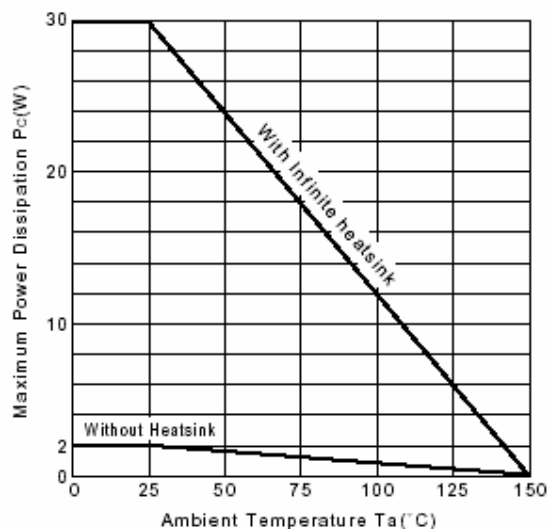
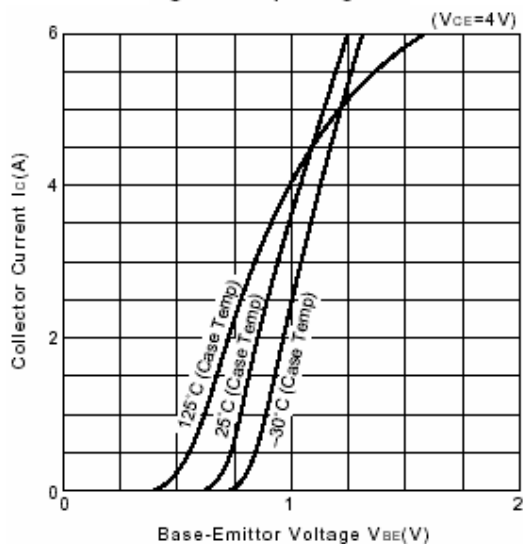
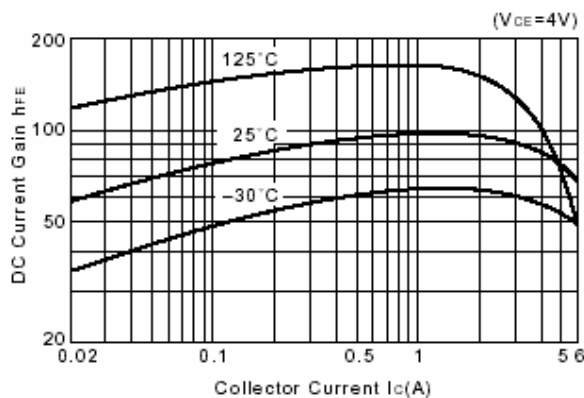
Fig.6 $P_C - T_a$ DeratingFig.7 $I_C - V_{BE}$ 

Fig.8 DC current Gain