

Silicon NPN Power Transistors

2SC4512

DESCRIPTION

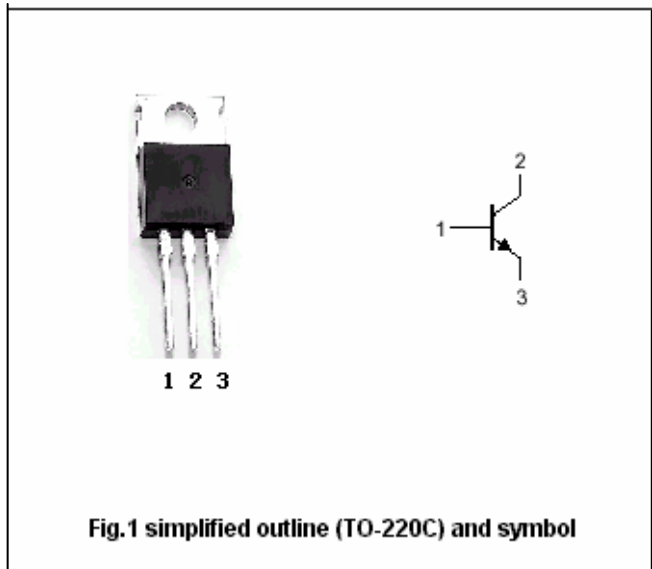
- With TO-220C package
- Complement to type 2SA1726

APPLICATIONS

- Audio and General Purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

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	$T_C=25$	50	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=25mA$; $R_{BE}=\infty$	80			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=5A$; $I_B=0.2A$			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			
C_{OB}	Collector output capacitance	$f=1MHz$; $V_{CB}=10V$		110		pF
f_T	Transition frequency	$I_E=-0.5A$; $V_{CE}=12V$		20		MHz

Switching times

t_{on}	Turn-on time	$V_{CC}=30V$; $I_C=3A$ $I_{B1}=-I_{B2}=0.3A$ $R_L=10\Omega$	0.16		μs
t_{stg}	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

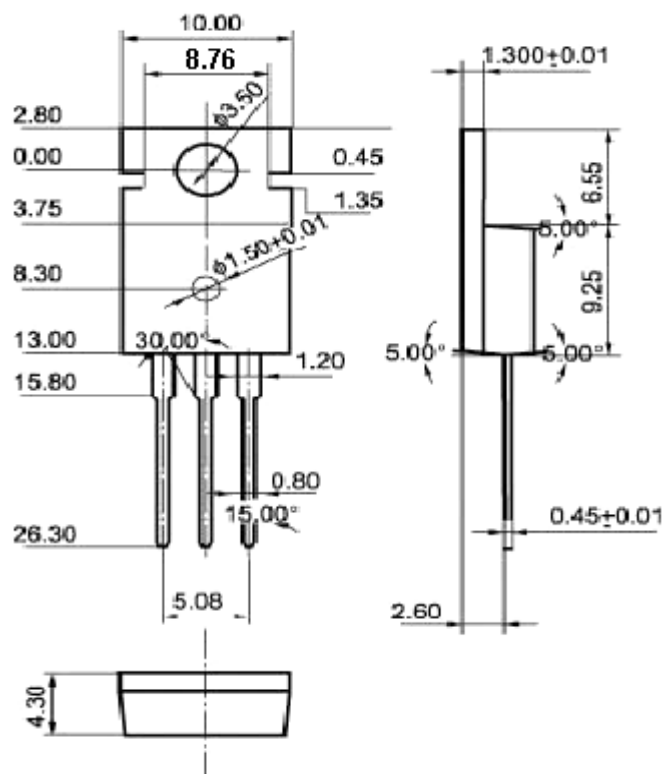


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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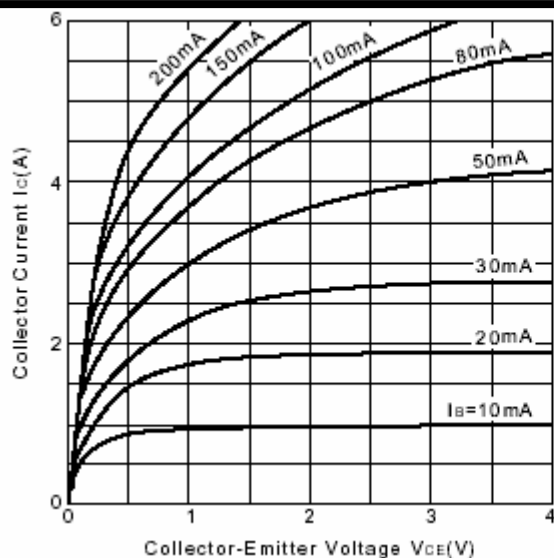


Fig.3 Static Characteristic

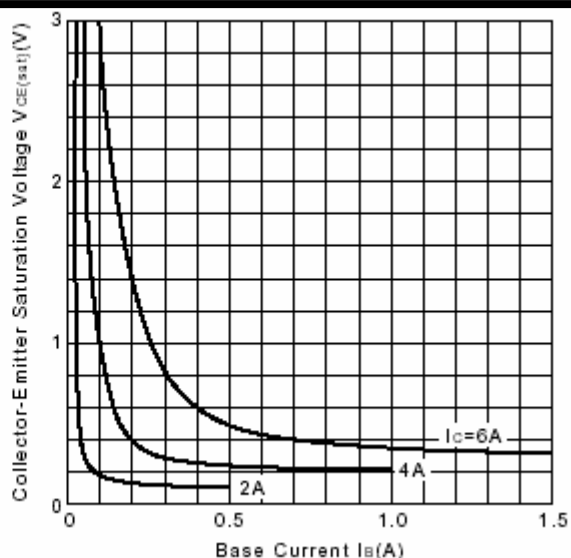
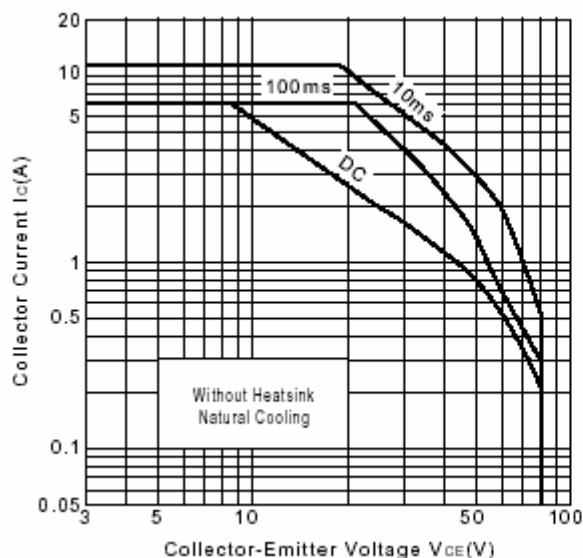
Fig.4 $V_{CE(sat)} - I_B$ Characteristics

Fig.5 Safe Operating Area

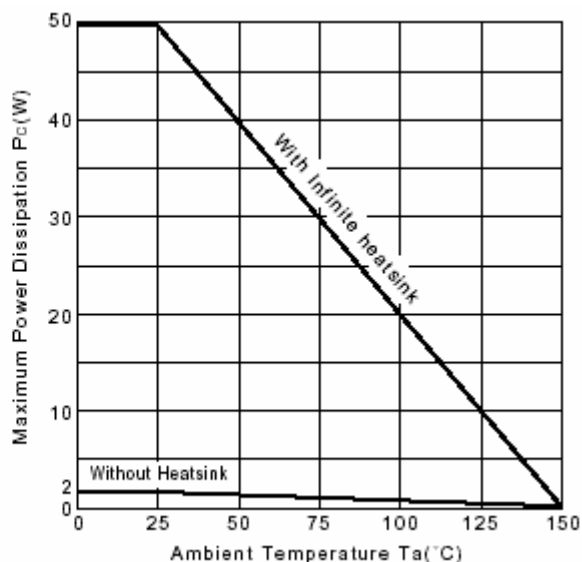
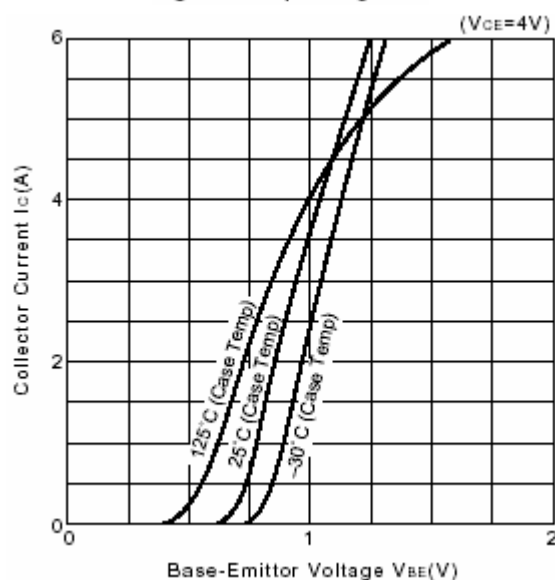
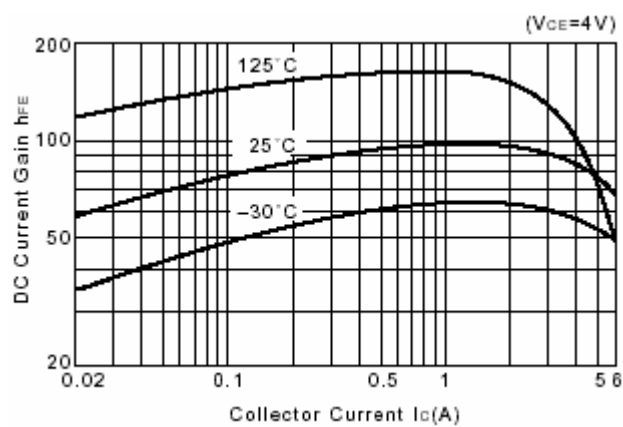
Fig.6 $P_C - T_a$ DeratingFig.7 $I_C - V_{BE}$ 

Fig.8 DC current Gain