

Silicon NPN Power Transistors

2SC3902

DESCRIPTION

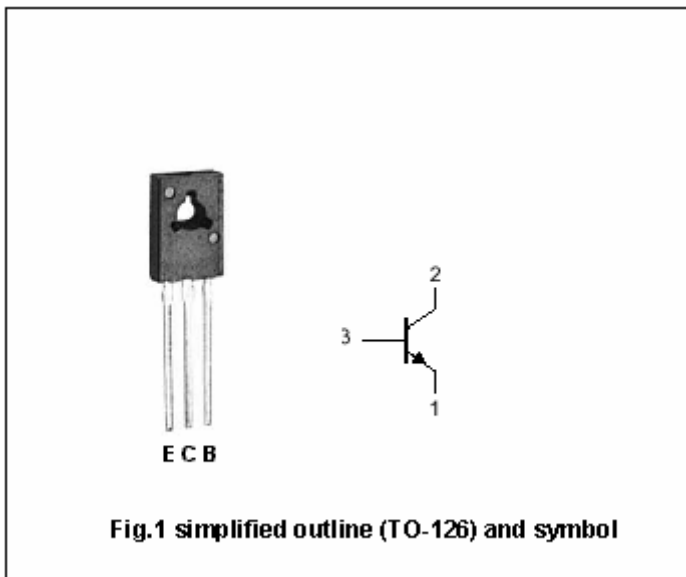
- With TO-126 package
- Complement to type 2SA1507
- Large current capacity
- High breakdown voltage

APPLICATIONS

- Color TV audio output ,converters, inverters

PINNING

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



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	180	V
V _{CEO}	Collector-emitter voltage	Open base	160	V
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current		1.5	A
I _{CM}	Collector current-peak		2.5	A
P _D	Total power dissipation	T _a =25°C	1.5	W
		T _C =25°C	10	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55°C+150	°C

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =1mA ; R _{BE} =∞	160			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =10μA ; I _E =0	180			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10μA ; I _C =0	6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =500mA ; I _B =50mA			0.45	V
V _{BEsat}	Base-emitter saturation voltage	I _C =500mA ; I _B =50mA			1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =120V ; I _E =0			0.1	μA
I _{EBO}	Emitter cut-off current	V _{EB} =4V ; I _C =0			0.1	μA
h _{FE-1}	DC current gain	I _C =100mA ; V _{CE} =5V	100		400	
h _{FE-2}	DC current gain	I _C =10mA ; V _{CE} =5V	90			
C _{ob}	Output capacitance	I _E =0 ; V _{CB} =10V f=1MHz		14		pF
f _T	Transition frequency	I _C =50mA ; V _{CE} =10V		120		MHz

Switching times

t _{on}	Turn-on time	I _C =0.7A ; I _{B1} =-I _{B2} =0.07A V _{CC} =100V , R _L =14.3Ω		0.04		μs
t _s	Storage time			1.2		μs
t _f	Fall time			0.08		μs

◆ h_{FE-1} Classifications

R	S	T
100-200	140-280	200-400

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PACKAGE OUTLINE

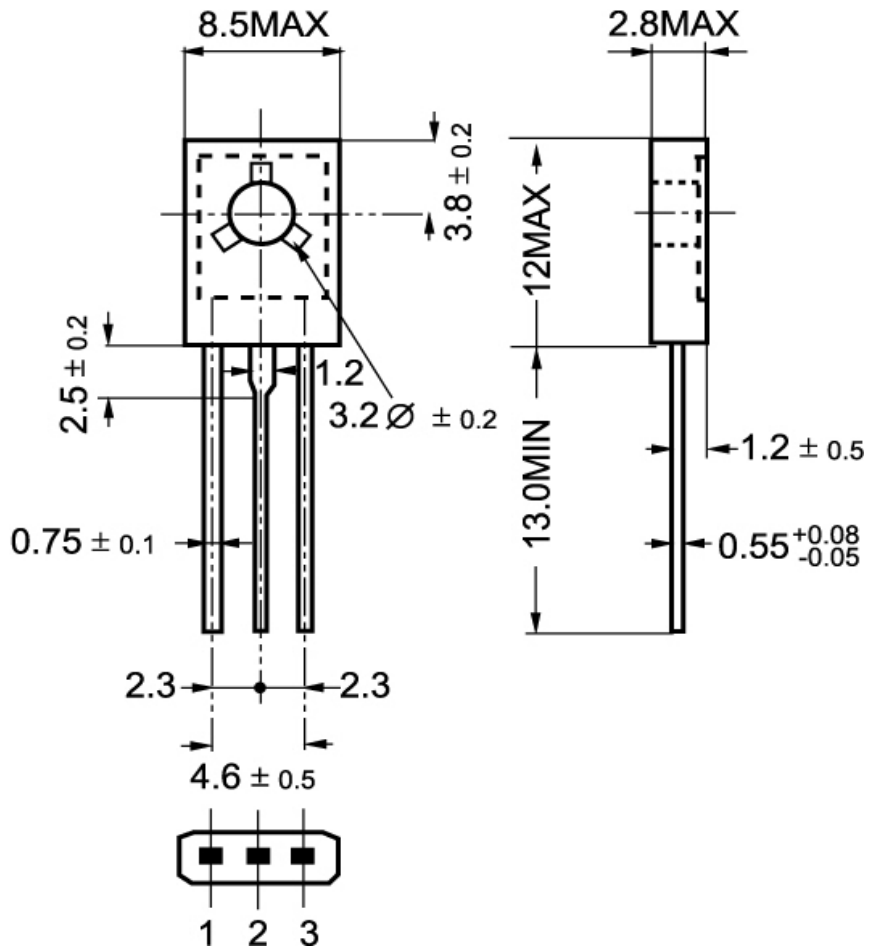


Fig.2 Outline dimensions

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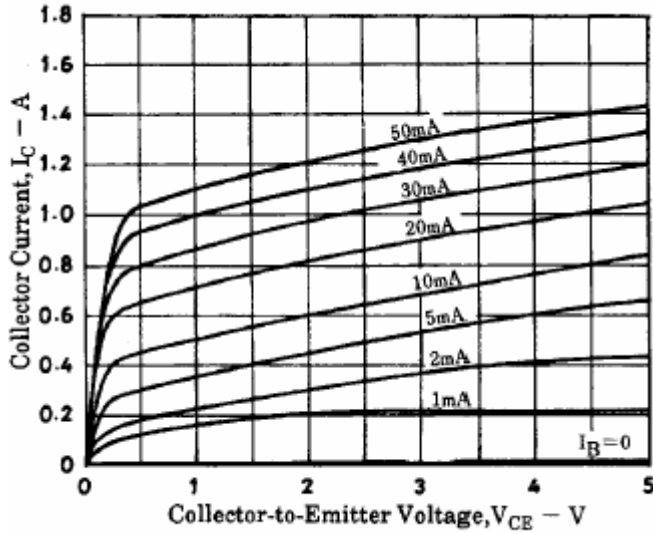


Fig.3 Static Characteristic

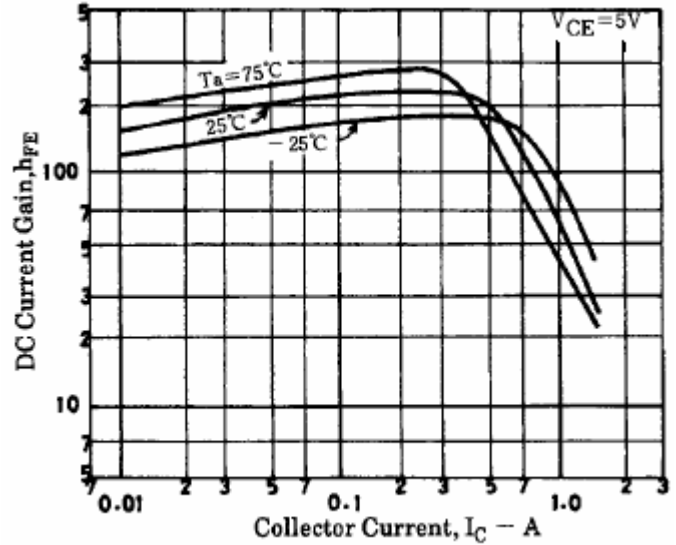


Fig.4 DC current Gain

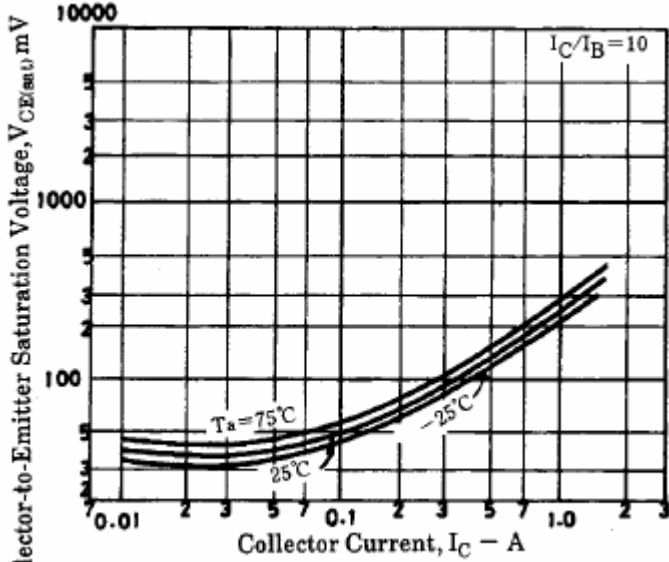


Fig.5 Collector-Emitter Saturation Voltage

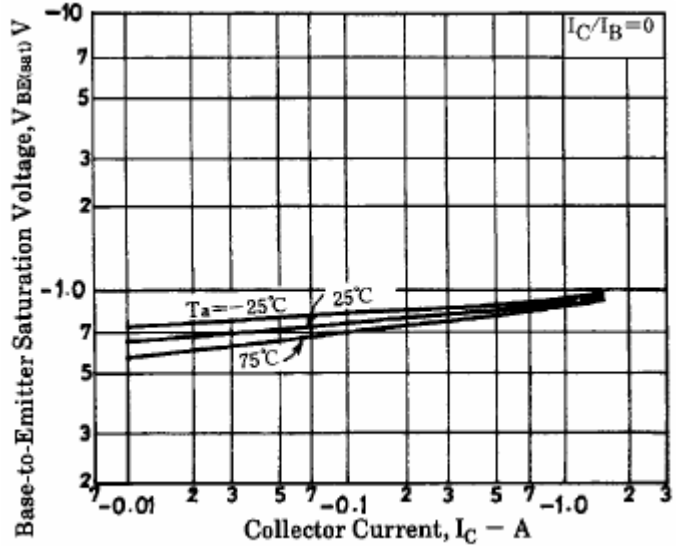


Fig.6 Base-Emitter Saturation Voltage

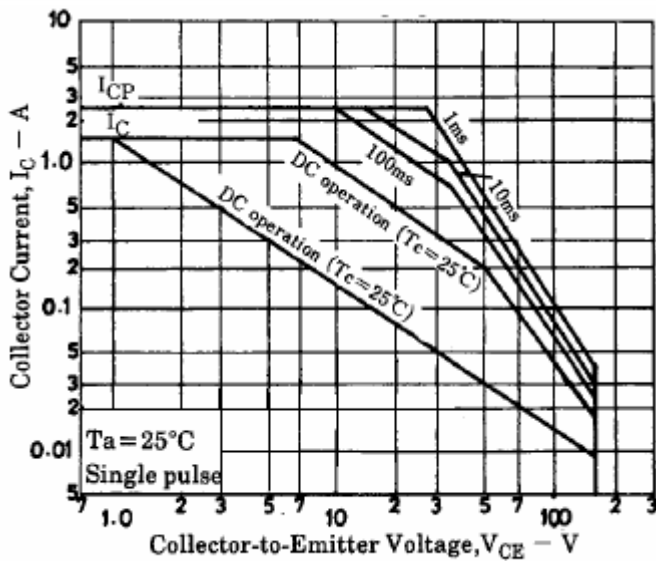


Fig.7 Safe Operating Area