

Silicon NPN Power Transistors

2SC3568

DESCRIPTION

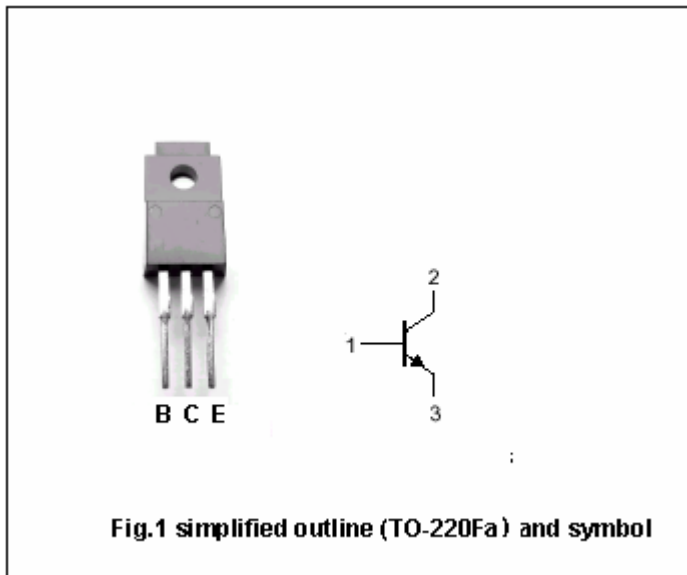
- With TO-220Fa package
- Complement to type 2SA1396
- Low collector saturation voltage
- High switching speed

APPLICATIONS

- Switching regulator
- DC-DC converter
- High frequency power amplifier

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	150	V
V _{CEO}	Collector-emitter voltage	Open base	100	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current(DC)		10	A
I _{CM}	Collector current-peak		20	A
I _B	Base current (DC)		5	A
P _C	Collector power dissipation	T _C =25°C	30	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =5A ; I _B =0.5A; L=1mH	100			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A ; I _B =0.5A			0.6	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A ; I _B =0.5A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			10	μA
I _{CEX}	Collector cut-off current	V _{CE} =100V; V _{BE(OFF)} =-1.5V T _a =125 °C			10 1.0	μA mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			10	μA
h _{FE-1}	DC current gain	I _C =0.5A ; V _{CE} =5V	40			
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =5V	40		200	
h _{FE-3}	DC current gain	I _C =5A ; V _{CE} =5V	20			

Switching times

t _{on}	Turn-on time	I _C =5A ; I _{B1} =-I _{B2} =0.5A V _{CC} ≈50V; R _L =10Ω			0.5	μs
t _s	Storage time				1.5	μs
t _f	Fall time				0.5	μs

◆ h_{FE-2} Classifications

M	L	K
40-80	60-120	100-200

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PACKAGE OUTLINE

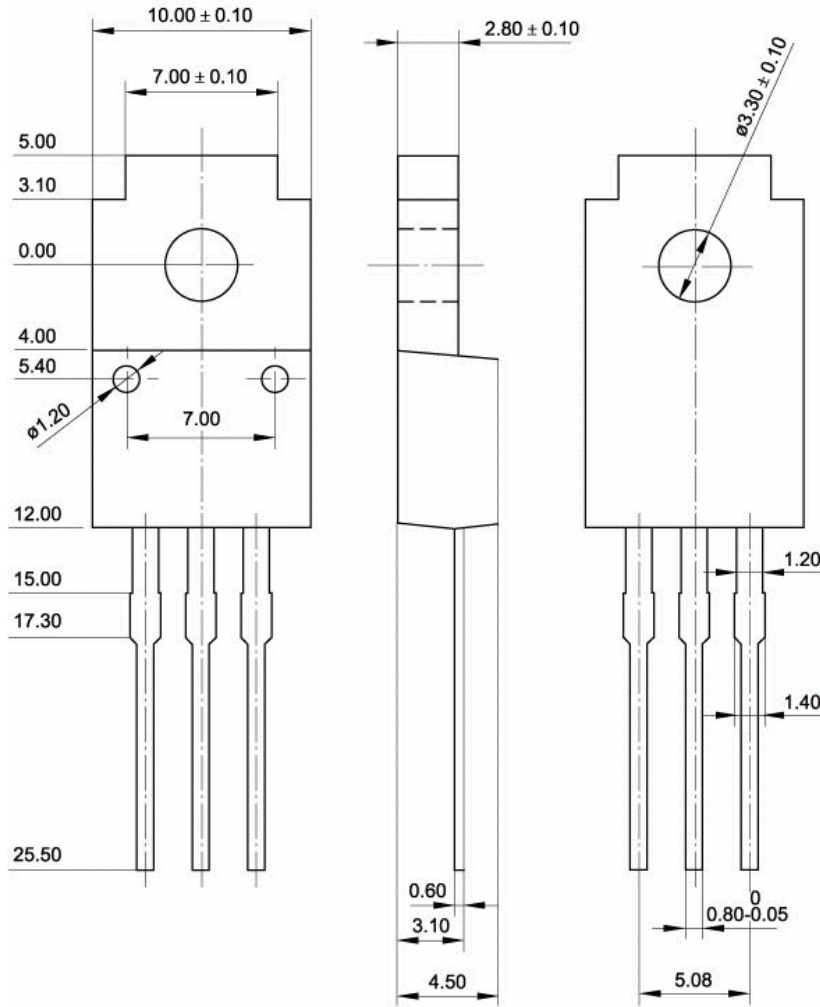


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

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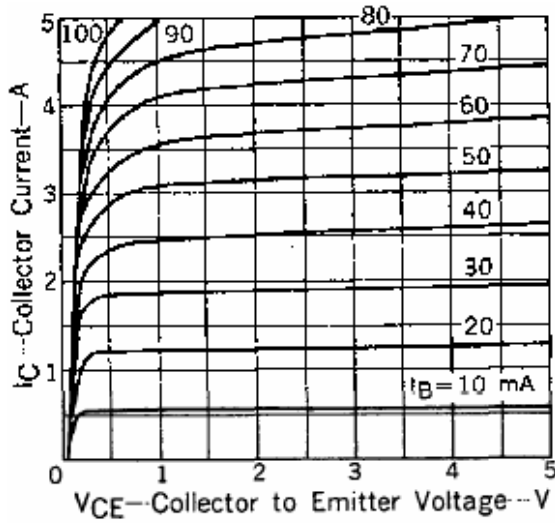


Fig.3 Static Characteristic

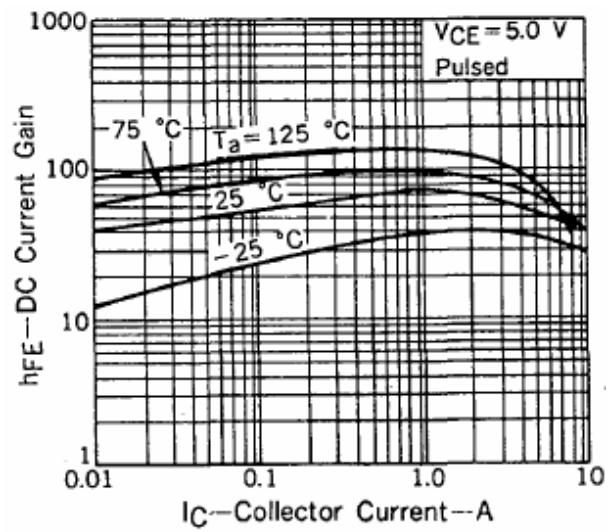


Fig.4 DC current Gain

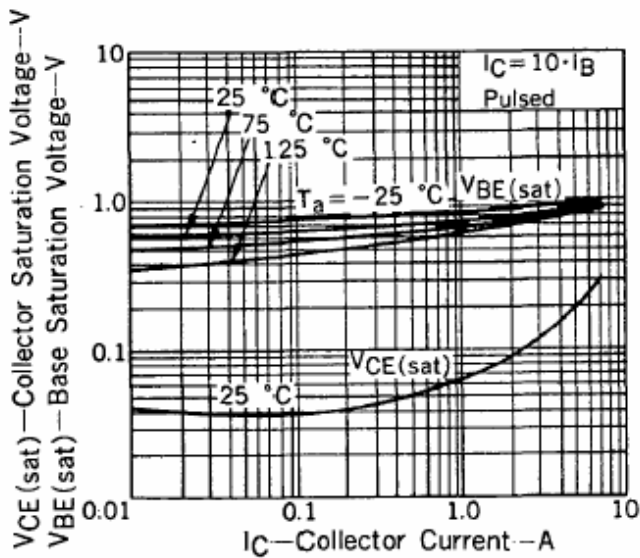


Fig.5

Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

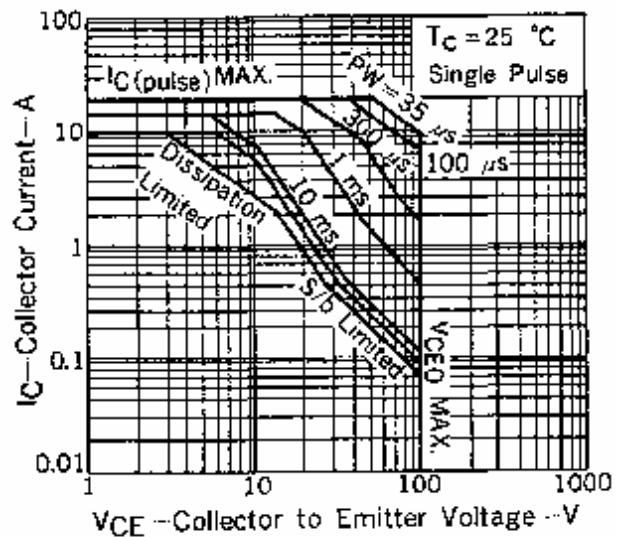


Fig.6 Safe Operating Area