

Silicon NPN Power Transistors

2SD1407

DESCRIPTION

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- With TO-220Fa package
- High breakdown voltage
- Low collector saturation voltage
- Complement to type 2SB1016

APPLICATIONS

- Power amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

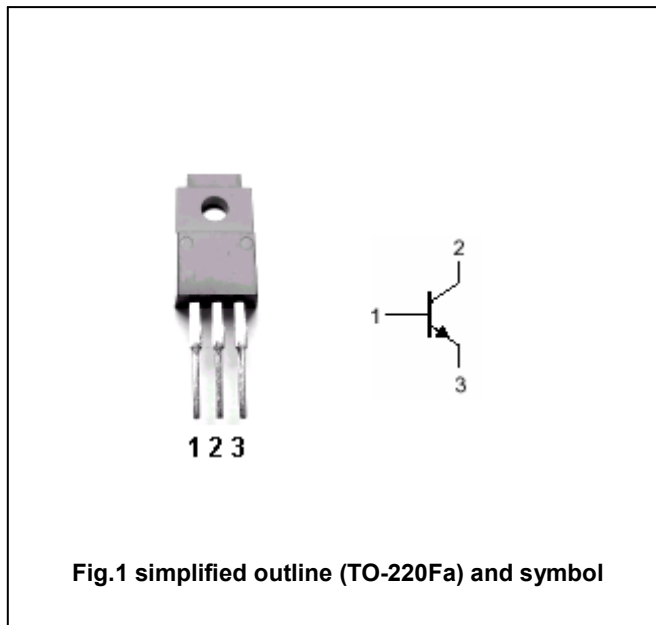


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	100	V
V _{CEO}	Collector -emitter voltage	Open base	100	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		5	A
I _B	Base current		0.5	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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =50mA; I _B =0	100			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =4A; I _B =0.4A			2.0	V
V _{BE}	Base-emitter voltage	I _C =1A; V _{CE} =5V			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	I _C =1A; V _{CE} =5V	40		240	
h _{FE-2}	DC current gain	I _C =4A; V _{CE} =5V	20			
f _T	Transition frequency	I _C =1A; V _{CE} =5V		12		MHz
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =10V; I _E =0		100		pF

◆ h_{FE-1} Classifications

R	O	Y
40-80	70-140	120-240

PACKAGE OUTLINE

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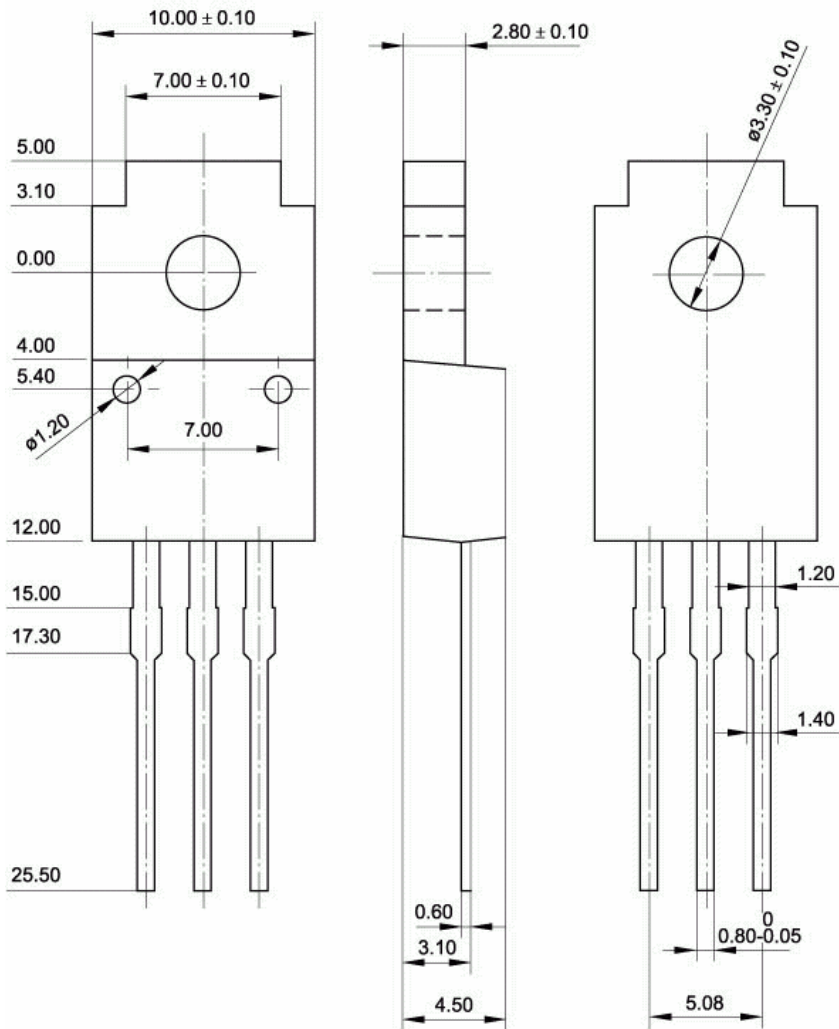


Fig.2 Outline dimensions(unindicated tolerance: ± 0.15 mm)

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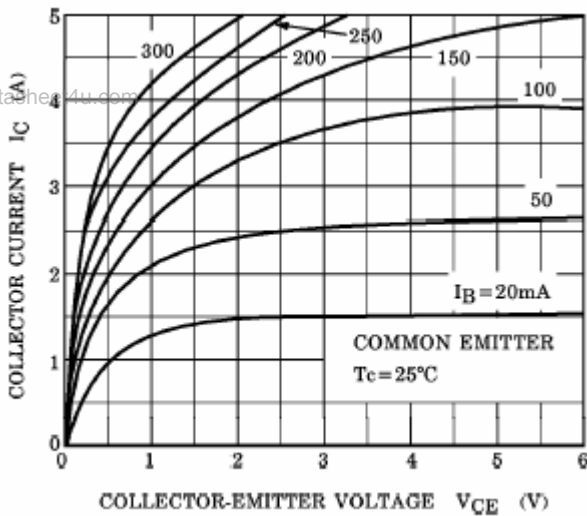


Fig.3 Static Characteristic

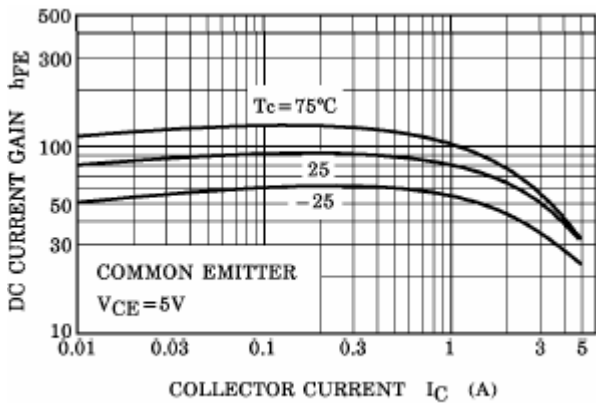


Fig.4 DC current Gain

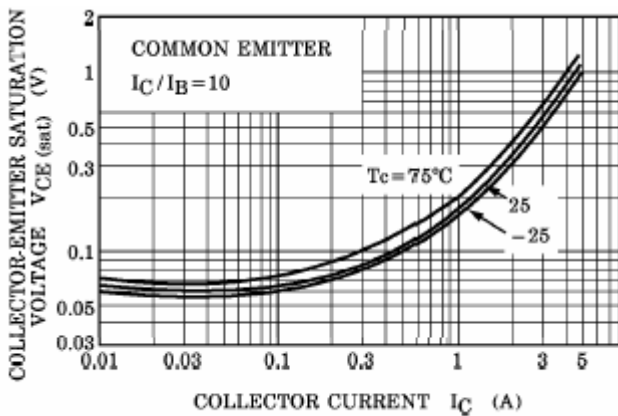


Fig.5 Collector-Emitter Saturation Voltage

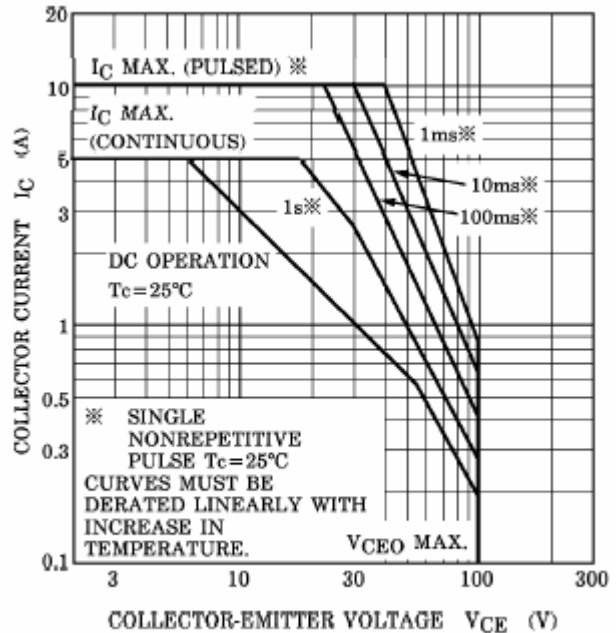


Fig.6 Safe Operating Area