

Silicon NPN Power Transistors

2SC2613

DESCRIPTION

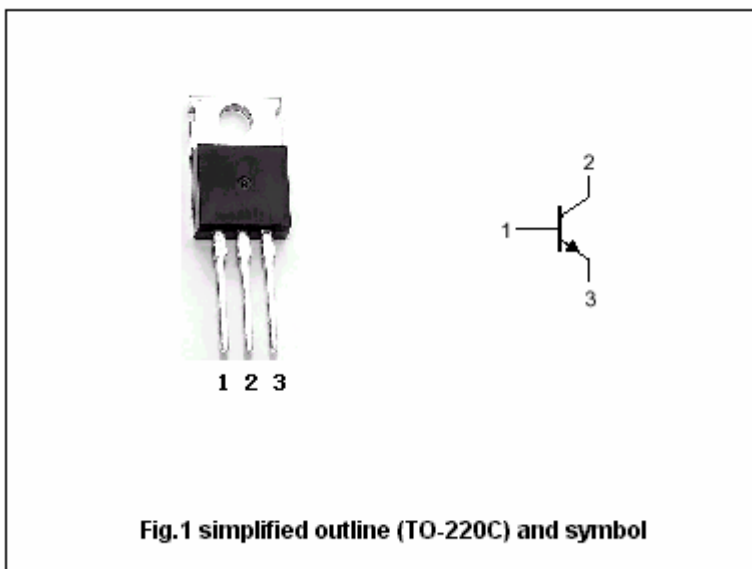
- With TO-220 package
- High collector breakdown voltage
: $V_{CEO}=400V(\text{Min})$

APPLICATIONS

- For high voltage ,high speed and high power switching applications

PINNING

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



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	500	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		5	A
I_{CM}	Collector current-peak		10	A
I_B	Base current		2.5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	40	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 _{CE0(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A, R _{BE} =∞, L=100mH	400			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10mA; I _C =0	7			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =2.5A; I _B =0.5A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =2.5A; I _B =0.5A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =400V; I _E =0			100	μA
I _{CEO}	Collector cut-off current	V _{CE} =350V; R _{BE} =∞			100	μA
h _{FE-1}	DC current gain	I _C =2.5A; V _{CE} =5V	15			
h _{FE-2}	DC current gain	I _C =5A; V _{CE} =5V	7			

Switching times

t _{on}	Turn-on time	I _C =5.0A I _{B1} =- I _{B2} =1A V _{CC} ≈150V			1.0	μs
t _{stg}	Storage time			1.2	2.5	μs
t _f	Fall time				1.0	μs

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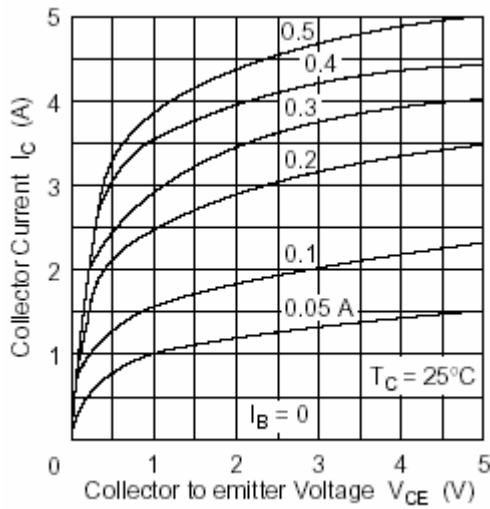


Fig.3 Static Characteristic

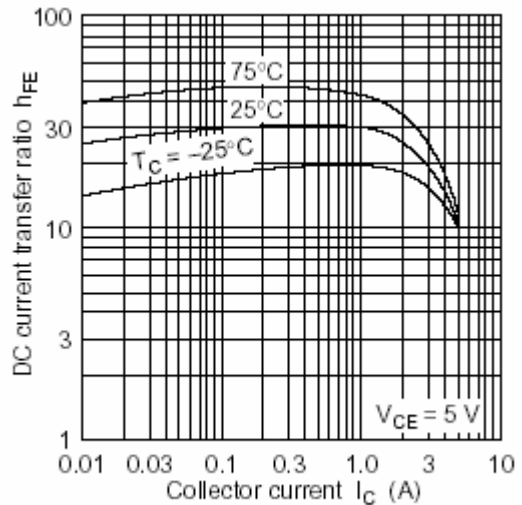


Fig.4 DC current Gain

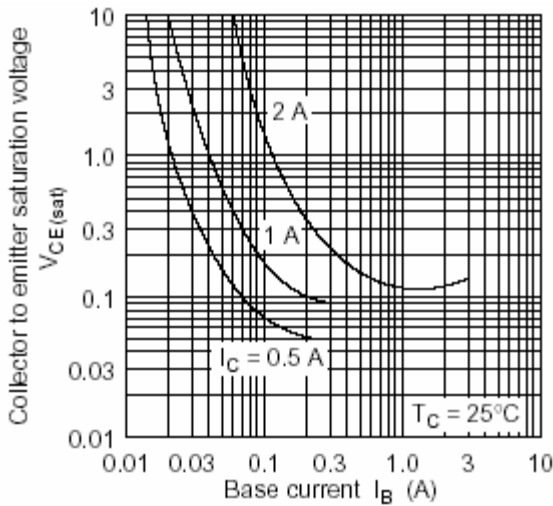


Fig.5 Collector-Emitter Saturation Voltage

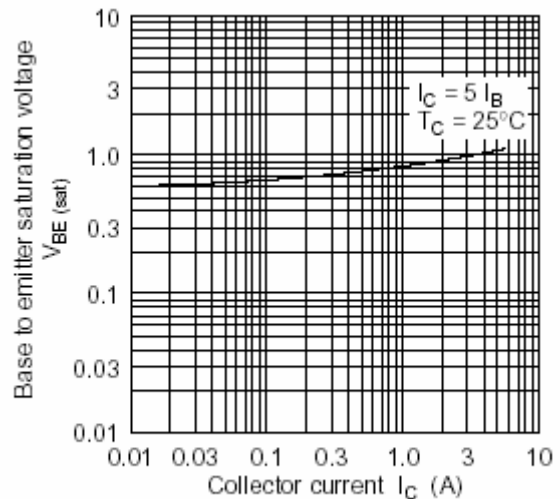


Fig.6 Base-Emitter Saturation Voltage

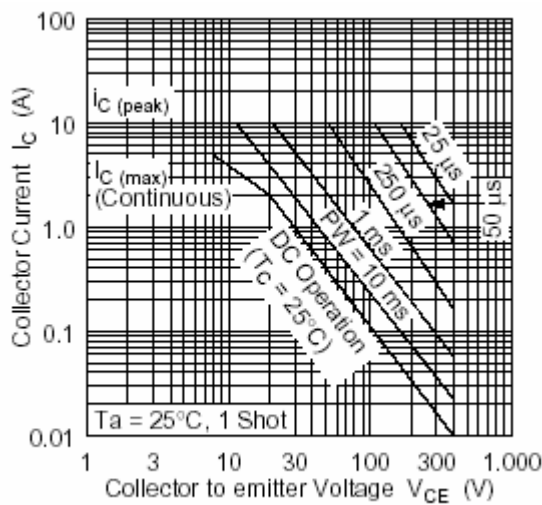


Fig.7 Safe Operating Area