

Silicon PNP Power Transistors

2SA2031

DESCRIPTION

- With TO-3PN package
- Complement to type 2SC5669
- Wide area of safe operation
- Large current capacitance

APPLICATIONS

- For audio frequency output applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

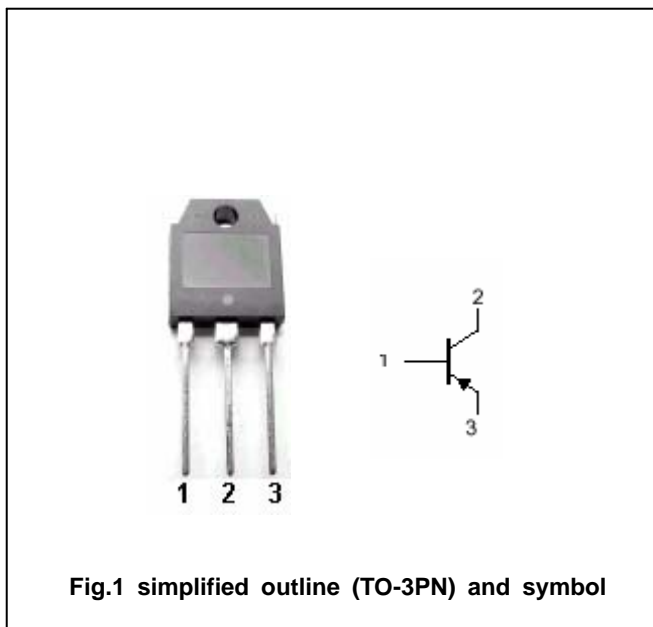


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-250	V
V_{CEO}	Collector-emitter voltage	Open base	-230	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-15	A
I_{CM}	Collector current-peak		-30	A
P_C	Collector power dissipation	$T_a=25$	2.5	W
		$T_C=25$	140	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =-50mA; R _{BE} =	-230			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =-5mA; I _E =0	-250			V
V _(BREBO)	Emitter-base breakdown voltage	I _E =-5mA; I _C =0	-6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =-7.5 A; I _B =-0.75A		-0.3	-2.0	V
V _{BE}	Base-emitter saturation voltage	I _C =-7.5 A; V _{CE} =-5V			-1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =-250V; I _E =0			-100	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =-4V; I _C =0			-100	μ A
h _{FE-1}	DC current gain	I _C =-1A; V _{CE} =-5V	60		160	
h _{FE-2}	DC current gain	I _C =-7.5 A; V _{CE} =-5V	35			
C _{OB}	Output capacitance	I _E =0; V _{CB} =-10V, f=1MHz		400		pF
f _T	Transition frequency	I _C =-1A; V _{CE} =-5V		10		MHz

Switching times

t _{on}	Turn-on time	I _C =-7.5A; R _L =6.67 I _{B1} =-I _{B2} =-0.75A V _{CC} =-50V		0.45		μ s
t _{stg}	Storage time			1.75		μ s
t _f	Fall time			0.25		μ s

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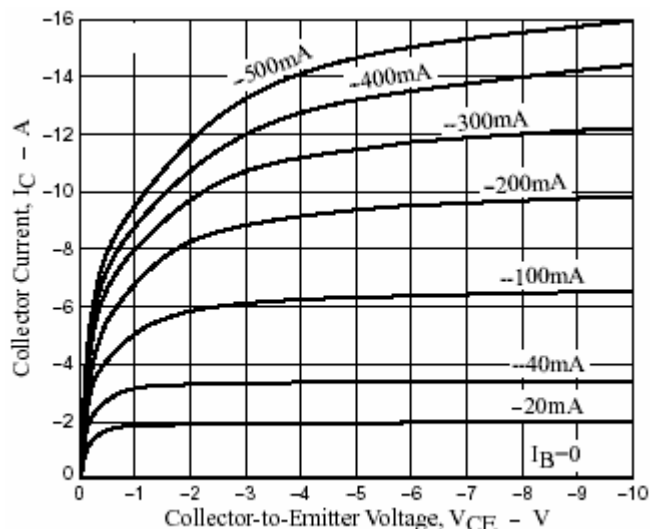


Fig.3 Static Characteristic

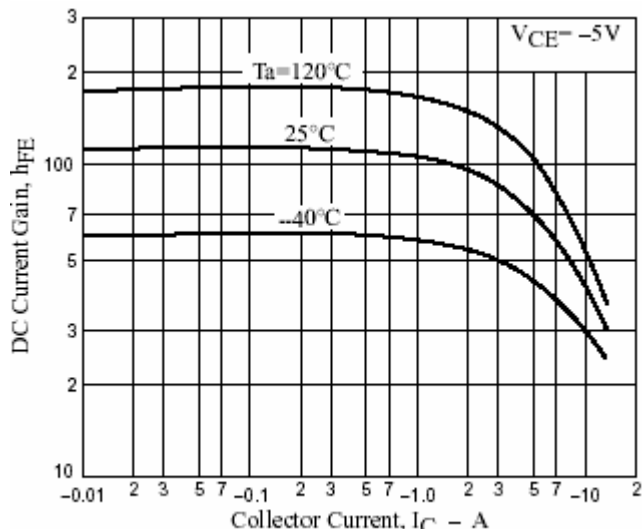


Fig.4 DC current Gain

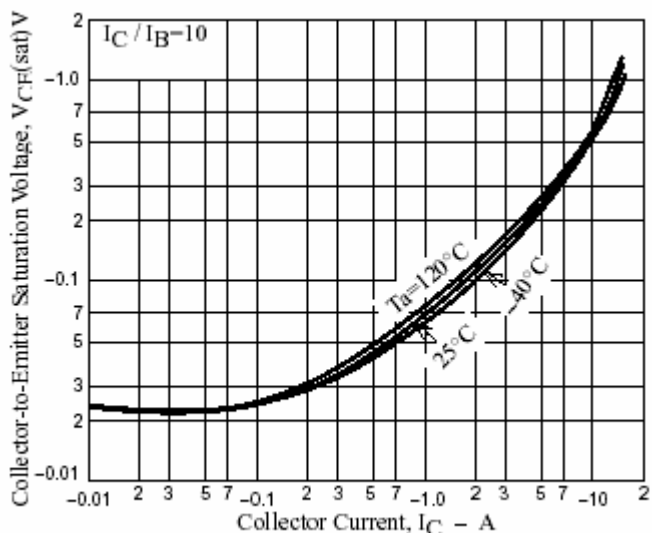


Fig.5 Collector-Emitter Saturation Voltage

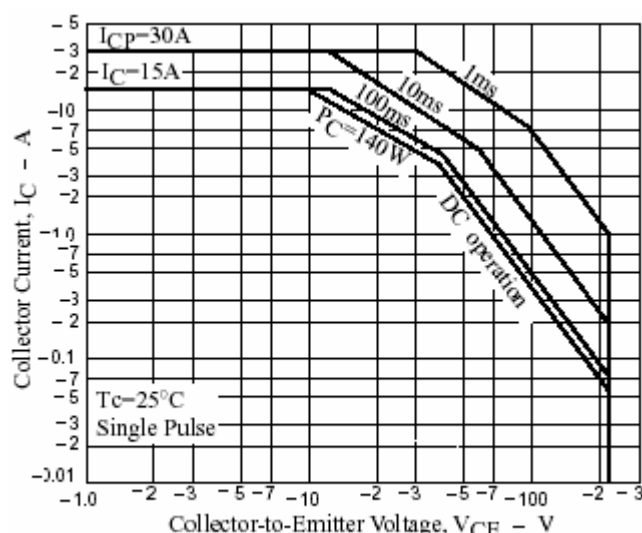


Fig.6 Safe Operating Area