

Silicon NPN Power Transistors

2SC5071

DESCRIPTION

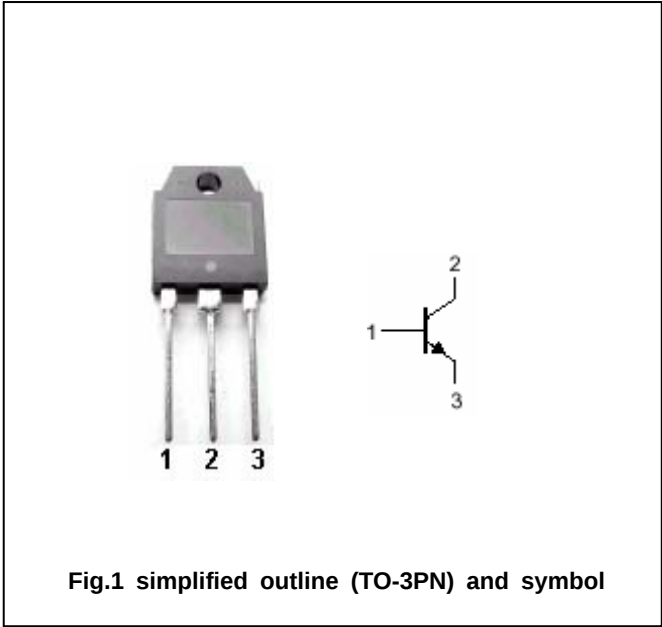
- With TO-3PN package
- High voltage
- High speed switching

APPLICATIONS

- For switching regulator and general purpose applications

PINNING

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



Absolute maximum ratings(Ta=)

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	10	V
I _C	Collector current		12	A
I _{CM}	Collector current-peak		24	A
I _B	Base current		4	A
P _C	Collector power dissipation	T _C =25	100	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=25mA ; I_B=0$	400			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=7A ; I_B=1.4A$			0.5	V
V_{CESat}	Collector-emitter saturation voltage	$I_C=7A ; I_B=1.4A$			1.3	V
I_{CBO}	Collector cut-off current	$V_{CB}=500V ; I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=10V ; I_C=0$			100	μA
h_{FE}	DC current gain	$I_C=7A ; V_{CE}=4V$	10		30	
C_{OB}	Output capacitance	$I_E=0 ; V_{CB}=10V, f=1MHz$		105		pF
f_T	Transition frequency	$I_E=-1A ; V_{CE}=12V$		10		MHz

Switching times

t_{on}	Turn-on time	$I_C=7A ; R_L=28.5\Omega$ $I_{B1}=0.7A ; I_{B2}=-1.4A$ $V_{CC}=200V$			1.0	μs
t_s	Storage time				3.0	μs
t_f	Fall time				0.5	μs

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PACKAGE OUTLINE

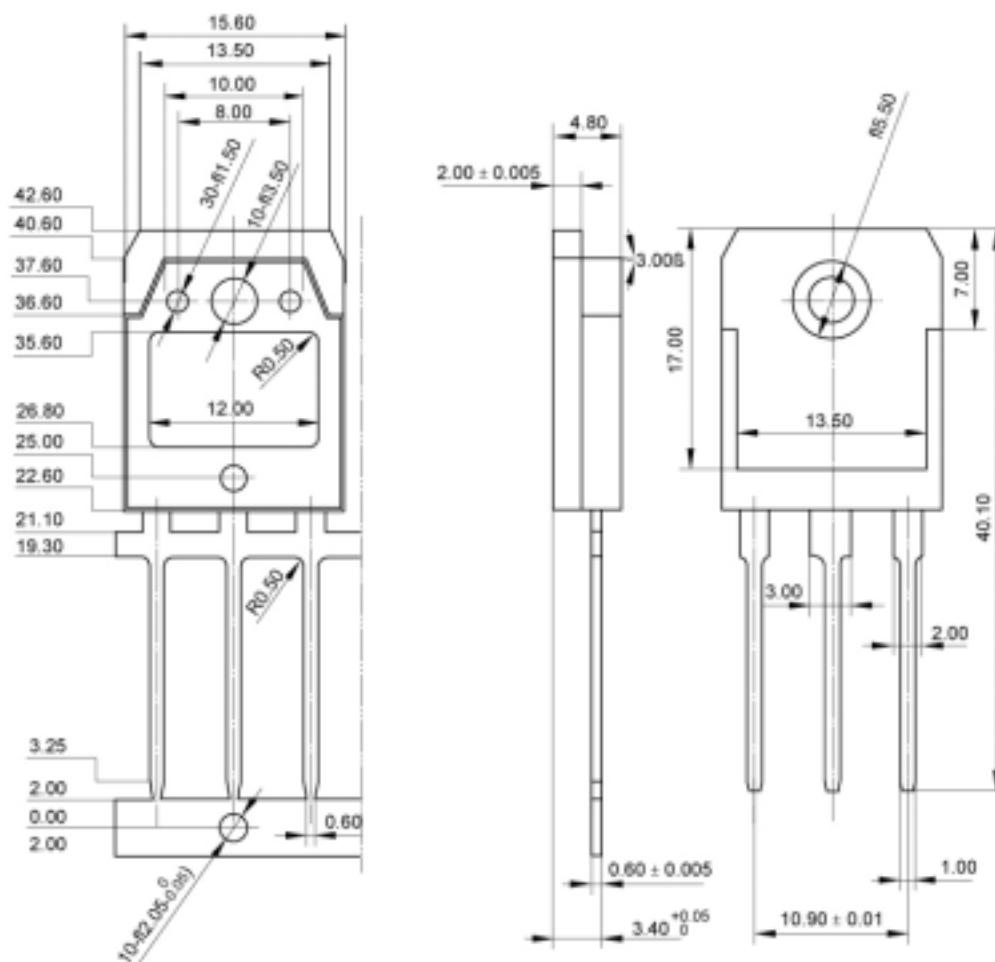


Fig.2 outline dimensions (unindicated tolerance: $\pm 0.1\text{mm}$)

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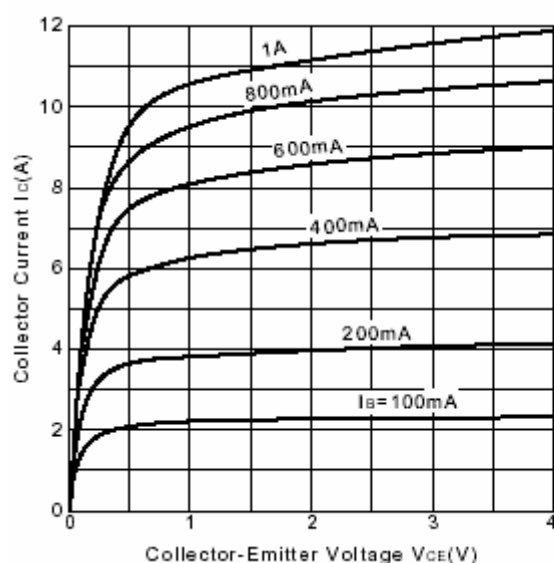


Fig.3 Static Characteristic

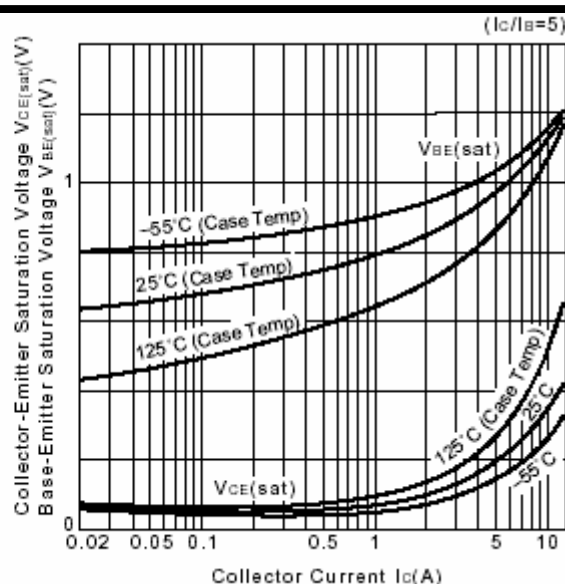
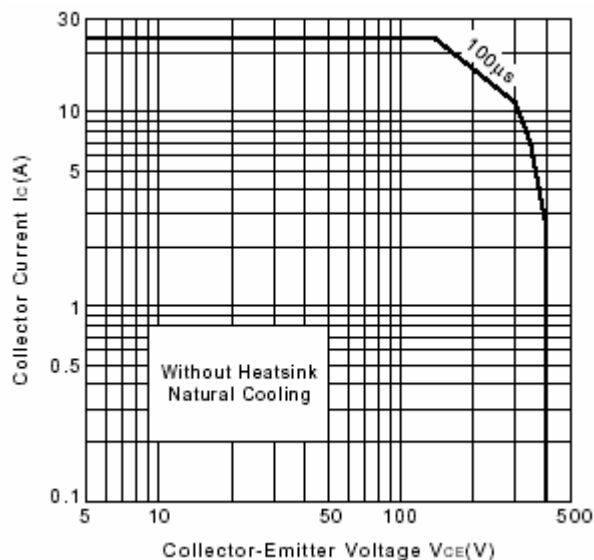
Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Fig.5 Safe Operating Area

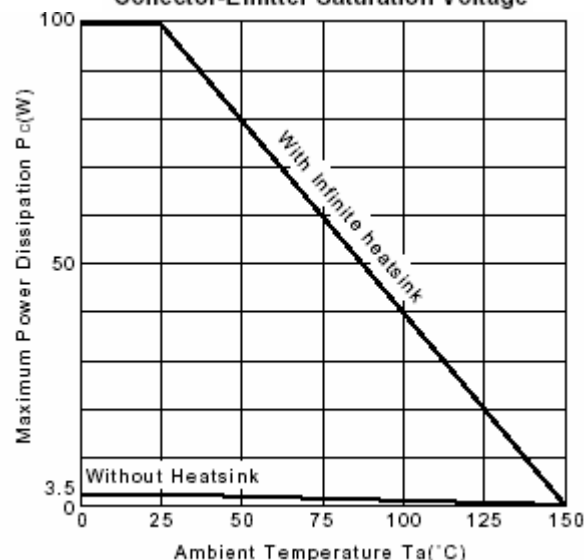


Fig.6 Power Derating

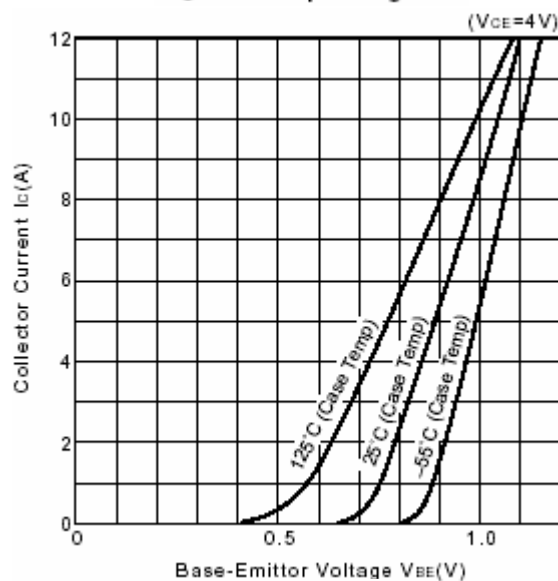
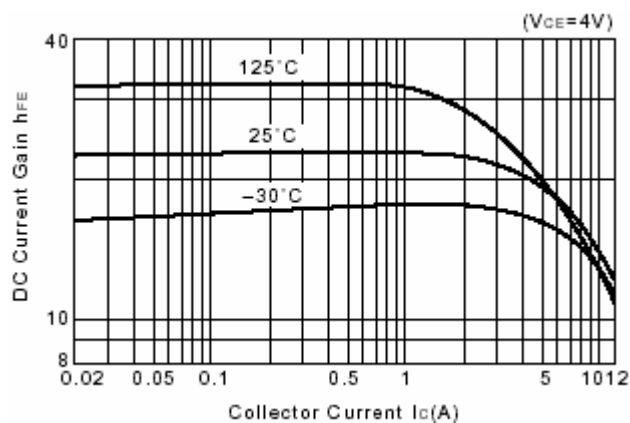
Fig.7 $I_C - V_{BE}$ 

Fig.8 DC current Gain