

Silicon NPN Power Transistors

2SC3171

DESCRIPTION

- With TO-3PFa package
- High collector current
- High speed switching

APPLICATIONS

- For high speed switching applications

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

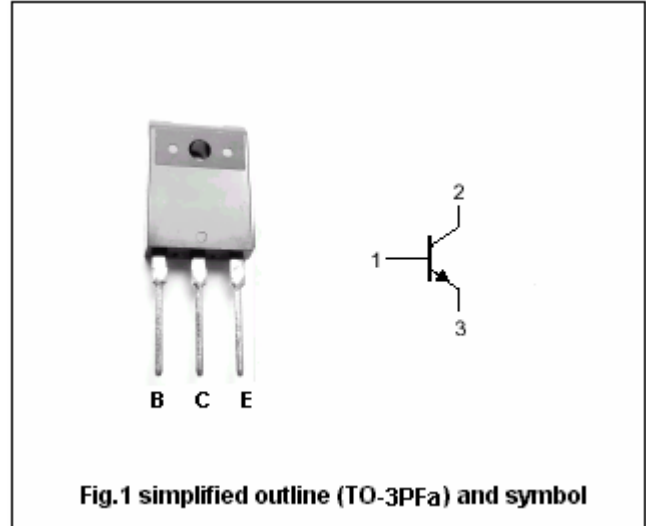


Fig.1 simplified outline (TO-3PFa) and symbol

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

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		10	A
I_{CP}	Collector current-peak		20	A
I_B	Base current		5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	100	W
		$T_a=25^\circ\text{C}$	3	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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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 =0.2A ; L=25mH	400			V
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =5A; I _B =1A			1.0	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =5A; I _B =1A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =500V; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	mA
h _{FE-1}	DC current gain	I _C =0.1A ; V _{CE} =5V	15			
h _{FE-2}	DC current gain	I _C =5A ; V _{CE} =5V	8			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V		8		MHz

Switching times

t _{on}	Turn-on time	I _C =5A; I _{B1} =-I _{B2} =1A V _{CC} =100V			1.0	μs
t _s	Storage time				3.0	μs
t _f	Fall time				1.0	μs

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PACKAGE OUTLINE



Fig.2 outline dimensions (unindicated tolerance:±0.3mm)