

Silicon NPN Power Transistors

2SC3870

DESCRIPTION

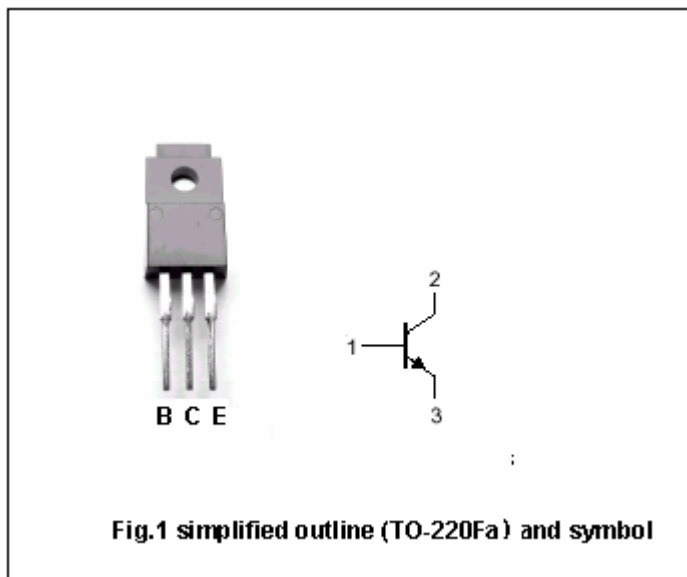
- With TO-220Fa package
- High breakdown voltage
- Wide area of safe operation

APPLICATIONS

- For high speed switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings($T_a=25$)

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 (DC)		7	A
I_{CM}	Collector current (pulse)		15	A
I_B	Base current (DC)		3	A
P_C	Collector power dissipation	$T_a=25$	2	W
		$T_C=25$	40	
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 _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =10mA ; I _B =0	400			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A ; I _B =0.6A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =3A ; I _B =0.6A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =500V; I _E =0			100	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			100	μ A
h _{FE-1}	DC current gain	I _C =0.1A ; V _{CE} =5V	15			
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =5V	8			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V		30		MHz

Switching times

t _{on}	Turn-on time	I _C =3A ; I _B =0.6A; I _{B2} =-1.2A V _{CC} =150V			0.7	μ s
t _s	Storage time				2.0	μ s
t _f	Fall time				0.3	μ s

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PACKAGE OUTLINE

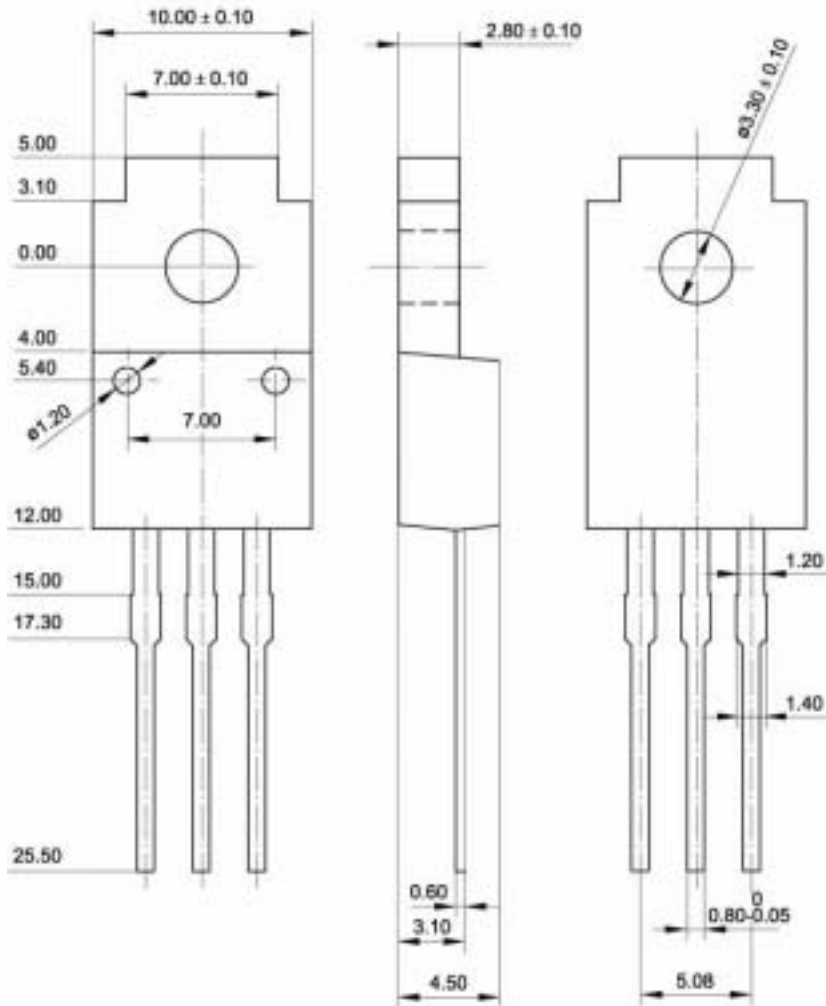


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)