Silicon NPN Power Transistors 2SC3870

DESCRIPTION

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

APPLICATIONS

- For high speed switching applications

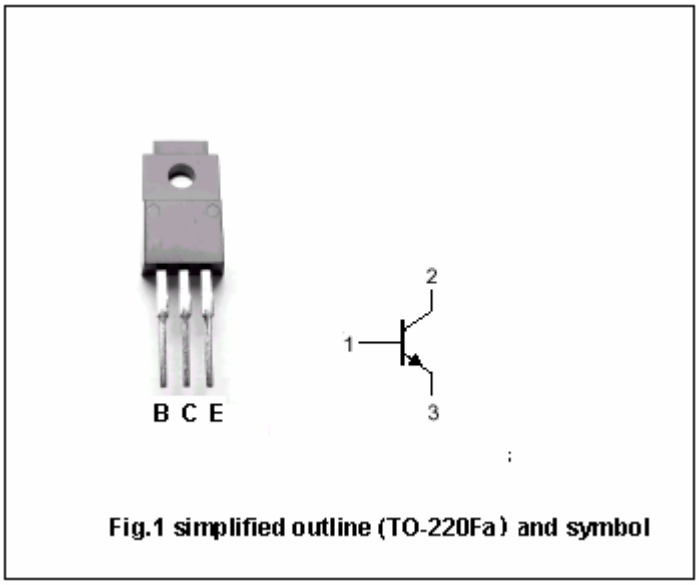


Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings(Ta=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

Tj=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	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			100	μA
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	μs
t_s	Storage time				2.0	μs
t_f	Fall time				0..3	μs

PACKAGE OUTLINE

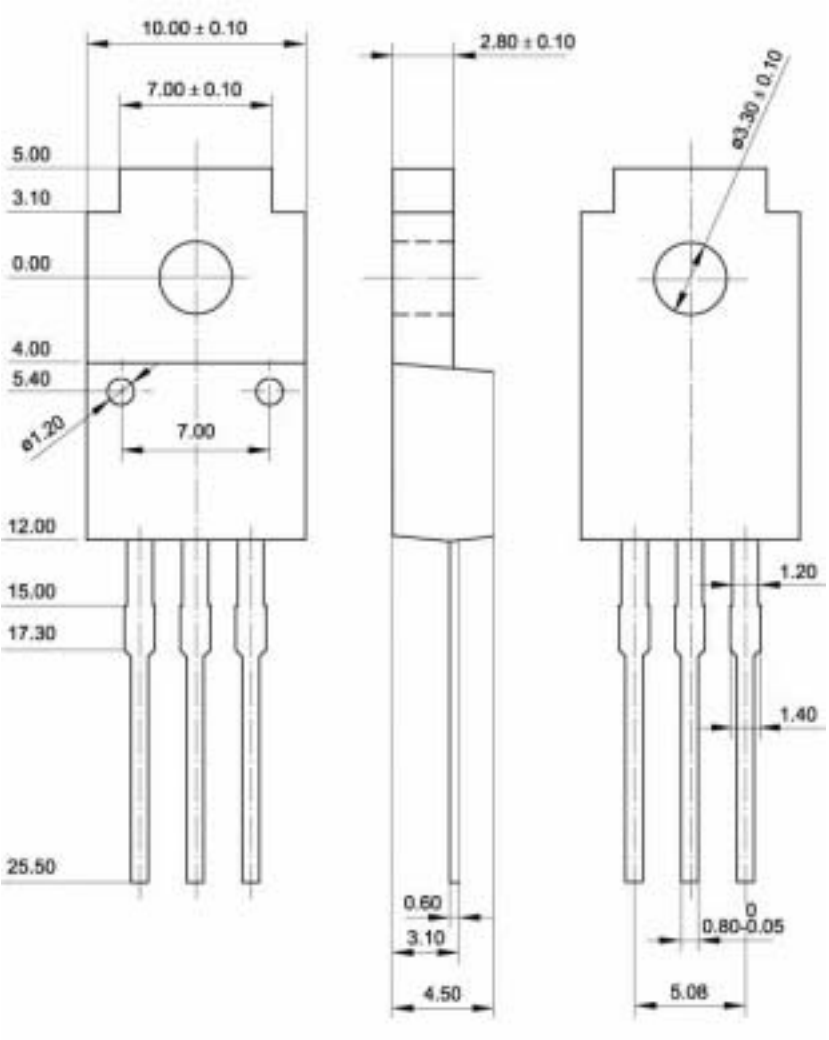


Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)