Silicon NPN Power Transistors 2SC3170

DESCRIPTION

- With TO-220Fa package
- Low collector saturation voltage
- High breakdown voltge

APPLICATIONS

- For high speed switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

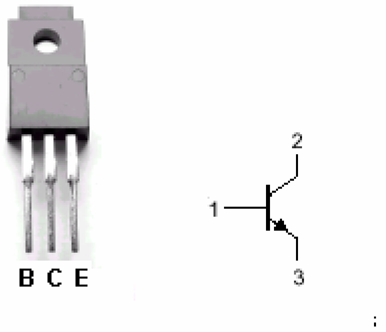

Fig.1 simplified outline (TO-220Fa) and symbol

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		7	A
I_{CM}	Collector current-peak		15	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	□

CHARACTERISTICS

Tj=25 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_{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		8		MHz

Switching times

t_{on}	Turn-on time	I_C=3A ; I_{B1}=-I_{B2}=0.6A V_{CC}=100V			1.0	μs
t_{stg}	Storage time				3.0	μs
t_f	Fall time				1.0	μs

PACKAGE OUTLINE

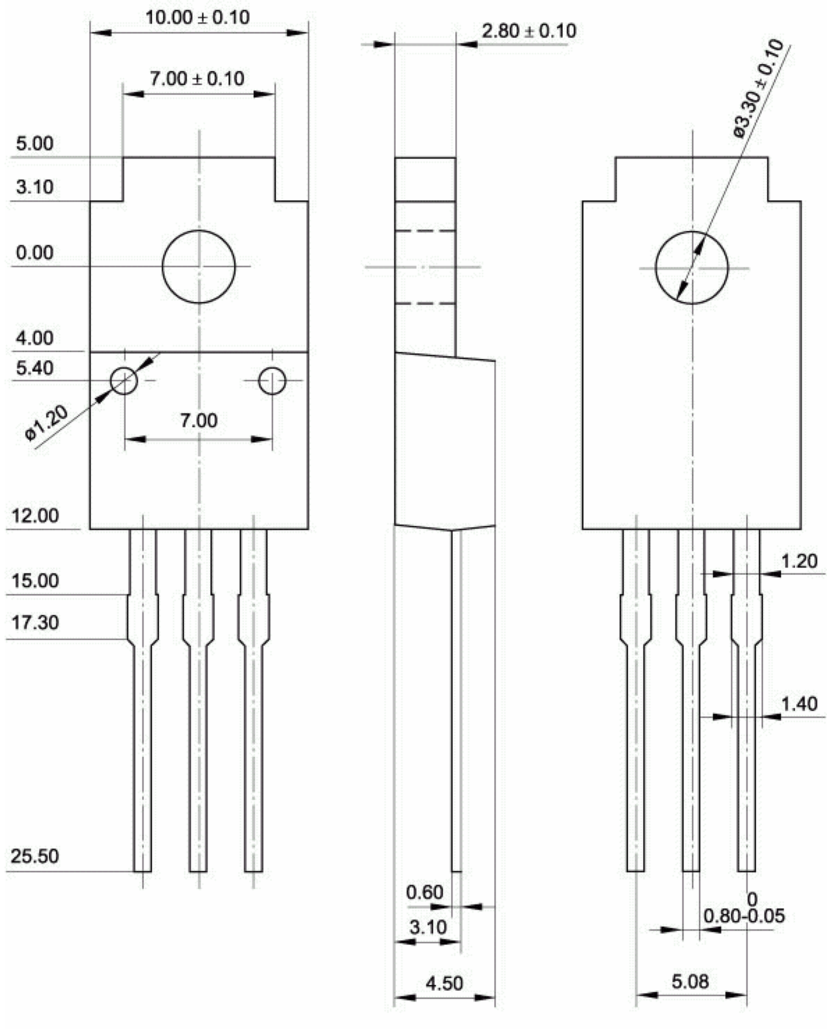

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)