Silicon NPN Power Transistors 2SC3969

DESCRIPTION

- With TO-220Fa package
- Low collector saturation voltage
- High breakdown voltage
- Fast switching speed

APPLICATIONS

- For high voltage switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

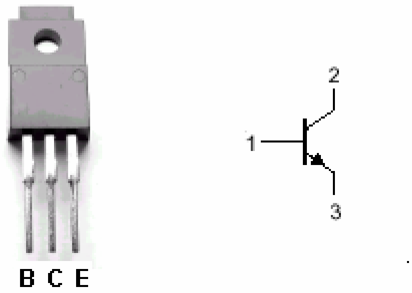

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings (Tc=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	400	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current -DC		2	A
I_{CM}	Collector current-Peak		4	A
P_C	Collector power dissipation	T_a=25□	2	W
		T_C=25□	20	
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=1.0A ;I_{B1}=0.1A,L=1mH	400			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=1mA ;I_B=0	400			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=50μA ;I_E=0	400			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=50μA ;I_C=0	7			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=1A; I_B=0.2A			1.0	V
V_{BEsat}	Base-emitter saturation voltage	I_C=1A; I_B=0.2A			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=400V; I_E=0			10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=7V; I_C=0			10	μA
h_{FE}	DC current gain	I_C=0.1A ; V_{CE}=5V	25		50	
f_T	Transition frequency	I_E=-0.1A ; V_{CE}=10V;f=5MHz		10		MHz
C_{OB}	Collector outoput capacitance	I_E=0; f=1MHz ; V_{CB}=10V		30		pF

Switching times

t_{on}	Turn-on time	V_{CC}≈200V ,I_C=0.8A I_{B1}=-I_{B2}=0.08A;R_L=250Ω			1.0	μs
t_s	Storage time				2.5	μs
t_f	Fall time				1.0	μs

PACKAGE OUTLINE

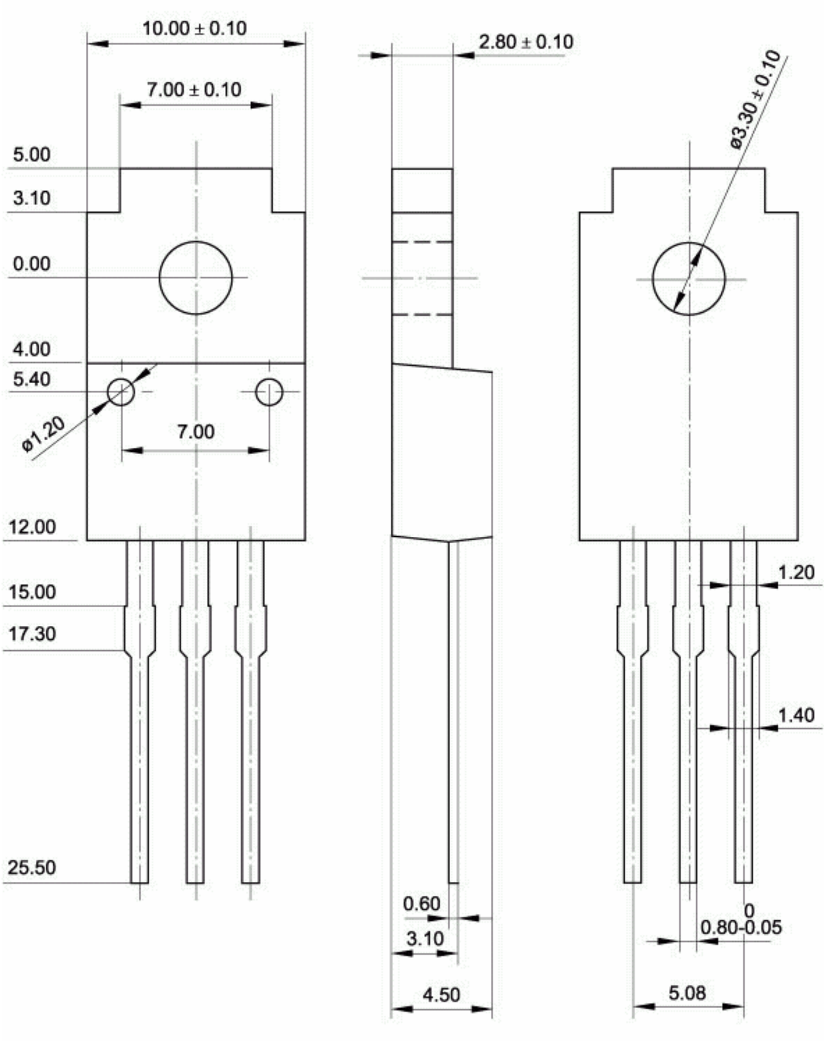

Fig.2 Outline dimensions (unindicated tolerance:±0.15mm)