Silicon NPN Power Transistors 2SC4004

DESCRIPTION

·With TO-220Fa package
· Wide area of safe operation (ASO)
·High-speed switching
·High collector to base voltage V_{CBO}

APPLICATIONS

·For high breakdown voltage high-speed switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

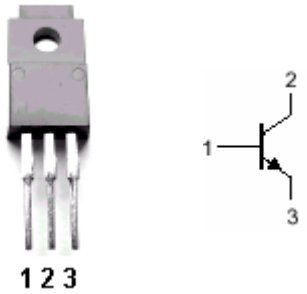

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings (Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		1	A
I_{CM}	Collector current-Peak		2	A
I_B	Base current		0.3	A
P_C	Collector power dissipation	T_C=25□	30	w
		T_a=25□	2	
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
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=1mA , I_B=0	800			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=0.2A ;I_B=0.04A			1.5	V
V_{BEsat}	Base-emitter saturation voltage	I_C=0.2A; I_B=0.04A			1.0	V
I_{CBO}	Collector cut-off current	V_{CB}=900V; I_E=0			50	μA
I_{EBO}	Emitter cut-off current	V_{EB}=7V; I_C=0			50	μA
h_{FE-1}	DC current gain	I_C=0.05A ; V_{CE}=5V	6			
h_{FE-2}	DC current gain	I_C=0.5A ; V_{CE}=5V	3			
f_T	Transition frequency	I_C=0.05A; V_{CE}=10V;f=1MHz		4		MHz
Switching times						
t_{on}	Turn-on time	I_C=0.2A ;I_{B1}=0.04A; I_{B2}=-0.04A;V_{CC}=250V			1.0	μs
t_s	Storage time				3.0	μs
t_f	Fall time				1.0	μs

PACKAGE OUTLINE

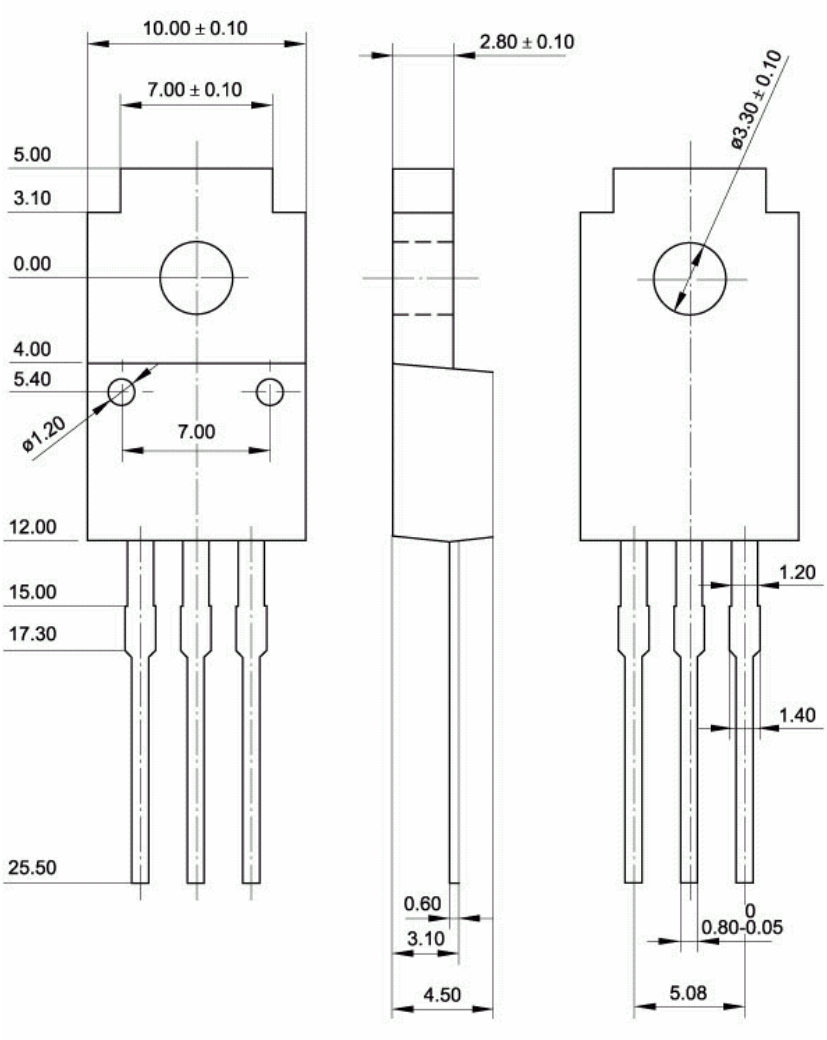

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)