

Silicon NPN Power Transistors

2SC3691

DESCRIPTION

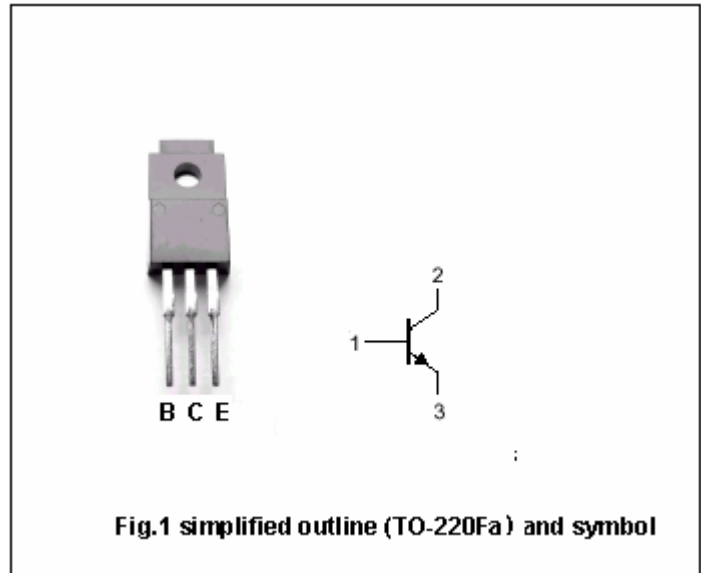
- With TO-220Fa package
- Large current ,high speed
- Low saturation voltage

APPLICATIONS

- Designed for high speed and power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-peak		10	A
I_B	Base current		2.5	A
P_T	Total power dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	25	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =3A; I _B =0.3A, L=1mH	60			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3A; I _B =0.15 A			0.3	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =4A; I _B =0.2A			0.5	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =3A; I _B =0.15 A			1.2	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =4A; I _B =0.2A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =60V; I _E =0			10	μA
I _{CEX}	Collector cut-off current	V _{CE} =60V; V _{BE} =-1.5V T _a =125°C			10 1.0	μA mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			10	μA
h _{FE-1}	DC current gain	I _C =0.5A; V _{CE} =2V	100			
h _{FE-2}	DC current gain	I _C =1A; V _{CE} =2V	100	200	400	
h _{FE-3}	DC current gain	I _C =3A; V _{CE} =2V	60			
C _{OB}	Output capacitance	I _E =0; V _{CB} =10V; f=1MHz		70		pF
f _T	Transition frequency	I _C =0.5A; V _{CE} =10V		150		MHz

Switching times

t _{on}	Turn-on time	I _C =3A; R _L =17Ω I _{B1} =-I _{B2} =0.15A V _{CC} ≈50V			0.3	μs
t _s	Storage time				1.5	μs
t _f	Fall time				0.3	μs

◆ h_{FE-2} classifications

M	L	K
100-200	150-300	200-400

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PACKAGE OUTLINE

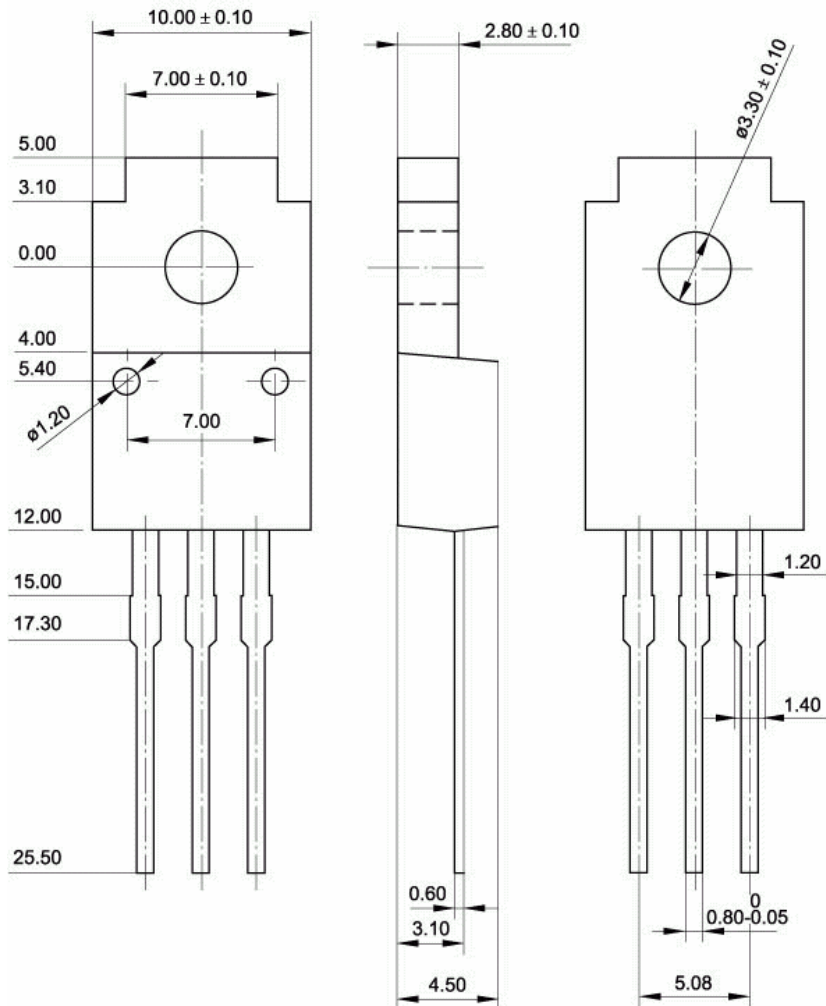


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)