

Silicon NPN Power Transistors

2SC3693

DESCRIPTION

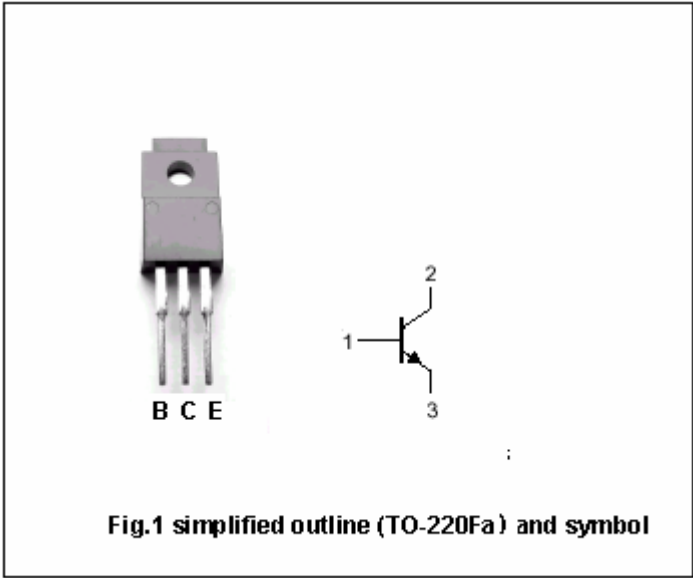
- With TO-220Fa package
- Large current ,high speed
- Low collector saturation voltage

APPLICATIONS

- For use in drivers such as DC/DC converters and actuators

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	100	V
V _{CEO}	Collector-emitter voltage	Open base	60	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		10	A
I _{CM}	Collector current-peak		20	A
I _B	Base current		5.0	A
P _T	Total power dissipation	T _a =25	2	W
		T _C =25	30	
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	$I_C=6A$; $I_B=0.6A$, $L=1mH$	60			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=6A$; $I_B=0.3A$			0.3	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=8A$; $I_B=0.4A$			0.5	V
$V_{BEsat-1}$	Base-emitter saturation voltage	$I_C=6A$; $I_B=0.3A$			1.2	V
$V_{BEsat-2}$	Base-emitter saturation voltage	$I_C=8A$; $I_B=0.4A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=60V$; $I_E=0$			10	μA
I_{CEX}	Collector cut-off current	$V_{CE}=60V$; $V_{BE}=-1.5V$ $T_a=125$			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	$I_C=1A$; $V_{CE}=2V$	100			
h_{FE-2}	DC current gain	$I_C=2A$; $V_{CE}=2V$	100	200	400	
h_{FE-3}	DC current gain	$I_C=6A$; $V_{CE}=2V$	60			
C_{OB}	Output capacitance	$I_E=0$; $V_{CB}=10V$; $f=1MHz$		150		pF
f_T	Transition frequency	$I_C=1.0A$; $V_{CE}=10V$		140		MHz

Switching times

t_{on}	Turn-on time	$I_C=6A$; $R_L=8.3\Omega$ $I_{B1}=-I_{B2}=0.3A$ $V_{CC} \approx 50V$			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

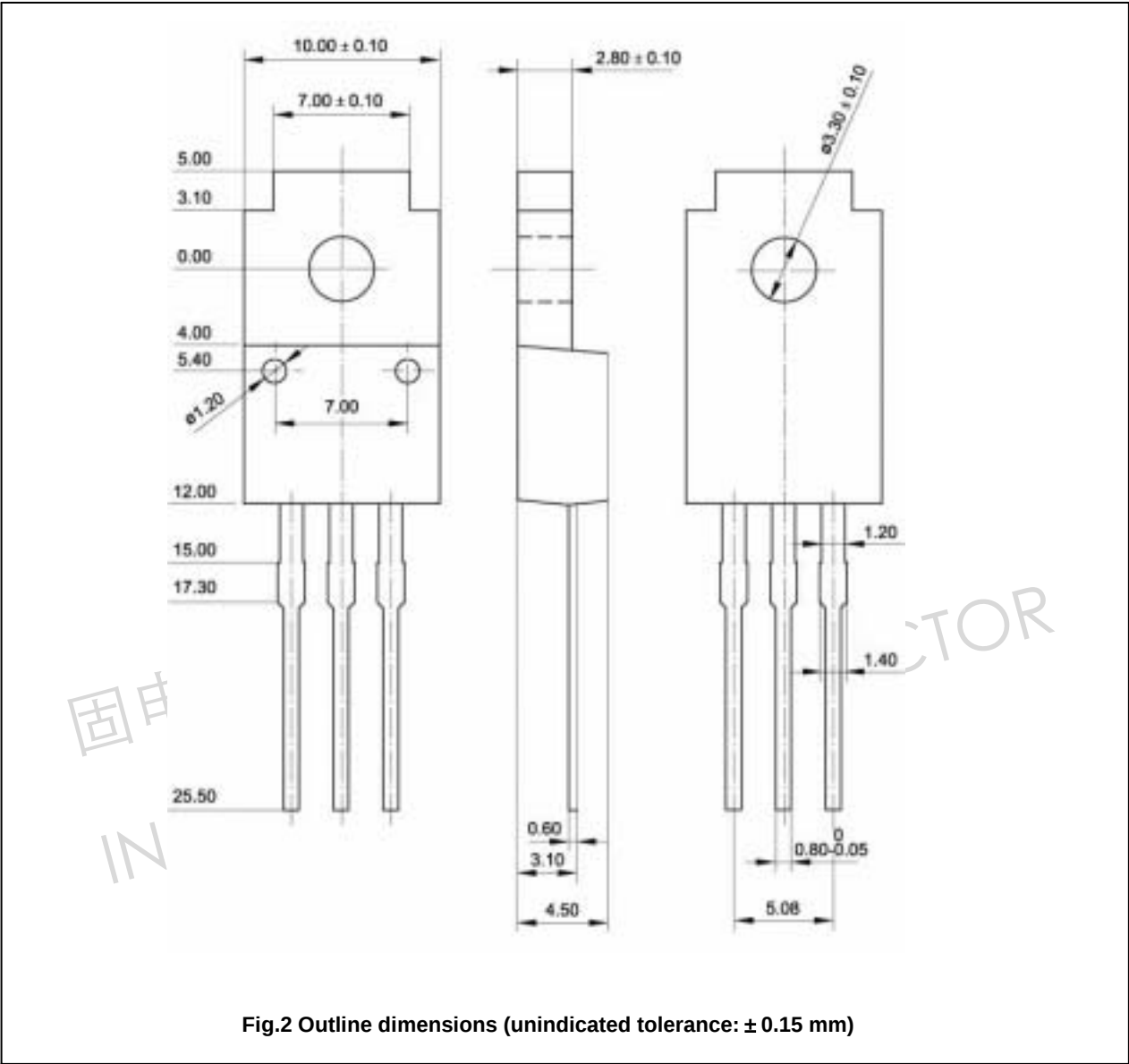


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)