

Silicon NPN Power Transistors

2SC3694

DESCRIPTION

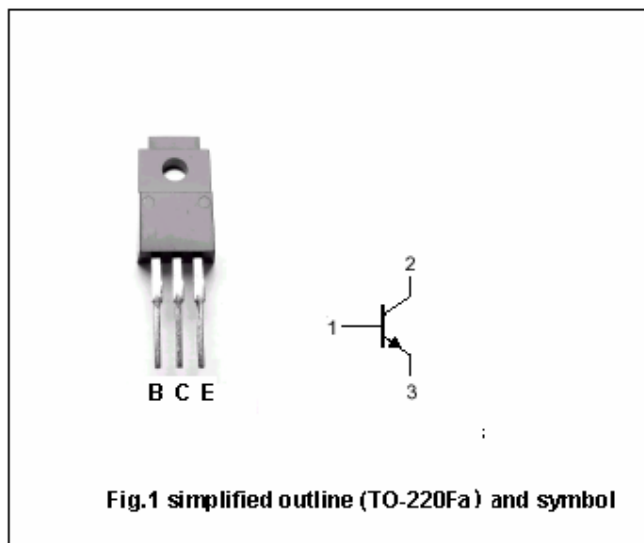
- With TO-220Fa package
- Large current ,high speed
- Low saturation voltage

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

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		15	A
I_{CM}	Collector current-peak		30	A
I_B	Base current		7.5	A
P_T	Total power dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-emitter sustaining voltage	$I_C=8A$; $I_B=0.8A$; $L=1mH$	60			V
$V_{CE(sat)1}$	Collector-emitter saturation voltage	$I_C=8A$; $I_B=0.4A$			0.3	V
$V_{CE(sat)2}$	Collector-emitter saturation voltage	$I_C=12A$; $I_B=0.6A$			0.5	V
$V_{BE(sat)1}$	Base-emitter saturation voltage	$I_C=8A$; $I_B=0.4A$			1.2	V
$V_{BE(sat)2}$	Base-emitter saturation voltage	$I_C=12A$; $I_B=0.6A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=60V$; $I_E=0$			10	μA
I_{CER}	Collector cut-off current	$V_{CB}=60V$; $R_{BE}=50\Omega$; $T_a=125^\circ C$			1.0	mA
I_{CEX1}	Collector cut-off current	$V_{CB}=60V$; $V_{BE}=-1.5V$			10	μA
I_{CEX2}	Collector cut-off current	$V_{CB}=60V$; $V_{BE}=-1.5V$; $T_a=125^\circ C$			1.0	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V$; $I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=1.5A$; $V_{CE}=2V$	100			
h_{FE-2}	DC current gain	$I_C=3.0A$; $V_{CE}=2V$	100		400	
h_{FE-3}	DC current gain	$I_C=8.0A$; $V_{CE}=2V$	60			
C_{ob}	Collector capacitance	$V_{CB}=10V$; $I_E=0$; $f=1.0MHz$		180		pF
f_T	Transition frequency	$I_C=1.5A$; $V_{CE}=10V$		120		MHz

Switching times

t_{on}	Turn-on time	$I_C=8.0A$; $I_{B1}=-I_{B2}=0.4A$ $V_{CC}=50V$, $R_L=6.3\Omega$			0.3	μs
t_s	Storage time				1.5	μs
t_f	Fall time				0.3	μs

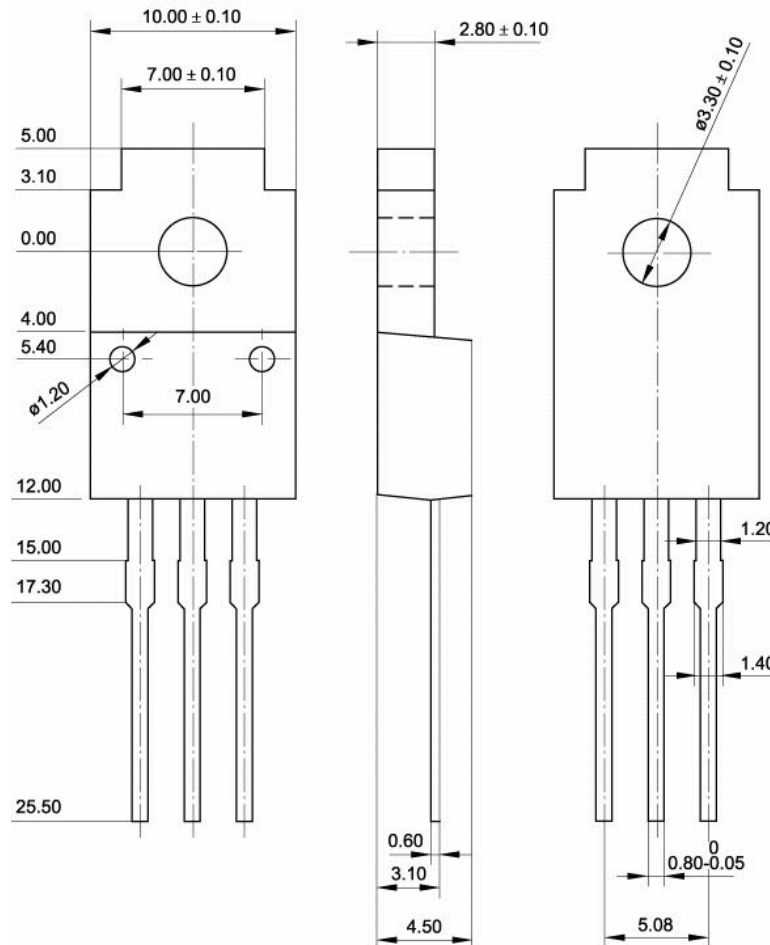
◆ h_{FE-2} Classifications

M	L	K
100-120	150-300	200-400

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PACKAGE OUTLINE

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