

Silicon NPN Power Transistors

2SC3852

DESCRIPTION

- With TO-220Fa package
- Low collector saturation voltage
- High h_{FE}

APPLICATIONS

- Driver for solenoid and motor, series regulator and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

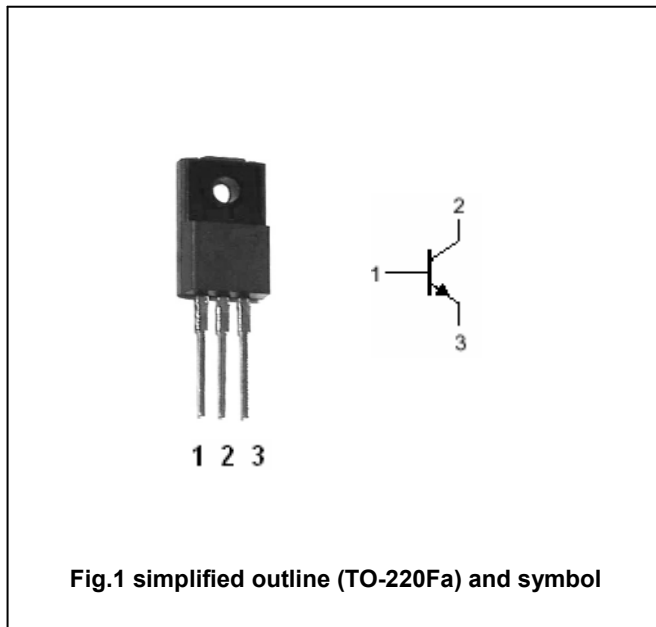


Fig.1 simplified outline (TO-220Fa) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		3	A
I_B	Base current		1	A
P_T	Total power dissipation	$T_C=25^\circ\text{C}$	25	W
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 _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =25mA ; I _B =0	60			V
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =2A ; I _B =50mA			0.5	V
I _{CBO}	Collector cut-off current	V _{CB} =80V; I _E =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			100	μA
h _{FE}	DC current gain	I _C =0.5A ; V _{CE} =4V	200			
f _T	Transition frequency	I _C =0.2A ; V _{CE} =12V		15		MHz
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =10V		50		pF

Switching times

t _{on}	Turn-on time	I _C =1.0A I _{B1} =15mA , I _{B2} =-30mA V _{CC} =20V, R _L =20Ω		0.8		μs
t _s	Storage time			3.0		μs
t _f	Fall time			1.2		μs

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PACKAGE OUTLINE

