

Silicon NPN Power Transistors

2SC4596

DESCRIPTION

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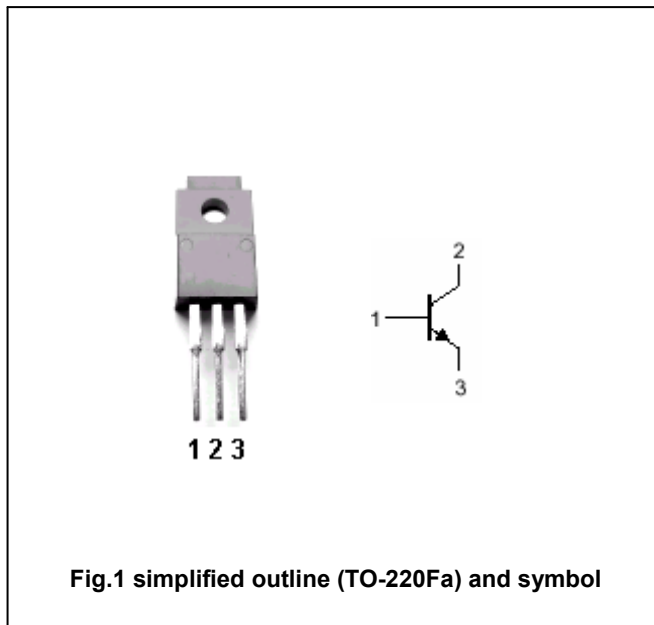
- With TO-220Fa package
- Low collector saturation voltage
- Wide area of safe operation

APPLICATIONS

- For high speed power switching and DC-DC converter applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CB0}	Collector-base voltage	Open emitter	100	V
V _{CEO}	Collector-emitter voltage	Open base	60	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		5	A
I _{CM}	Collector current-peak		10	A
P _C	Collector power dissipation	T _C =25°C	25	W
		T _a =25°C	1	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA, I _B =0	60			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =50μA, I _C =0	5			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3A, I _B =0.15A			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 =0.15A			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} =100V, I _E =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V, I _C =0			10	μA
h _{FE}	DC current gain	I _C =1A; V _{CE} =2V	60		320	
C _{ob}	Output capacitance	I _E =0; V _{CB} =10V, f=1MHz		80		pF
f _T	Transition frequency	I _C =0.5A; V _{CE} =10V		120		MHz

Switching times

t _{on}	Turn-on time	I _C =3A; R _L =10Ω I _{B1} = I _{B2} =0.15A V _{CC} ≈30V			0.3	μs
t _s	Storage time				1.5	μs
t _f	Fall time				0.3	μs

◆ h_{FE} Classifications

D	E	F
60-120	100-200	160-320

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PACKAGE OUTLINE

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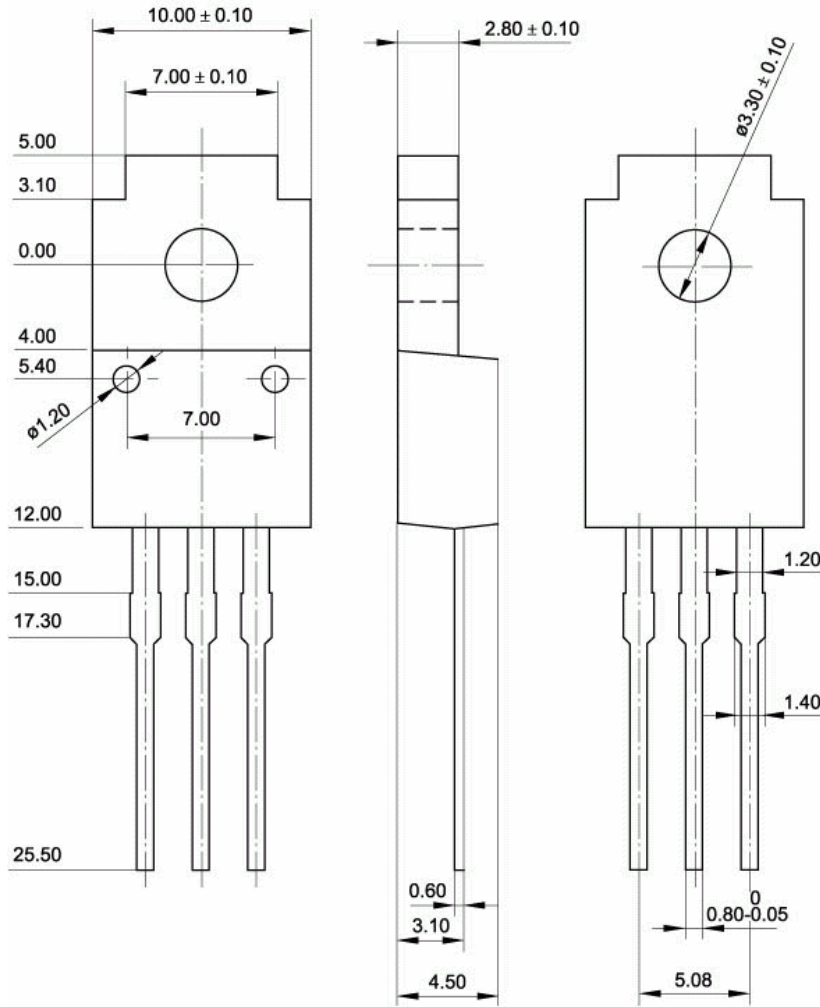


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)