

Silicon NPN Power Transistors

2SC4020

DESCRIPTION

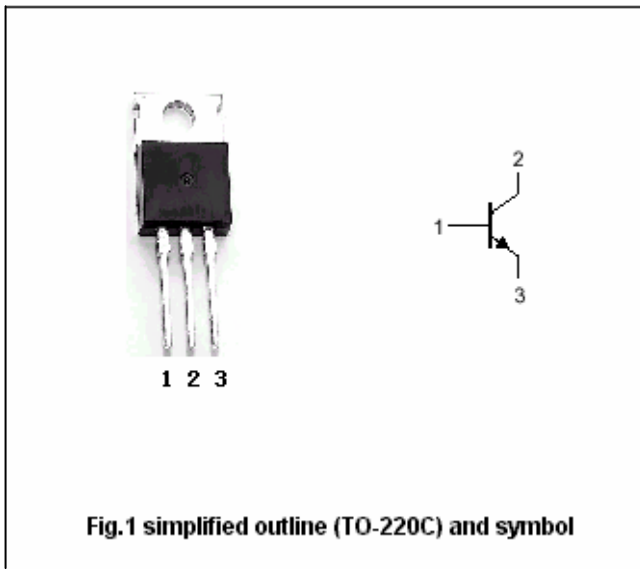
- With TO-220C package
- High breakdown voltage
: $V_{CBO}=900V(\text{Min})$
- Wide area of safe operation

APPLICATIONS

- For switching regulator and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		3	A
I_{CM}	Collector current-peak		6	A
I_B	Base current		1.5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	50	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 =10mA ; I _B =0	800			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =0.7A ; I _B =0.14A			0.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =0.7A ; I _B =0.14A			1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =800V ; I _E =0			100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V ; I _C =0			100	μA
h _{FE}	DC current gain	I _C =0.7A ; V _{CE} =4V	10		30	
f _T	Transition frequency	I _E =-0.3A ; V _{CE} =12V		6		MHz
C _{OB}	Output capacitance	f=1MHz ; V _{CB} =10V		40		pF

Switching times

t _{on}	Turn-on time	V _{CC} =250V ; I _C =0.7A I _{B1} =0.1A ; I _{B2} =-0.35A ; R _L =357Ω			1.0	μs
t _{stg}	Storage time				5.0	μs
t _f	Fall time				1.0	μs

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PACKAGE OUTLINE

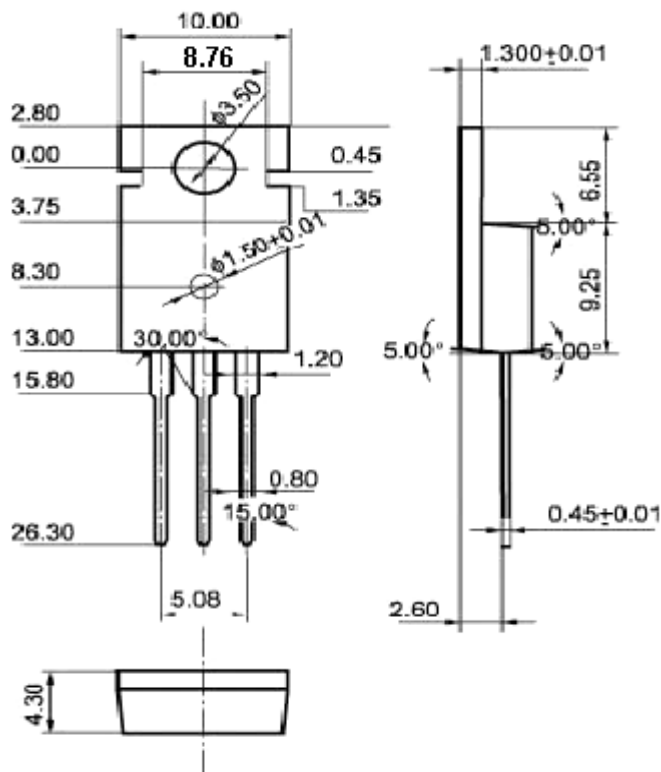


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)