

Silicon NPN Power Transistors

BUT76 BUT76A

DESCRIPTION

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- With TO-220C package
- High voltage;high speed
- High power dissipation

APPLICATIONS

- Switching mode power supply
- Motor control and relay driver

PINNING

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

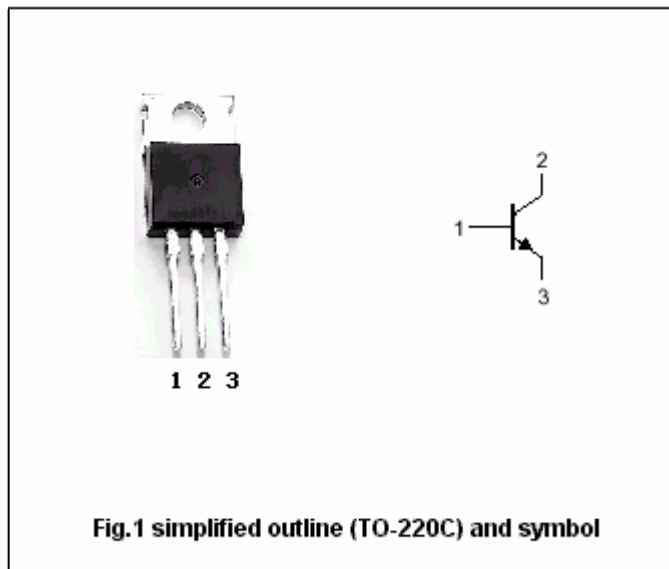


Fig.1 simplified outline (TO-220C) and symbol

Absolut maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	BUT76	850	V
		BUT76A	1000	
V _{CEO}	Collector-emitter voltage	BUT76	400	V
		BUT76A	450	
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		12	A
I _{CM}	Collector current-peak		20	A
I _{BM}	Base current-peak		6	A
P _{tot}	Total power dissipation	T _C =25°C	110	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to mounting case	1.13	K/W

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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	BUT76	I _C =500mA ;L _C =125mH			V
		BUT76A				
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA ;I _C =0	6			V
V _{CEsat}	Collector-emitter saturation voltage	BUT76	I _C =6A ;I _B =1.2A		1.5	V
		BUT76A				
V _{BEsat}	Base-emitter saturation voltage	BUT76	I _C =6A ;I _B =1.2A		1.6	V
		BUT76A				
I _{CES}	Collector cut-off current	BUT76	V _{CE} =850V; V _{BE} =0 T _j =150°C		0.5 2.0	mA
		BUT76A				
h _{FE}	DC current gain	I _C =8A ; V _{CE} =3V	3.2			
C _{OB}	Output capacitance	I _E =0 ;V _{CB} =10V;f=1MHz		150		pF
f _T	Transition frequency	I _C =1A ;V _{CE} =10V		7		MHz

Switching times resistive load

t _{on}	Turn-on time	For BUT76 I _C =6A ;I _{B1} =-I _{B2} =1.2A;V _{CE} =150V For BUT76A I _C =5A ;I _{B1} =-I _{B2} =1A;V _{CE} =150V			1.0	μs
t _s	Storage time				3.0	μs
t _f	Fall time				0.8	μs

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PACKAGE OUTLINE

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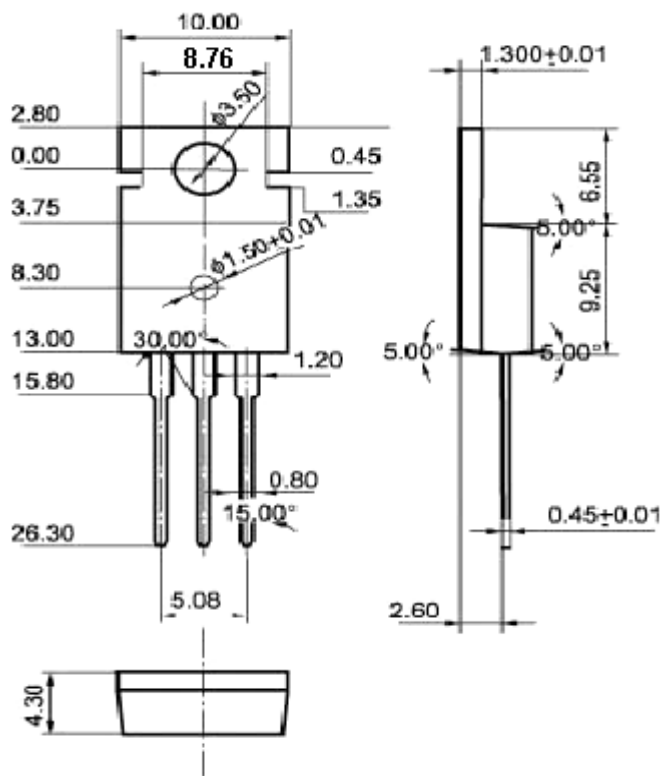


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)