

Silicon NPN Power Transistors

BUT76 BUT76A

DESCRIPTION

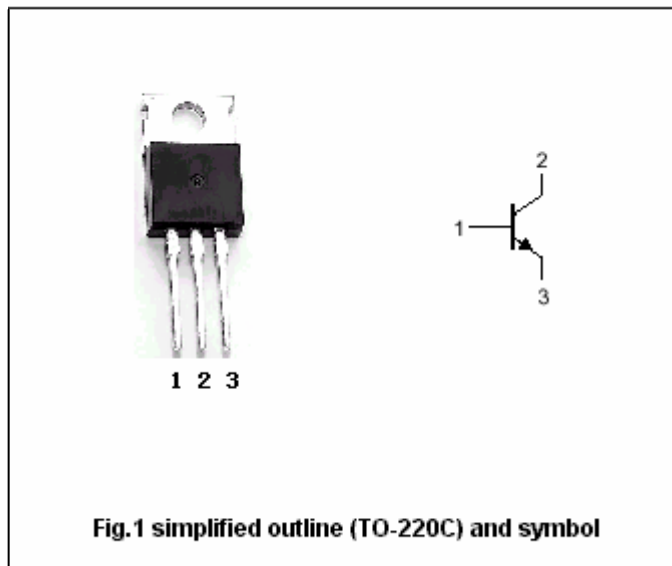
- With TO-220C package
- High voltage;high speed
- High power dissipation

APPLICATIONS

- Switching mode power supply
- Motor control and relay driver

PINNING

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



Absolut maximum ratings (Ta=25)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BUT76	Open emitter	850	V
		BUT76A		1000	
V_{CEO}	Collector-emitter voltage	BUT76	Open base	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		$T_C=25$	110	W
T_j	Junction temperature			150	
T_{stg}	Storage temperature			-65~150	

THERMAL CHARACTERISTICS

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

Silicon NPN Power Transistors

BUT76 BUT76A

CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	BUT76	I _C =500mA ; L _C =125mH	400			V
		BUT76A		450			
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	I _C =5A ; I _B =1A				
V _{BEsat}	Base-emitter saturation voltage	BUT76	I _C =6A ; I _B =1.2A			1.6	V
		BUT76A	I _C =5A ; I _B =1A				
I _{CES}	Collector cut-off current	BUT76	V _{CE} =850V ; V _{BE} =0 T _j =150			0.5 2.0	mA
		BUT76A	V _{CE} =1000V ; V _{BE} =0 T _j =150			0.5 2.0	
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

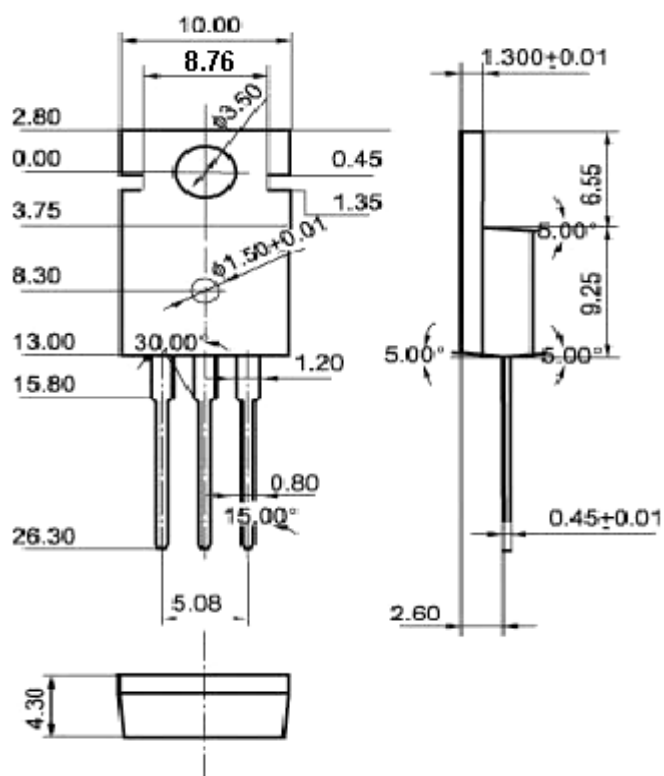
Switching times resistive load

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

Silicon NPN Power Transistors

BUT76 BUT76A

PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)