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

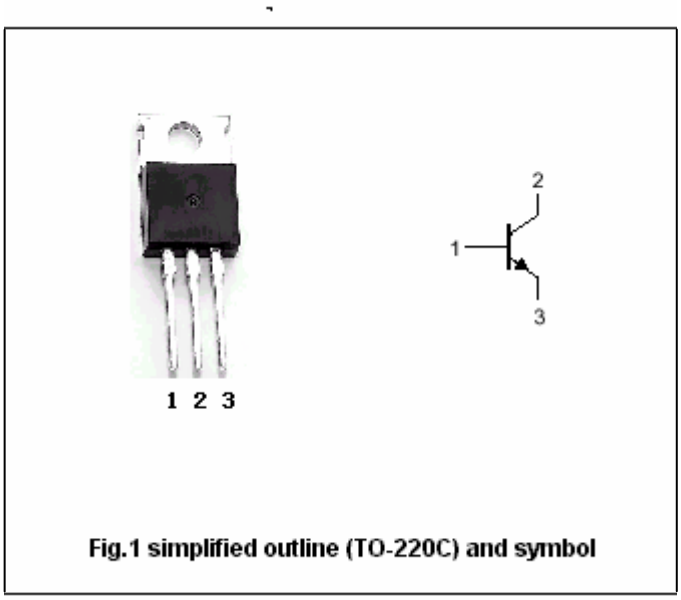


Fig.1 simplified outline (TO-220C) and symbol

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
$R_{th\ j\text{-}c}$	Thermal resistance junction to mounting case	1.13	K/W

CHARACTERISTICS

Tj=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

PACKAGE OUTLINE

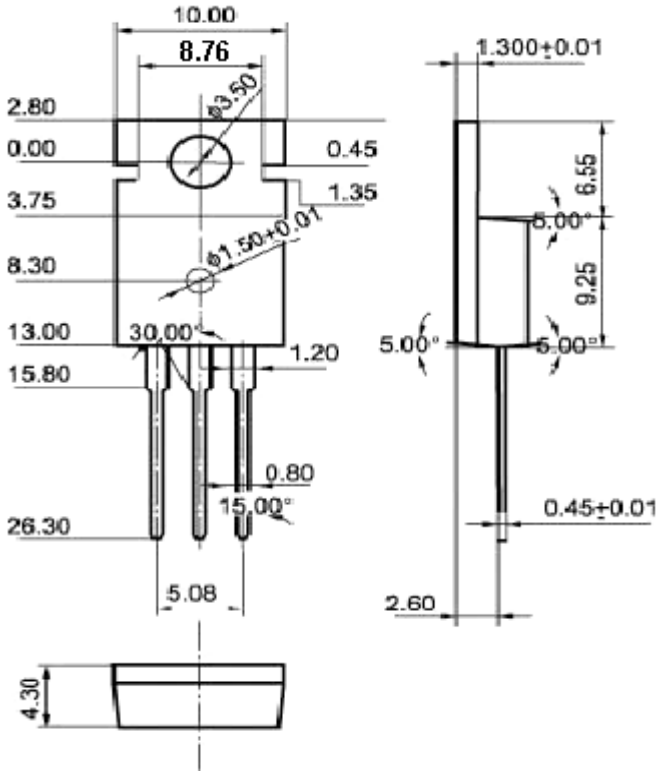


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)