

## Silicon NPN Power Transistors

BUL6825

## DESCRIPTION

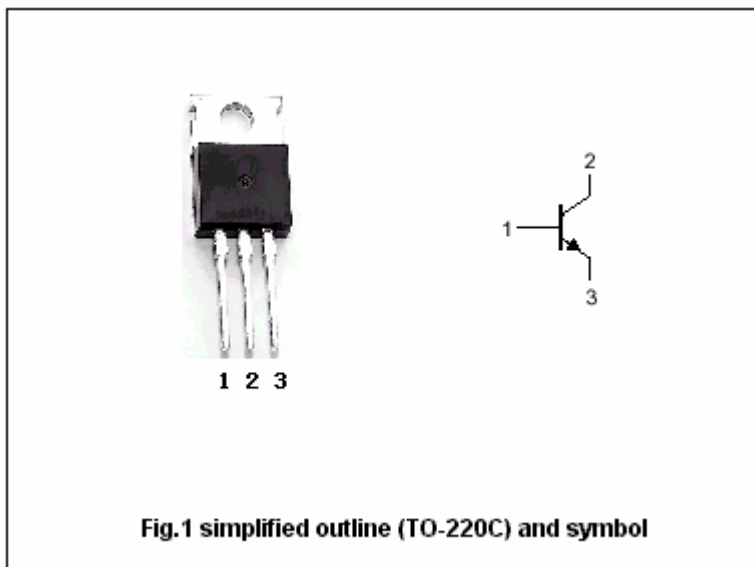
- With TO-220C package
- High voltage ,high speed

## APPLICATIONS

- Relay drivers
- Inverters
- Switching regulators
- Deflection circuits

## 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	700	V
$V_{CEO}$	Collector-emitter voltage	Open base	400	V
$V_{EBO}$	Emitter-base voltage	Open collector	9	V
$I_C$	Collector current (DC)		4	A
$I_{CM}$	Collector current-Peak		8	A
$I_B$	Base current		2	A
$I_{BM}$	Base current-Peak		4	A
$P_D$	Total power dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	75	
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.67	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =10mA ; I <sub>B</sub> =0	400			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A			0.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =0.5A T <sub>C</sub> =100 °C			0.6 1.0	V
V <sub>CEsat-3</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =1A			1.0	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A			1.2	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =0.5A T <sub>C</sub> =100 °C			1.6 1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =700V ; I <sub>E</sub> =0 T <sub>C</sub> =100 °C			1.0 5.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =9V ; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	10		60	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =5V	8		40	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V	4			MHz
C <sub>OB</sub>	Collector outoput capacitance	f=1MHz ; V <sub>CB</sub> =10V		65		pF

## Switching times resistive load

t <sub>d</sub>	Delay time	V <sub>CC</sub> =125V , I <sub>C</sub> =2A I <sub>B1</sub> =- I <sub>B2</sub> =0.4A t <sub>p</sub> =25μs duty cycle≤1%			0.1	μs
t <sub>r</sub>	Rise time				0.7	μs
t <sub>s</sub>	Storage time				4.0	μs
t <sub>f</sub>	Fall time				0.9	μs

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PACKAGE OUTLINE

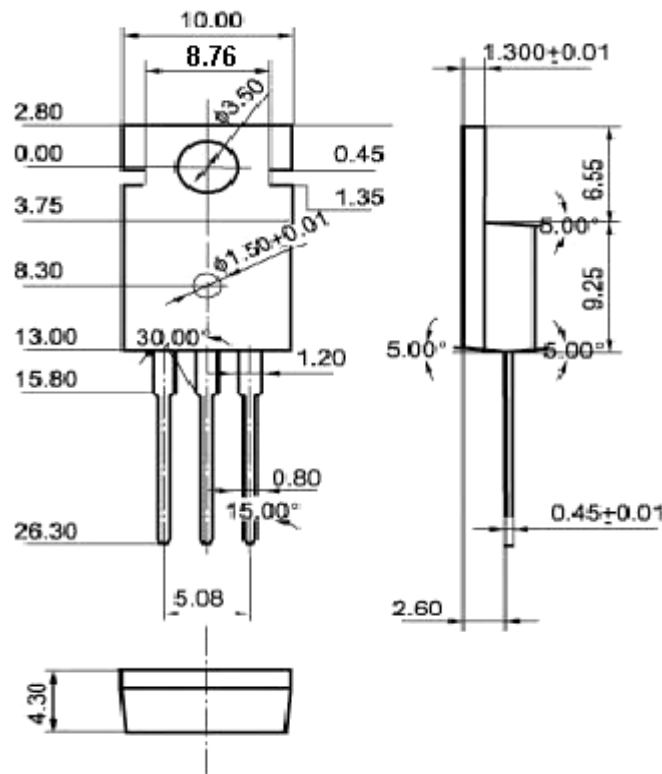


Fig.2 Outline dimensions (unindicated tolerance: 0.1mm)