

**Silicon NPN Power Transistors**

**BUY49P**

**DESCRIPTION**

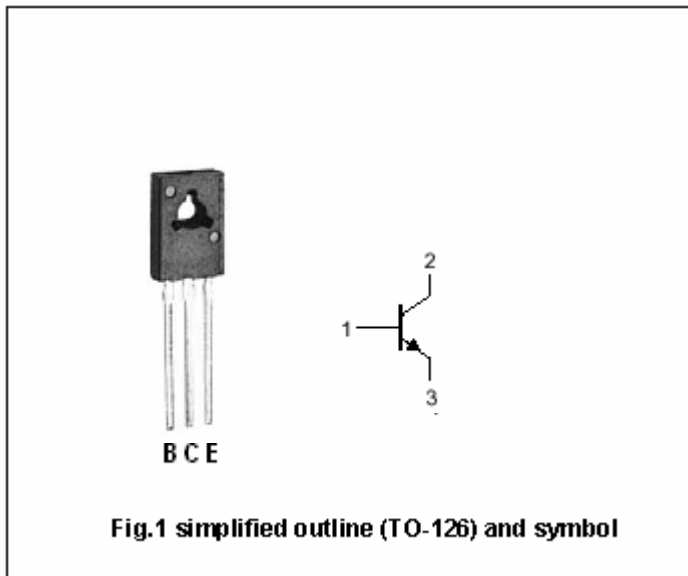
- With TO-126 package
- High breakdown voltage: $V_{CE0}=200V(\text{min})$

**APPLICATIONS**

- For high voltage,medium current switching applications

**PINNING**

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



**Absolute maximum ratings (Tc=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	250	V
$V_{CEO}$	Collector-emitter voltage	Open base	200	V
$V_{EBO}$	Emitter-base voltage	Open collector	6	V
$I_C$	Collector current		3	A
$I_{CM}$	Collector current-Peak		5	A
$P_T$	Total power dissipation	$T_a \leq 25^\circ C$	15	W
$T_j$	Junction temperature		150	°C
$T_{stg}$	Storage temperature		-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{thj-c}$	Thermal resistance from junction to case	8.33	°C/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =20mA ; I <sub>B</sub> =0	200			V
V <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA ; I <sub>C</sub> =0	6			
V <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =100μA ; I <sub>E</sub> =0	250			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.5A ; I <sub>B</sub> =50mA			0.2	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =0.5A ; I <sub>B</sub> =50mA			1.1	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =200V ; I <sub>E</sub> =0			0.1	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =20mA ; V <sub>CE</sub> =2V	30			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =20mA ; V <sub>CE</sub> =5V	40			
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =0.5mA ; V <sub>CE</sub> =5V	40			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V	30			MHz
C <sub>OB</sub>	Collector outoput capacitance	I <sub>E</sub> =0 ; f=1MHz ; V <sub>CB</sub> =10V			50	pF

## Switching times resistive load

t <sub>on</sub>	Turn-on time	V <sub>CC</sub> =20V , I <sub>C</sub> =0.5A I <sub>B1</sub> =-I <sub>B2</sub> =50mA			0.8	μs
t <sub>off</sub>	Turn-off time				2.5	μs

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PACKAGE OUTLINE

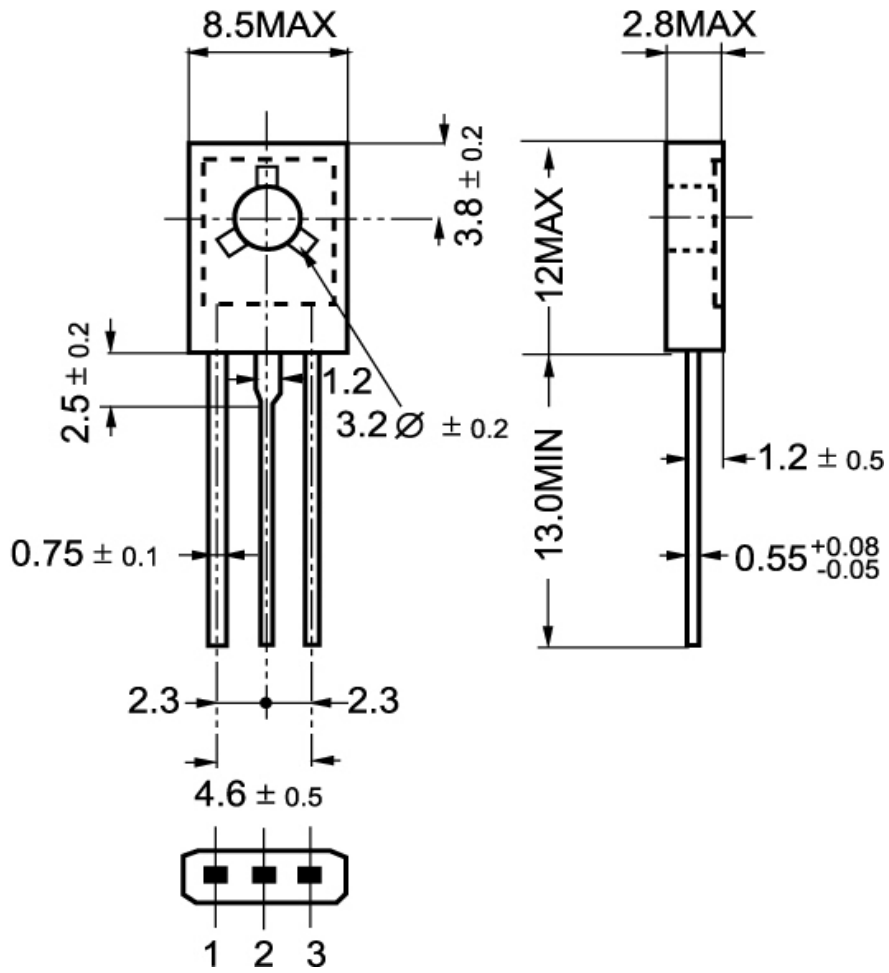


Fig.2 Outline dimensions