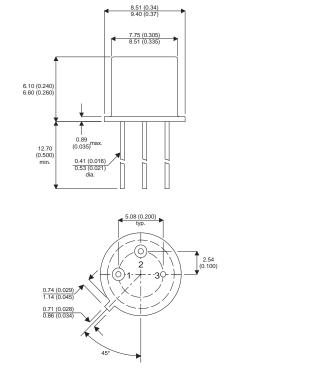


## BUX34

#### MECHANICAL DATA Dimensions in mm(inches)



# NPN SILICON TRANSISTOR

#### FEATURES

- FAST SWITCHING
- HIGH PULSE POWER

#### **APPLICATIONS**

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

TO39 (TO-205AD)

Pin 1 = Emitter Pin 2 = Base Pin 3 = Collector

#### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

V <sub>CBO</sub> Collector – Base Voltage		120V		
V <sub>CEO</sub>	Collector – Emitter Voltage	60V		
$V_{\text{EBO}}$	Emitter – Base Voltage	6V		
I <sub>C</sub>	Maximum Collector Current	5A		
I <sub>B</sub>	Maximum Base Current	2A		
P <sub>tot</sub>	Total Power Dissipation at $T_{case} \le 25^{\circ}C$	20W		
P <sub>tot</sub>	Total Power Dissipation at $T_{amb} \le 25^{\circ}C$	0.87W		
$R_{ extsf{ heta}JC}$	Thermal Resistance Junction to Case	7.5°C/W		
$R_{ hetaJA}$	Thermal Resistance Junction to Ambient	172.4°C/W		
T <sub>j</sub> ,T <sub>stg</sub>	Maximum Junction And Storage Temperature Range	-65°C to +175°C		

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.



BUX34

### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25°C unless otherwise stated)

	Parameter	Test	Conditions	Min.	Тур.	Max.	Unit
V <sub>CEO</sub>	Collector - Emitter Breakdown	I <sub>C</sub> = 100mA		60			
	Voltage	$I_{C} = 100 \text{ mA}$	60				
V <sub>CBO</sub>	Collector - Base Breakdown	L _ 5mA		120			V
	Voltage	I <sub>C</sub> = 5mA	120			v	
V <sub>EBO</sub>	Emitter - Base Breakdown	1 1 0 m A		6			
	Voltage	I <sub>E</sub> = 1.0mA					
I <sub>CES</sub>	Collector - Emitter Cut-Off	$\lambda = 60 \lambda$				10	μΑ
	Current	V <sub>CE</sub> = 60V				10	
I <sub>CBO</sub>	Collector - Base Cut-Off	V <sub>CB</sub> = 80V				10	
	Current	v <sub>CB</sub> = 00 v				10	
I <sub>EBO</sub>	Emitter - Base Cut-Off	$V_{EB} = 4V$				10	
	Current						
V <sub>CE(sat)*</sub>	Collector – Emitter	I <sub>C</sub> = 5A	I <sub>B</sub> = 0.5A			1.0	
	Saturation Voltage					1.0	v
V <sub>BE(sat)*</sub>	Base – Emitter	I <sub>C</sub> = 5A	I <sub>B</sub> = 0.5A			1.6	v
	Saturation Voltage					1.0	
h <sub>FE</sub>	DC Gain	$V_{CE} = 2V$	I <sub>C</sub> = 2A	40		150	_
f <sub>t</sub>	Transition Frequency	$V_{CE} = 5V$		70			MHz
		I <sub>C</sub> = 0.5A	f = 20MHz	70			1011 12
C <sub>obo</sub>	Output Capcitance	V <sub>CB</sub> = 10V	f = 1MHz			100	рF
C <sub>ibo</sub>	Input Capcitance	V <sub>EB</sub> = 0.5V	f = 1MHz			400	
ton	Turn On Time	I <sub>C</sub> = 5A	I <sub>B1</sub> =0.5A			0.6	US
toff	Turn Off Time	I <sub>C</sub> = 5A	$I_{B1} = I_{B2} = 0.5A$			1.2	

\*Pulsed tp =300µs @< 1%

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