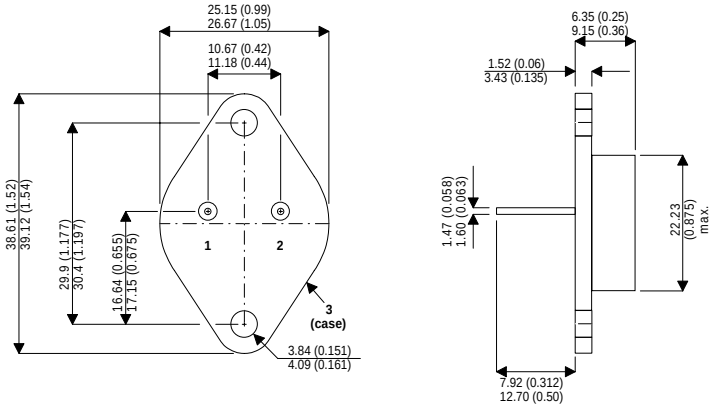
BUX25

MECHANICAL DATA
Dimensions in mm(inches)



TO–204AE (TO–3)

PIN 1 — Base PIN 2 — Emitter Case is Collector.

NPN SILICON POWER TRANSISTOR

FEATURES

- **HIGH CURRENT**
- **FAST SWITCHING**
- **HIGH RELIABILITY**

APPLICATIONS

- **POWER SWITCHING CIRCUITS**
- **MOTOR CONTROL**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (I_E = 0)	500V
V_{CEX}	Collector – Emitter Voltage (V_{BE} = –1.5V)	500V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	500V
V_{CER}	Collector – Emitter Voltage (R_{BE} =100Ω)	500V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	7V
I_C	Collector Current	15A
I_{CM}	Peak Collector Current (t_p = 10 ms)	20A
I_B	Base Current	3A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25°C$	350W
T_{stg},	Storage Temperature	–65 to 200°C
T_j	Junction Temperature	200°C
$R_{\theta JC}$	Thermal Resistance Junction to Case	0.5°C/W

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

Document Number 6320
Issue 1

BUX25

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{CEO(BR)*}$	Collector - Emitter Breakdown Voltage	I_C = 200mA		500			V
V_{EBO}	Emitter – Base Voltage	I_E = 50mA	I_C = 0	7			V
I_{CEO}	Collector Cut-off Current	V_{CE} = 400V	I_B = 0			3	mA
I_{CEX}	Collector Cut-off Current	V_{CE} = 500V	V_{BE} = –1.5V T_C = 125℃			3 12	mA
I_{EBO}	Emitter Cut-off Current	I_C = 0	V_{EB} = 5V			1.0	mA
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = 4A	I_B = 0.8A		0.2	0.6	V
		I_C = 8A	I_B = 1.6A		0.6	1.0	
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = 8A	I_B = 1.6A		1.2	1.5	V
h_{FE*}	DC Current Gain	V_{CE} = 4V	I_C = 4A	15		60	—
		V_{CE} = 4V	I_C = 8A	8			
$I_{S/b}$	Second Breakdown Collector Current	V_{CE} = 140V	t = 1s	0.15			A
		V_{CE} = 25V	t = 1s	14			
f_T	Transition Frequency	I_C = 2A f = 10MHz	V_{CE} = 15V	8			MHz
t_{on}	Turn–On Time	I_C = 8A	I_{B1} =1.6A		0.9	1.8	µs
t_s	Storage Time	I_C = 8A I_{B2} = –1.6A	I_{B1} =1.6A		3.5	5	
t_f	Fall Time	I_C = 8A I_{B2} = –1.6A	I_{B1} =1.6A		0.9	1.6	

(*) Pulse test: $t_p \leq 300\mu s$, $\delta \leq 2\%$

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

Document Number 6320
Issue 1