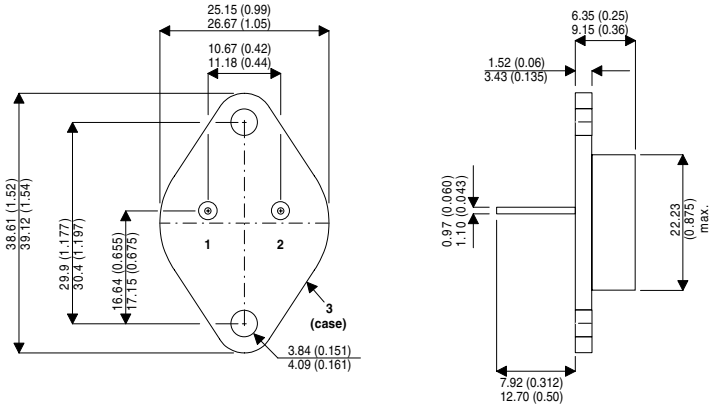
BUX23

MECHANICAL DATA
Dimensions in mm(inches)



TO–3(TO204AA)

PIN 1 — Base PIN 2 — Emitter Case is Collector

.

NPN MULTI - EPITAXIAL 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)	400V
V_{CEX}	Collector – Emitter Voltage	400V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	325V
V_{CER}	Collector – Emitter Voltage	390V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	7V
I_C	Collector Current	30A
I_{CM}	Peak Collector Current (t_p = 10 ms)	40A
I_B	Base Current	6A
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

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 6344
Issue 1

SEME LAB

BUX23

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 = 0.2mA		325			V
V_{EBO}	Emitter – BaseVoltage	I_E = 50mA	I_C = 0	7			V
I_{CEO}	Collector Cut-off Current	V_{CE} = 260V	I_B = 0			3	mA
I_{CEX}	Collector Cut-off Current	V_{CE} = 400V	V_{BE} = –1.5V			3	mA
		V_{CE} = 400V	V_{BE} = –1.5V			12	
			T_C = 125°C				
I_{EBO}	Emitter Cut-offCurrent	I_C = 0	V_{EB} = 5V			1.0	mA
$V_{CE(sat)*}$	Collector – EmitterSaturation Voltage	I_C = 8A	I_B = 1.6A		0.2	0.8	V
		I_C = 16A	I_B = 3.2A		0.35	1.0	
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = 16A	I_B = 3.2A		1.15	1.5	V
h_{FE*}	DC Current Gain	I_C = 8A	V_{CE} = 4V	15		60	—
		I_C = 16A	V_{CE} = 4V	8			
$I_{S/b}$	Second Breakdown Collector Current	V_{CE} = 140V	t = 1s	0.15			A
		V_{CE} = 16V	t = 1s	22			
f_T	Transition Frequency	I_C = 2A f = 10MHz	V_{CE} = 15V	8			MHz
t_{on}	Turn–On Time	I_C = 16A	I_{B1} =3.2A		0.55	1.3	µs
t_s	Storage Time	I_C = 16A	I_{B1} =3.2A		1.7	2.5	
t_f	Fall Time	I_{B2} = –3.2A			0.26	1.2	

THERMAL CHARACTERISTICS

$R_{\theta JC}$	Thermal Resistance Junction to Case		0.5		°C/W

* Pulse test t_p = 300µs , δ = 1.5 %

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 6344
Issue 1