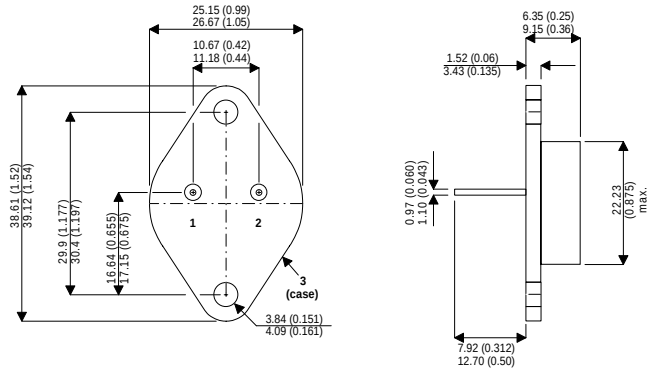
BUX20

HIGH CURRENT HIGH SPEED HIGH POWER TRANSISTOR

MECHANICAL DATA

Dimensions in mm(inches)



TO–3 PACKAGE (TO-204AA)

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

DESCRIPTION

The BUX20 is a silcon multiepitaxial planar NPN transistor in modified Jedec TO-3 metal case, intended for use in switching and linear applications in military and industrial equipment.

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

V_{CBO}	Collector – Base Voltage (I_E = 0)	160V
V_{CEX}	Collector – Emitter Voltage (V_{BE} = –1.5V)	160V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	125V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	7V
I_C	Collector Current	50A
I_{CM}	Collector Peak Current (t_p = 10 ms)	60A
I_B	Base Current	10A
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 3246
Issue 1

SEME LAB

BUX20

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

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$*	Collector - Emitter Sustaining Voltage	I_C = 200mA		125			V
V_{EBO}	Emitter – BaseVoltage	I_E = 50mA	I_C = 0	7			V
I_{CEO}	Collector Cut-off Current	V_{CE} = 100V	I_B = 0			3	mA
I_{CEX}	Collector Cut-off Current	V_{CE} = 160V	V_{BE} = –1.5V			3	mA
			T_C = 125°C			12	
I_{EBO}	Emitter Cut-off Current	I_C = 0	V_{EB} = 5V			1	mA
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 25A	I_B = 2.5A		0.3	0.6	V
		I_C = 50A	I_B = 5A		0.55	1.2	
$V_{BE(sat)}$*	Base – Emitter Saturation Voltage	I_C = 50A	I_B = 5A		1.35	2	V
h_{FE}*	DC Current Gain	I_C = 25A	V_{CE} = 2V	20		60	—
		I_C = 50A	V_{CE} = 4V	10			
$I_{S/b}$	Second Breakdown Collector Current	V_{CE} = 40V	t = 1s	0.15			A
		V_{CE} = 20V	t = 1s	17.5			
f_T	Transition Frequency	I_C = 2A f = 10MHz	V_{CE} = 15V	8			MHz
t_{on}	Turn–On Time	I_C = 50A V_{CC} = 60V	I_{B1} =5A		0.4	1.5	µs
t_s	Storage Time	I_C = 50A	I_{B1} =5A		0.85	1.2	
t_f	Fall Time	I_{B2} = – 5A	V_{CC} = 60V		0.1	0.3	

* Pulsed: pulse duration = 300ms, duty cycle ≤ 2%

THERMAL CHARACTERISTICS

$R_{\theta JC}$	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 3246
Issue 1