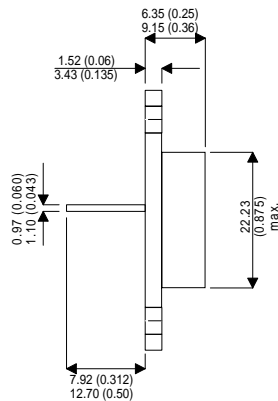
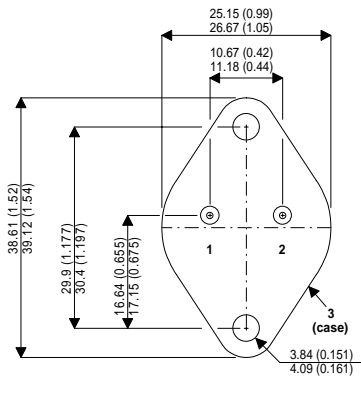


MECHANICAL DATA

Dimensions in mm (inches)

**HIGH CURRENT
HIGH SPEED
HIGH POWER
SILICON NPN PLANAR
TRANSISTOR**



Applications

The BUX80 is an epitaxial silicon NPN planar transistor that has high current and high power handling capability and high switching speed.

This device is especially suitable for switching-control amplifiers, power gates, switching regulators, power-switching circuits converters, inverters and control circuits.

TO-204AA (TO-3)

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

ABSOLUTE MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless otherwise stated)

V_{CES}	Collector – Emitter Voltage	$V_{BE} = 0$	800V
V_{CER}	Collector – Emitter Voltage	$R_{BE} = 50\Omega$	500V
V_{CEO}	Collector – Emitter Voltage	$I_B = 0$	400V
V_{EBO}	Emitter – Base Voltage	$I_C = 0$	10V
I_C	Collector Current		10A
I_{CM}	Peak Collector Current		15A
I_B	Base Current		5A
P_{tot}	Total Power Dissipation $T_{case} = 40^\circ\text{C}$		100W
T_{STG}	Storage Temperature Range		-65 to +150°C
T_J	Maximum Junction Temperature		+150°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.

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(BR)}$ Collector - Emitter Breakdown Voltage	$I_C = 100\text{mA}$ $I_B = 0$	400			V
$V_{CER(BR)}$ Collector - Emitter Breakdown Voltage	$I_C = 100\text{mA}$ $R_{BE} = 50\Omega$	500			V
$V_{CE(sat)}$ Collector - Emitter Saturation Voltage	$I_C = 5\text{A}$ $I_B = 1\text{A}$			1.5	V
	$I_C = 8\text{A}$ $I_B = 2.5\text{A}$			3	
$V_{BE(sat)^*}$ Base - Emitter Saturation Voltage	$I_C = 5\text{A}$ $I_B = 1\text{A}$			1.4	V
	$I_C = 8\text{A}$ $I_B = 2.5\text{A}$			1.8	
I_{EBO} Emitter Cut-off Current	$I_C = 0$ $V_{BE} = 10\text{V}$			10	mA
h_{FE} DC Current Gain	$I_C = 1.2\text{A}$ $V_{CE} = 5\text{V}$		30		—
t_{on} Turn-On Time	$I_C = 5\text{A}$ $V_{CC} = 250\text{V}$			0.5	μs
t_s Storage Time	$I_{B1} = 1\text{A}$ $I_{B2} = -2\text{A}$			3.5	μs
t_f Fall Time	$I_C = 5\text{A}$ $V_{CC} = -250\text{V}$ $I_{B1} = 1\text{A}$ $I_{B2} = -2\text{A}$			0.5	μs

THERMAL CHARACTERISTICS

$R_{th\ j-mb}$ Thermal Resistance Junction to Case				1.1	$^\circ\text{C/W}$
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