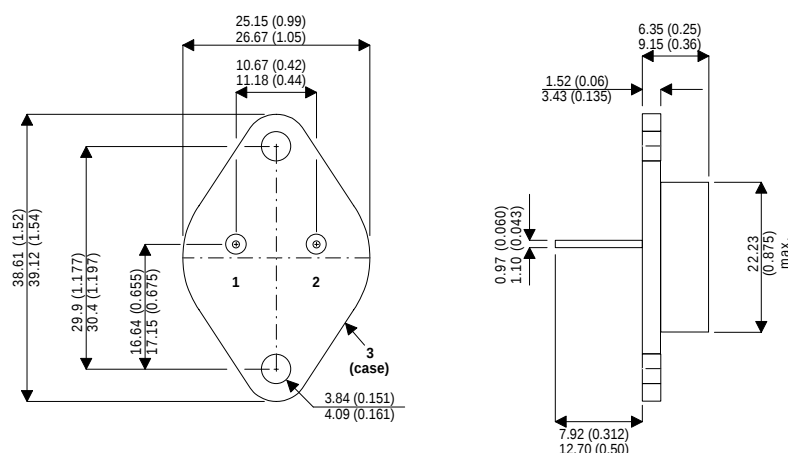


MECHANICAL DATA

Dimensions in mm (inches)


TO-204AA (TO-3)

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

HIGH CURRENT HIGH SPEED HIGH POWER SILICON NPN PLANAR TRANSISTOR

Applications

The BUX82 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. Other recommended applications include DC-RF amplifiers and power oscillators.

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

V_{CESM}	Collector – Emitter Voltage	$V_{BE} = 0$	800V
V_{CER}	Collector – Emitter Voltage	$R_{BE} = 100\Omega$	500V
V_{CEO}	Collector – Emitter Voltage(open base)		400V
I_C	Collector Current (d.c)		6A
I_{CM}	Peak Collector Current	$t_p = 2\text{ms}$	8A
I_B	Base Current (d.c)		2A
P_{tot}	Total Power Dissipation $T_{mb} = 50^{\circ}\text{C}$		60W
T_{STG}	Storage Temperature Range		-65 to +150°C
T_j	Maximum Junction Temperature		+150°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CE(sust)}$ Collector - Emitter Sustaining Voltage	$I_C = 100\text{mA}$ $L = 25\text{mH}$ $I_B = 0$	400			V
$V_{CER(sust)}$ Collector - Emitter Sustaining Voltage	$I_C = 100\text{mA}$ $L = 15\text{mH}$ $R_{BE} = 100\Omega$	500			V
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 2.5\text{A}$ $I_B = 0.5\text{A}$			1.5	V
$V_{BE(sat)*}$ Base – Emitter Saturation Voltage				1.4	
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 4\text{A}$ $I_B = 1.25\text{A}$			3	
$V_{BE(sat)*}$ Base – Emitter Saturation Voltage				1.6	
I_{EBO} Emitter Cut-off Current	$I_C = 0$ $V_{EB} = 10\text{V}$			10	mA
I_{CES} Collector Cut-off Current	$V_{CESMmax}$ $V_{BE} = 0$			1	mA
h_{FE} DC Current Gain	$I_C = 0.6\text{A}$ $V_{CE} = 5\text{V}$		30		—
f_T Transition Frequency	$I_C = 0.2\text{A}$ $V_{CE} = 10\text{V}$		6		MHz
t_{on} Turn-On Time	$I_{C\ ON} = 2.5\text{A}$ $I_{B1} = 0.5\text{A}$ $I_{B2} = 1\text{A}$ $V_{CC} = 250\text{V}$		0.3	0.5	μs
t_s Storage Time			2	3.5	
t_f Fall Time				0.3	

THERMAL CHARACTERISTICS

$R_{th\ j-mb}$ Thermal Resistance Junction to Case			1.65	$^\circ\text{C/W}$
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