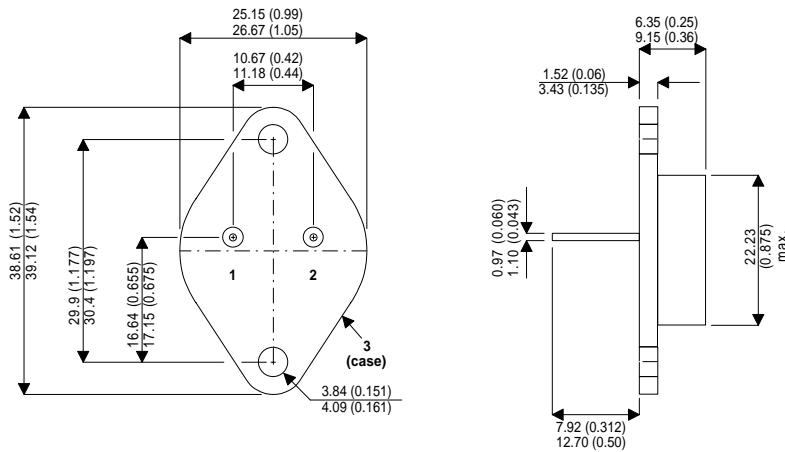


MECHANICAL DATA

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

THERMAL CHARACTERISTICS

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