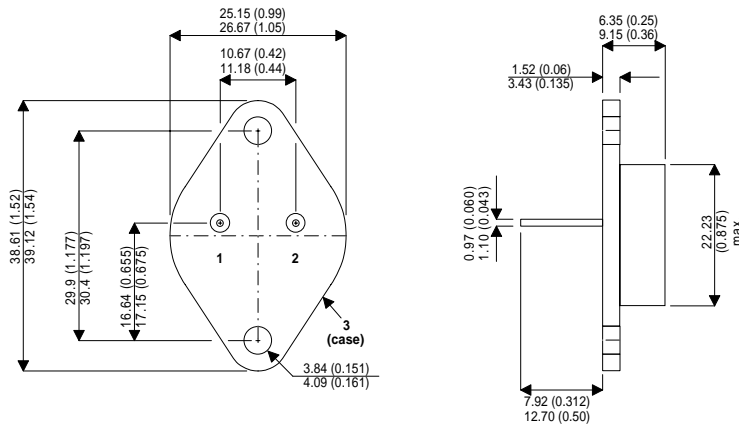


**MECHANICAL DATA**

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
$V_{\text{CEOsust}}$ Collector - Emitter Sustaining Voltage	$I_C = 100\text{mA}$ $L = 25\text{mH}$ $I_B = 0$	400			V
$V_{\text{CERsust}}$ Collector - Emitter Sustaining Voltage	$I_C = 100\text{mA}$ $L = 15\text{mH}$ $R_{\text{BE}} = 100\Omega$	500			V
$V_{\text{CE(sat)}}$ Collector - Emitter Saturation Voltage	$I_C = 2.5\text{A}$ $I_B = 0.5\text{A}$			1.5	V
$V_{\text{BE(sat)*}}$ Base - Emitter Saturation Voltage				1.4	
$V_{\text{CE(sat)}}$ Collector - Emitter Saturation Voltage	$I_C = 4\text{A}$ $I_B = 1.25\text{A}$			3	
$V_{\text{BE(sat)*}}$ Base - Emitter Saturation Voltage				1.6	
$I_{\text{EBO}}$ Emitter Cut-off Current	$I_C = 0$ $V_{\text{EB}} = 10\text{V}$			10	mA
$I_{\text{CES}}$ Collector Cut-off Current	$V_{\text{CESMmax}}$ $V_{\text{BE}} = 0$			1	mA
$h_{\text{FE}}$ 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
$t_{\text{on}}$ 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	$\mu\text{s}$
$t_s$ 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	$^\circ\text{C/W}$
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