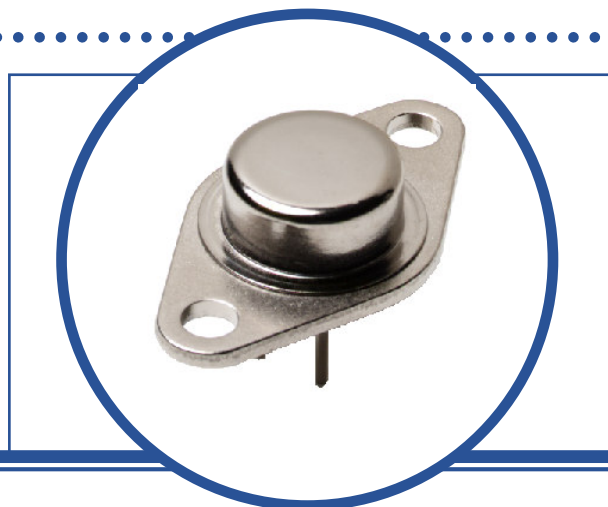


SILICON PLANAR EPITAXIAL NPN/PNP TRANSISTORS

BUX77A / BUX78A

- High Power
- Hermetic TO-66 Metal Package
- Ideally suited for Driver Circuits, Switching and Amplifier Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS

($T_C = 25^\circ\text{C}$ unless otherwise stated)

		BUX77A NPN	BUX78A PNP
V_{CBO}	Collector – Base Voltage	100V	-100V
V_{CEO}	Collector – Emitter Voltage	80V	-80V
V_{EBO}	Emitter – Base Voltage	6V	-6V
I_C	Continuous Collector Current	8A	
I_B	Base Current	2A	
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	40W 0.23W/ $^\circ\text{C}$	
T_J	Junction Temperature Range	-65 to $+200^\circ\text{C}$	
T_{stg}	Storage Temperature Range	-65 to $+200^\circ\text{C}$	

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			4.4	$^\circ\text{C/W}$

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Issue 2

Page 1 of 3

SILICON PLANAR EPITAXIAL NPN/PNP TRANSISTORS BUX77A / BUX78A

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)⁽¹⁾

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(2)}$	Collector-Emitter Breakdown Voltage	$I_C = 50\text{mA}$ $I_B = 0$	80			V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = 2\text{mA}$ $V_{BE} = 0$	100			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1.0\text{mA}$ $I_C = 0$	6			
I_{CEO}	Collector Cut-Off Current	$V_{CE} = 60\text{V}$ $I_B = 0$			10	μA
I_{CBO}	Collector Cut-Off Current	$V_{CB} = 80\text{V}$ $I_E = 0$			0.5	
		$T_C = 150^\circ\text{C}$			150	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 4\text{V}$ $I_C = 0$			0.5	
$h_{FE}^{(2)}$	Forward-current transfer ratio	$I_C = 0.5\text{A}$ $V_{CE} = 5\text{V}$	50			
		$I_C = 2\text{A}$ $V_{CE} = 5\text{V}$	50		250	
		$I_C = 5\text{A}$ $V_{CE} = 5\text{V}$	30			
		$I_C = 1.0\text{A}$ $V_{CE} = 5\text{V}$ $T_C = -40^\circ\text{C}$	25			
$V_{CE(sat)}^{(2)}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}$ $I_B = 0.5\text{A}$			1.0	V
$V_{BE(sat)}^{(2)}$	Base-Emitter Saturation Voltage	$I_C = 5\text{A}$ $I_B = 0.5\text{A}$			1.3	

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = 0.5\text{A}$ $V_{CE} = 5\text{V}$ $f = 20\text{MHz}$	1.5			
t_{on}	Turn-On Time	$I_C = 5\text{A}$ $V_{CC} = 40\text{V}$ $I_{B1} = 0.5\text{A}$		0.3	0.4	μs
t_{off}	Turn-Off Time	$I_C = 5\text{A}$ $V_{CC} = 40\text{V}$ $I_{B1} = -I_{B2} = 0.5\text{A}$		1.1	2.5	

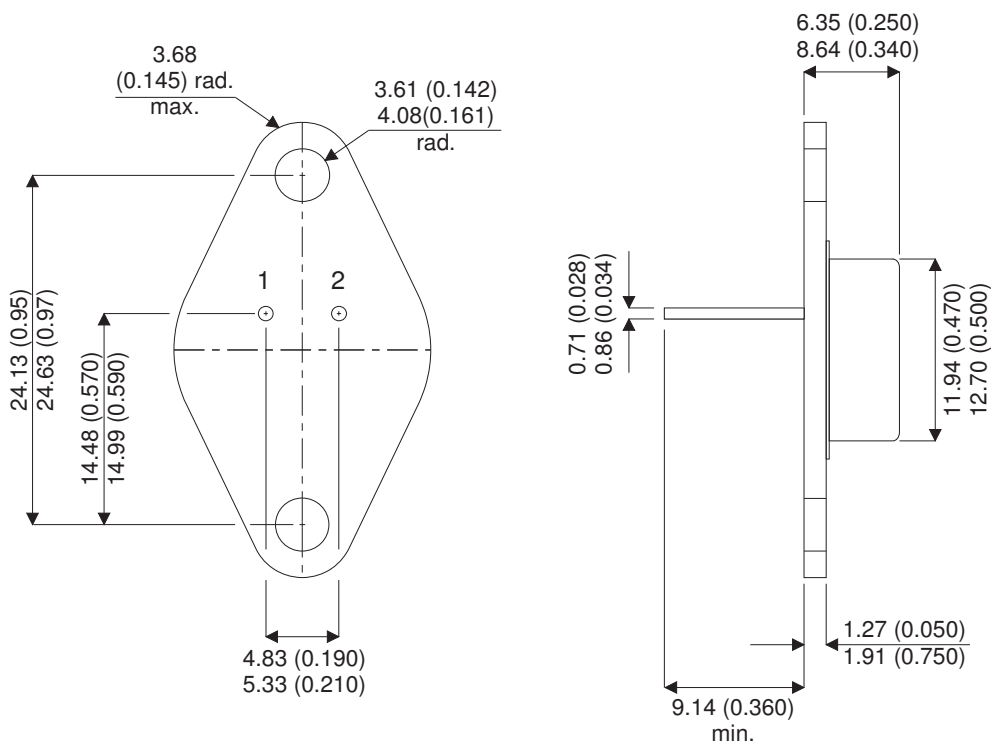
Notes

- (1) For PNP (BUX78A) device, voltage and current values are negative
(2) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON PLANAR EPITAXIAL NPN/PNP TRANSISTORS BUX77A / BUX78A

MECHANICAL DATA

Dimensions in mm (inches)



TO66 (TO-213AA)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector