

SILICON PLANAR EPITAXIAL PNP TRANSISTOR

BUX78

- 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)

V_{CBO}	Collector – Base Voltage	-100V
V_{CEO}	Collector – Emitter Voltage	-80V
V_{EBO}	Emitter – Base Voltage	-6V
I_C	Continuous Collector Current	5A
I_B	Base Current	0.8A
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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Page 1 of 3

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	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	
$h_{FE}^{(1)}$	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		120	
		$I_C = -5\text{A}$ $V_{CE} = -5\text{V}$	30			
		$I_C = -1.0\text{A}$ $V_{CE} = -5\text{V}$ $T_C = -40^\circ\text{C}$	25			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}$ $I_B = -0.5\text{A}$			-1.0	V
$V_{BE(sat)}^{(1)}$	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	

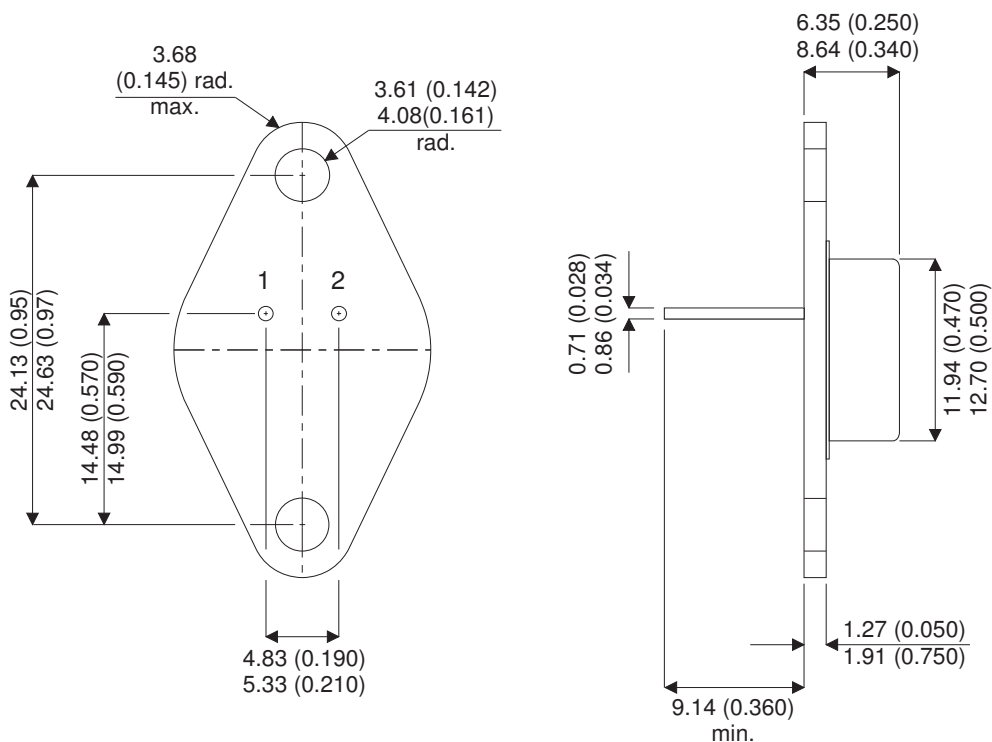
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

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MECHANICAL DATA

Dimensions in mm (inches)



TO66 (TO-213AA)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector