

SILICON PLANAR EPITAXIAL PNP TRANSISTOR

2N2907AUA

- Low Power, High Speed Saturated Switching
- Hermetic Surface Mounted Package.
- Ideally suited for High Speed Switching and General Purpose Applications
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage	-60V
V_{CEO}	Collector – Emitter Voltage	-60V
V_{EBO}	Emitter – Base Voltage	-5V
I_C	Continuous Collector Current	-600mA
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$ Derate Above 37.5°C	500mW 3.08mW/ $^\circ\text{C}$
T_J	Junction Temperature Range	-65 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65 to $+200^\circ\text{C}$

THERMAL PROPERTIES (Each Device)

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			325	$^\circ\text{C/W}$

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$ $I_B = 0$	-60			V
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -60\text{V}$ $I_E = 0$			-10	μA
		$V_{CB} = -50\text{V}$ $I_E = 0$			-10	nA
		$T_A = 150^\circ\text{C}$			-10	μA
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5\text{V}$ $I_C = 0$			-10	μA
		$V_{EB} = -4\text{V}$ $I_C = 0$			-50	nA
I_{CES}	Collector Cut-Off Current	$V_{CE} = -50\text{V}$			-50	nA
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-0.4	V
		$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-1.6	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$	-0.6		-1.3	
		$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-2.6	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = -0.1\text{mA}$ $V_{CE} = -10\text{V}$	75			
		$I_C = -1.0\text{mA}$ $V_{CE} = -10\text{V}$	100		450	
		$I_C = -10\text{mA}$ $V_{CE} = -10\text{V}$	100			
		$T_A = -55^\circ\text{C}$	50			
		$I_C = -150\text{mA}$ $V_{CE} = -10\text{V}$	100		300	
		$I_C = -500\text{mA}$ $V_{CE} = -10\text{V}$	50			

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = -20\text{mA}$ $V_{CE} = -20\text{V}$ $f = 100\text{MHz}$	2			
h_{fe}	Small Signal Current Gain	$I_C = -1.0\text{mA}$ $V_{CE} = -10\text{V}$ $f = 1.0\text{KHz}$	100			
C_{obo}	Output Capacitance	$V_{CB} = -10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			8	pF
C_{ibo}	Input Capacitance	$V_{EB} = -2\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			30	
t_{on}	Turn-On Time	$I_C = -150\text{mA}$ $V_{CC} = -30\text{V}$ $I_{B1} = -15\text{mA}$			45	ns
t_{off}	Turn-Off Time	$I_C = -150\text{mA}$ $V_{CC} = -30\text{V}$ $I_{B1} = -I_{B2} = -15\text{mA}$			300	

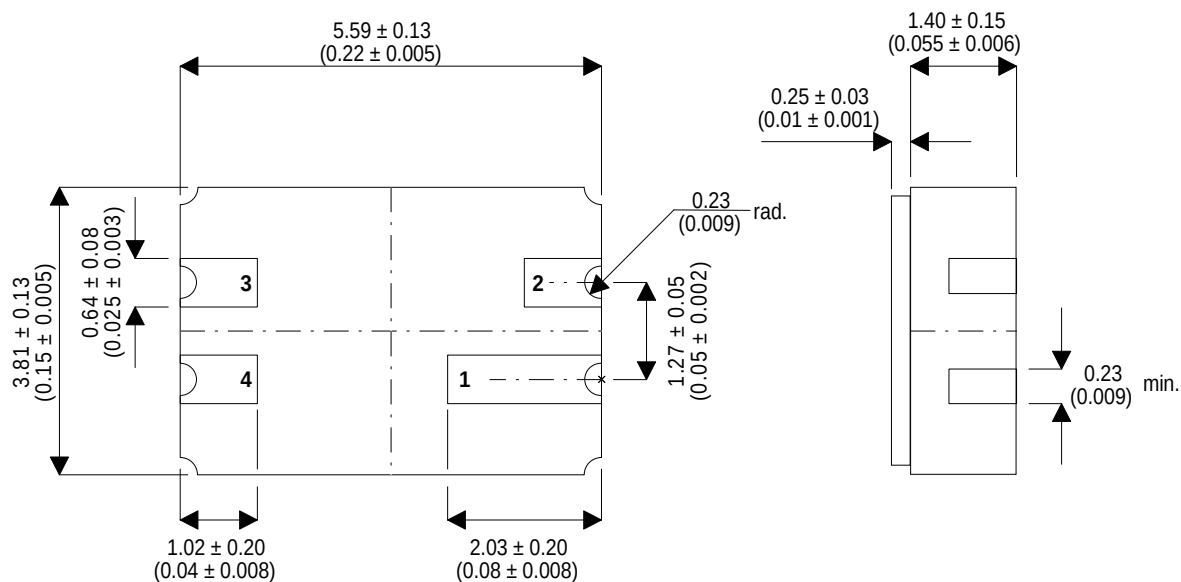
Notes

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

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MECHANICAL DATA

Dimensions in mm (inches)



LCC3 (MO-041BA)

Underside View

Pad 1 - Collector

Pad 2 - N/C

Pad 3 - Base

Pad 4 - Emitter

N/C = No Connection