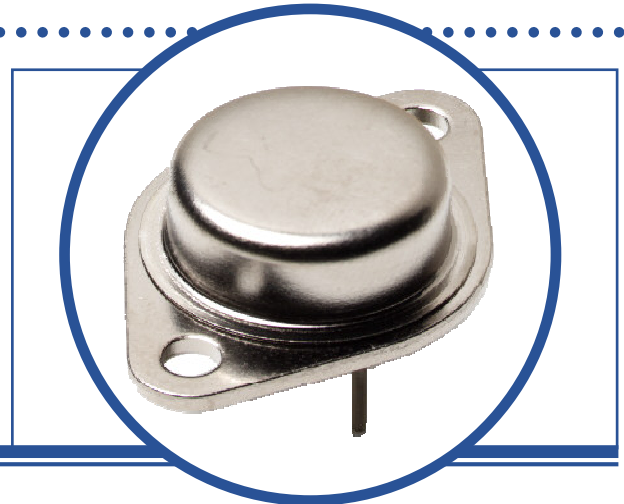


SILICON EPITAXIAL PNP TRANSISTOR

2N4904

- Low Collector Saturation Voltage.
- Hermetic TO3 Metal Package.
- Designed For General Purpose, Switching and Power Amplifier Applications
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage	-40V
V_{CEO}	Collector – Emitter Voltage	-40V
V_{EBO}	Emitter – Base Voltage	-5V
I_C	Continuous Collector Current	-5A
I_B	Base Current	-1.0A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	87.5W 0.5W/ $^\circ\text{C}$
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			2	$^\circ\text{C/W}$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

SILICON EPITAXIAL PNP TRANSISTOR 2N4904

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	$I_C = -10\text{mA}$	-40			V
I_{CEV}	Collector Cut-Off Current	$V_{CE} = -40\text{V}$ $V_{BE} = 1.5\text{V}$			-0.1	mA
		$T_C = 150^\circ\text{C}$			-2	
I_{CEO}	Collector Cut-Off Current	$V_{CE} = -40\text{V}$ $I_B = 0$			-1.0	
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -40\text{V}$ $I_E = 0$			-0.1	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5\text{V}$ $I_C = 0$			-1.0	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = -2.5\text{A}$ $V_{CE} = -2\text{V}$	25		100	
		$I_C = -5\text{A}$ $V_{CE} = -2\text{V}$	7			
$V_{BE(on)}^{(1)}$	Base-Emitter Voltage	$I_C = -2.5\text{A}$ $V_{CE} = -2\text{V}$			-1.4	V
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -2.5\text{A}$ $I_B = -0.25\text{A}$			-1.0	
		$I_C = -5\text{A}$ $I_B = -1.0\text{A}$			-1.5	

DYNAMIC CHARACTERISTICS

h_{fe}	Small-Signal Current Gain	$I_C = -500\text{mA}$ $V_{CE} = -10\text{V}$ $f = 1.0\text{KHz}$	40			
f_T	Transition Frequency	$I_C = -1.0\text{A}$ $V_{CE} = -10\text{V}$ $f = 1.0\text{MHz}$	4			MHz

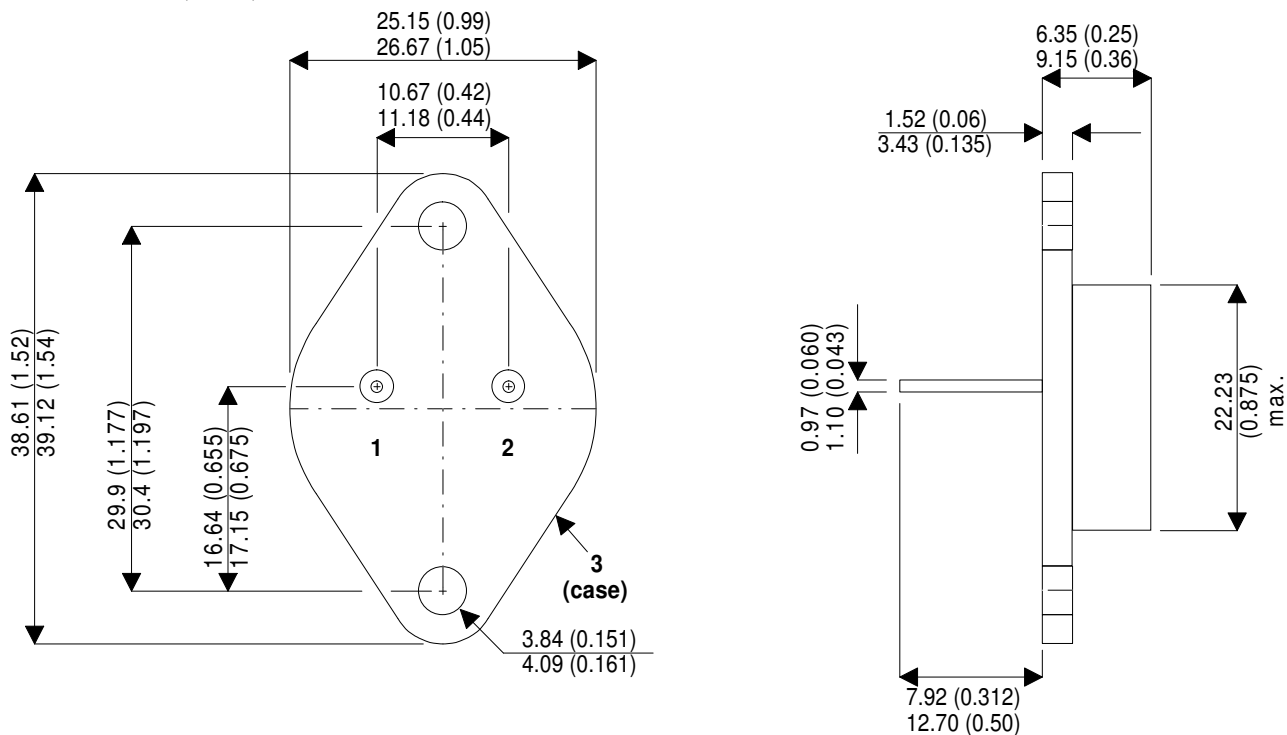
Notes

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

SILICON EPITAXIAL PNP TRANSISTOR 2N4904

MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AA) METAL PACKAGE Underside View

Pin 1 - Base

Pin 2 - Emitter

Case - Collector