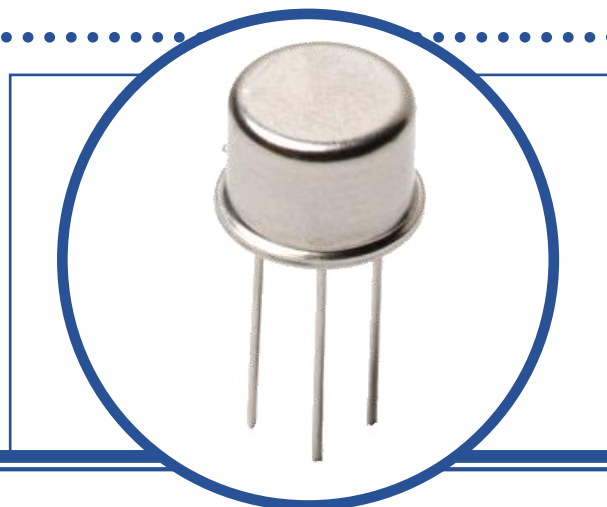


SILICON PLANAR EPITAXIAL PNP TRANSISTOR

2N2905A

- Hermetic TO-39 Metal package.
- High Speed Saturated Switching
- 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 $T_C = 25^\circ\text{C}$	3.0W
	Derate Above 25°C	22.2mW/ $^\circ\text{C}$
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$	0.8W
	Derate Above 25°C	5.9mW/ $^\circ\text{C}$
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	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	195	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance, Junction To Case	50	$^\circ\text{C/W}$

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.



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SILICON PLANAR EPITAXIAL PNP TRANSISTOR 2N2905A

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
I_{CES}	Collector to emitter Cut-off current	$V_{CE} = -60\text{V}$			-1.0	μA
I_{CBO}	Collector Cut-Off Current	$V_{CB} = -60\text{V}$			-10	
		$T_A = +150^\circ\text{C}$ $V_{CB} = -50\text{V}$			-10	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = -5.0\text{V}$			-10	nA
		$V_{EB} = -3.5\text{V}$			-50	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$V_{CE} = -10\text{V}$	$I_C = -0.1\text{mA}$	75		
			$I_C = -1.0\text{mA}$	100	450	
			$I_C = -10\text{mA}$	100		
			$I_C = -150\text{mA}$	100	300	
			$I_C = -500\text{mA}$	50		
		$T_A = -55^\circ\text{C}$ $I_C = -1.0\text{mA}$	50			
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$	-60			V
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-0.4	
		$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-1.6	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-1.3	
		$I_C = -500\text{mA}$ $I_B = -50\text{mA}$			-2.6	

DYNAMIC CHARACTERISTICS

t_{on}	Turn-on time	$V_{CC} = -30\text{V}$ $I_C = -150\text{mA}$ $I_{B1} = -15\text{mA}$			45	ns
t_{off}	Turn-off time	$V_{CC} = -6\text{V}$ $I_C = -150\text{mA}$ $I_{B1} = -15\text{mA}$			300	ns
C_{obo}	Output Capacitance	$V_{CB} = -10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			8	pF
C_{ibo}	Input Capacitance	$V_{EB} = -10\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			30	
$ h_{fe} $	Small Signal Current Gain	$V_{CE} = -20\text{V}$ $I_C = -50\text{mA}$ $f = 100\text{MHz}$	2.0			
h_{fe}	Small-signal short-circuit forward-current transfer ratio	$V_{CE} = -10\text{V}$ $I_C = -1.0\text{mA}$ $f = 1.0\text{kHz}$	100			

Notes

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

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Dimensions in mm (inches)



Pin 3 - Collector