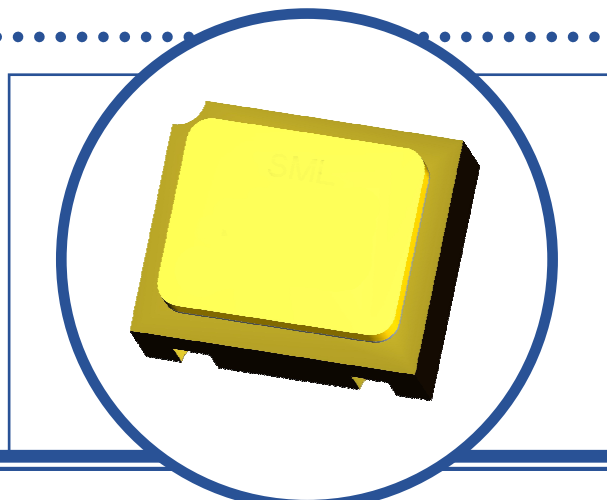


SILICON PLANAR EPITAXIAL PNP TRANSISTOR

2N2905ACSM

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

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 2N2905ACSM

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
		$V_{EB} = -3.5\text{V}$ $I_C = 0$			-50	nA
I_{CES}	Collector Cut-Off Current	$V_{CE} = -60\text{V}$			-1.0	μA
$V_{CE(sat)}^{(1)}$	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	$I_C = -150\text{mA}$ $I_B = -15\text{mA}$			-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	
		$T_A = -55^\circ\text{C}$	50			
		$I_C = -10\text{mA}$ $V_{CE} = -10\text{V}$	100			
		$I_C = -150\text{mA}$ $V_{CE} = -10\text{V}$	100		300	
		$I_C = -500\text{mA}$ $V_{CE} = -10\text{V}$	50			

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = -50\text{mA}$ $V_{CE} = -20\text{V}$ $f = 100\text{MHz}$	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	

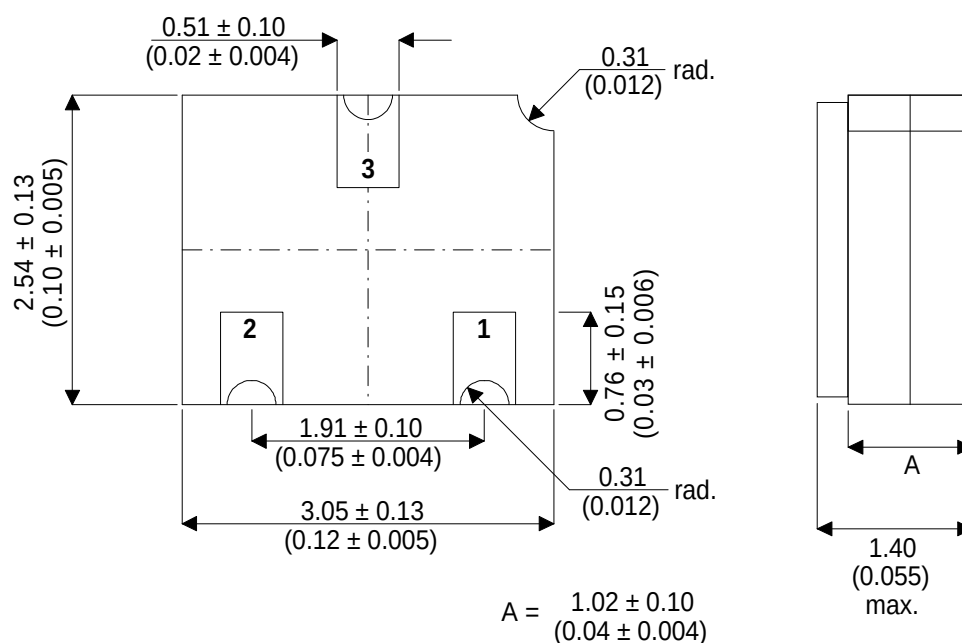
Notes

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

SILICON PLANAR EPITAXIAL PNP TRANSISTOR 2N2905ACSM

MECHANICAL DATA

Dimensions in mm (inches)



LCC1

Underside View

Pad 1 - Base

Pad 2 - Emitter

Pad 3 - Collector