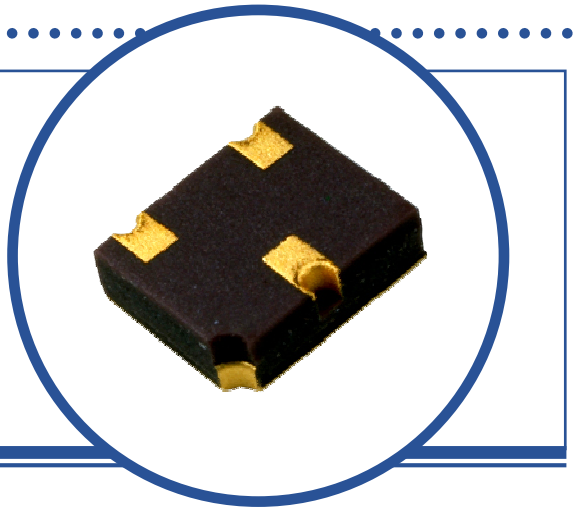
SILICON PLANAR EPITAXIAL PNP TRANSISTOR

TT electronics
Semelab Limited

2N2906ACSM

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



ABSOLUTE MAXIMUM RATINGS (T_A = 25°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°C	400mW
		Derate Above 25°C	2.28mW/°C
P_D	Total Power Dissipation at	T_C = 25°C	1.8W
		Derate Above 25°C	10.3mW/°C
T_J	Junction Temperature Range		-65 to +200°C
T_{stg}	Storage Temperature Range		-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient			437.5	°C/W
$R_{\theta JC}$	Thermal Resistance, Junction To Case			97.2	°C/W

SEMELAB
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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}$ [1]	Collector-Emitter Breakdown Voltage	I_C = -10mA I_B = 0	-60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = -10µA I_E = 0	-60			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = -10µA I_C = 0	-5			
I_{CEX}	Collector Cut-Off Current	V_{CE} = -30V V_{BE} = -0.5V			-50	nA
I_{CBO}	Collector Cut-Off Current	V_{CB} = -50V I_E = 0			-0.01	µA
		T_A = 150°C			-10	
$V_{CE(sat)}$ [1]	Collector-Emitter Saturation Voltage	I_C = -150mA I_B = -15mA			-0.4	V
		I_C = -500mA I_B = -50mA			-1.6	
$V_{BE(sat)}$ [1]	Base-Emitter Saturation Voltage	I_C = -150mA I_B = -15mA			-1.3	
		I_C = -500mA I_B = -50mA			-2.6	
h_{FE} [1]	Forward-current transfer ratio	I_C = -0.1mA V_{CE} = -10V	40			
		I_C = -1.0mA V_{CE} = -10V	40			
		I_C = -10mA V_{CE} = -10V	40			
		I_C = -150mA V_{CE} = -10V	40		120	
		I_C = -500mA V_{CE} = -10V	40			

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	I_C = -50mA V_{CE} = -20V f = 100MHz	170			MHz
C_{obo}	Output Capacitance	V_{CB} = -10V I_E = 0 f = 1.0MHz			8	pF
C_{ibo}	Input Capacitance	V_{EB} = -2V I_C = 0 f = 1.0MHz			30	
t_{on}	Turn-On Time	I_C = -150mA V_{CC} = -30V I_{B1} = -15mA			45	ns
t_{off}	Turn-Off Time	I_C = -150mA V_{CC} = -30V I_{B1} = - I_{B2} = -15mA			300	

Notes
(1) Pulse Width ≤ 300us, δ ≤ 2%

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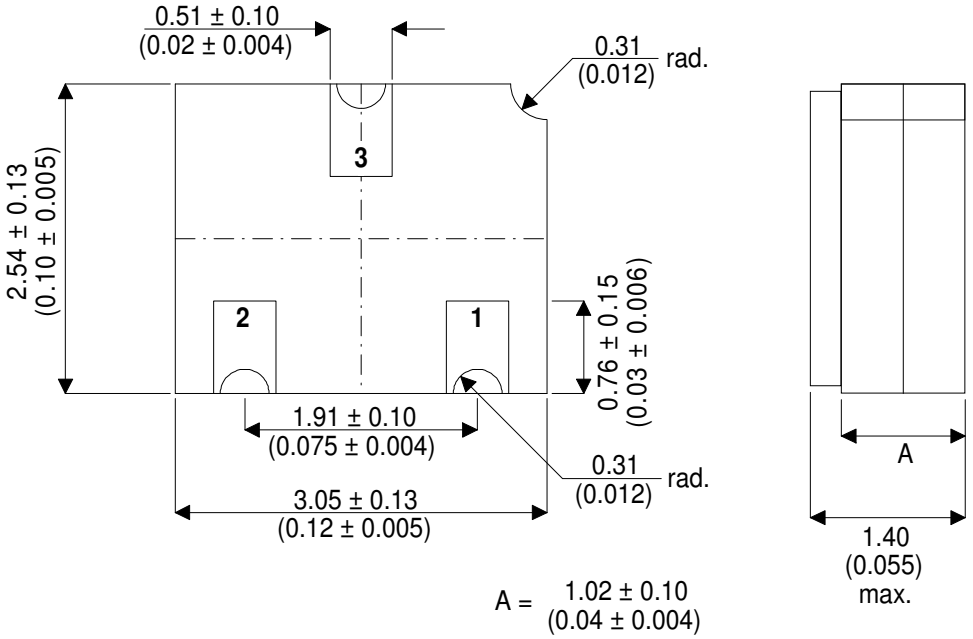
MECHANICAL DATA

Dimensions in mm (inches)



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Underside View

Pad 1 - Base Pad 2 - Emitter Pad 3 - Collector