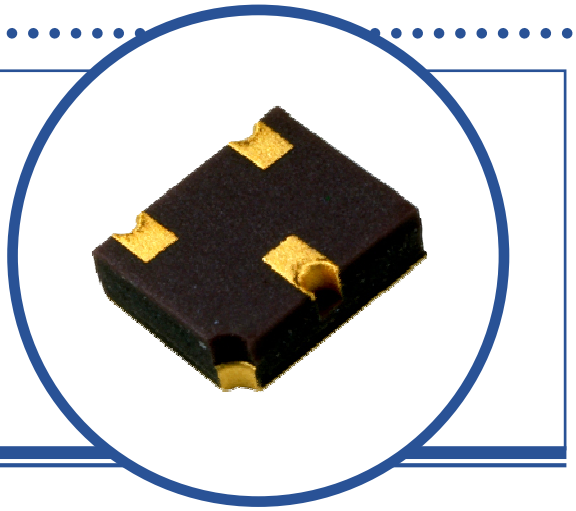
SILICON PLANAR EPITAXIAL NPN TRANSISTOR

TT electronics
Semelab Limited

2N3114CSM

- High Voltage
- Hermetic Ceramic Surface Mount Package
- Designed For Low Noise General Purpose Amplifiers, Driver Stages and Signal Processing Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage		150V
V_{CEO}	Collector – Emitter Voltage		150V
V_{EBO}	Emitter – Base Voltage		5V
I_C	Continuous Collector Current		150mA
P_D	Total Power Dissipation at	T_A = 25°C	350mW
		Derate Above 25°C	2mW/°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			500	°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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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
I_{CEO}	Collector-Cut-Off Current	V_{CE} = 150V	I_B = 0			100	µA
I_{CBO}	Collector-Cut-Off Current	V_{CB} = 150V	I_E = 0			10	µA
		V_{CB} = 100V	I_E = 0			10	nA
			T_A = 150°C			10	µA
I_{EBO}	Emitter-Cut-Off Current	V_{EB} = 5V	I_C = 0			1.0	µA
		V_{EB} = 4V	I_C = 0			100	nA
h_{FE}[1]	Forward-current transfer ratio	I_C = 0.1mA	V_{CE} = 10V	15	35		
		I_C = 30mA	V_{CE} = 10V	30	60	120	
			T_A = 150°C	12	24		
$V_{CE(sat)}$[1]	Collector-Emitter Saturation Voltage	I_C = 50mA	I_B = 5mA			1.0	V
$V_{BE(sat)}$[1]	Base-Emitter Saturation Voltage	I_C = 50mA	I_B = 5mA			0.9	

DYNAMIC CHARACTERISTICS

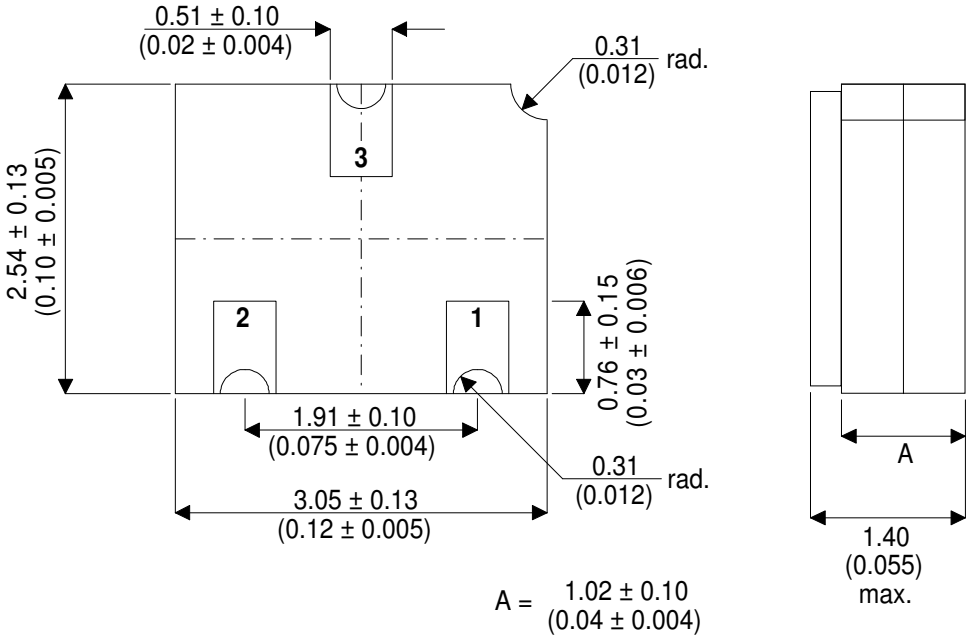
$\lvert h_{fe} \rvert$	Small signal forward-current transfer ratio	I_C = 30mA f = 20MHz	V_{CE} = 10V	2			
C_{obo}	Output Capacitance	V_{CB} = 20V f = 1.0MHz	I_E = 0			9	pF
C_{ibo}	Input Capacitance	V_{EB} = 0.5V f = 1.0MHz	I_C = 0			80	pF

Notes
(1) Pulse Width ≤ 300us, δ ≤ 2%

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MECHANICAL DATA

Dimensions in mm (inches)



LCC1

Underside View

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