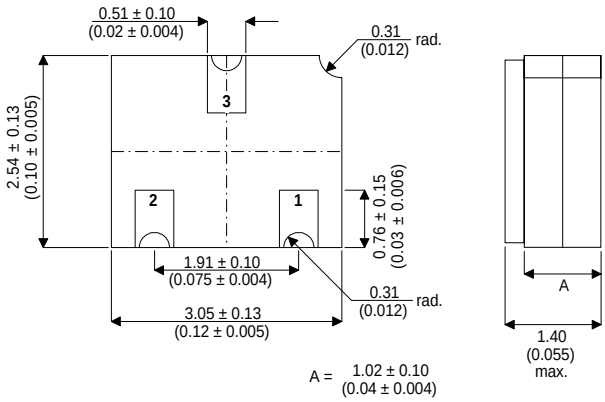
2N2369ACSM

HIGH SPEED, MEDIUM POWER, NPN SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



SOT23 CERAMIC (LCC1 PACKAGE)

Underside View

PAD 1 – Base PAD 2 – Emitter PAD 3 – Collector

FEATURES

- **SILICON PLANAR EPITAXIAL NPN TRANSISTOR**
- **HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)**
- **CECC SCREENING OPTIONS**

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N2369A for high reliability / space applications requiring small size and low weight devices.

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

V_{CBO}	Collector – Base Voltage		40V
V_{CEO}	Collector – Emitter Voltage		15V
V_{EBO}	Emitter – Base Voltage		4.5V
I_C	Collector Current		200mA
P_D	Total Device Dissipation	@ T_A =25°C	360mW
		Derate above 25°C	2.06mW / °C
P_D	Total Device Dissipation	@ T_C =25°C	680mW
		Derate above 25°C	6.85mW / °C
T_{STG} , T_J	Operating and Storage Temperature Range		–65 to +200°C

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SEME LAB

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CEO*}$	Collector – Emitter Breakdown Voltage	I_C = 10mA		15			V
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 10µA		40			V
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 10µA		4.5			V
I_{CES}	Collector – Emitter Cut-off Current	V_{CE} = 20V				0.40	µA
		V_{CE} = 10V				0.30	
			T_A = +150°C			30	
I_{CBO}	Collector – Base Cut-off Current	V_{CB} = 20V				0.20	µA
			T_A = +125°C			30	
I_{EBO}	Emitter – Base Cut-off Current	V_{EB} = 4V				0.25	µA
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 10mA	I_B = 1mA			0.20	V
			T_A = +150°C			0.30	
		I_C = 30mA	I_B = 3mA			0.25	
		I_C = 100mA	I_B = 10mA			0.43	
$V_{BE(sat)}$	Base – Emitter Saturation Voltage	I_C = 10mA	T_A = +25°C	0.70		0.85	V
		I_B = 1mA	T_A = +150°C	0.59			
			T_A = –55°C			1.02	
		I_C = 30mA	I_B = 3mA			0.90	
		I_C = 100mA	I_B = 10mA			1.20	
h_{FE*}	Current Gain	I_C = 10mA	V_{CE} = 0.35V	40		120	—
		I_C = 30mA	V_{CE} = 0.40V	30		120	
		I_C = 10mA	V_{CE} = 1V	40		120	
			T_A = –55°C	20			
		I_C = 100mA	V_{CE} = 1V	20		120	
$\|h_{fe}\|$	Magnitude of h_{fe}	I_C = 10mA V_{CE} = 10V f = 100MHz		5		10	—
C_{ob}	Output Capacitance	V_{CB} = 5V I_E = 0 f = 100kHz to 1MHz				4	pF
C_{ib}	Input Capacitance	V_{EB} = 0.5V I_C = 0 f = 100kHz to 1MHz				5	
t_s	Storage Time	I_C = 10mA $I_{B1} = -I_{B2}$ = 10mA				13	ns
t_{on}	Turn–On Time	I_C = 10mA				12	ns
t_{off}	Turn–Off Time	I_{B1} = 3mA	I_{B2} = –1.5mA			18	

* Pulse Test: $t_p \leq 300\mu s$, $\delta \leq 2\%$.

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