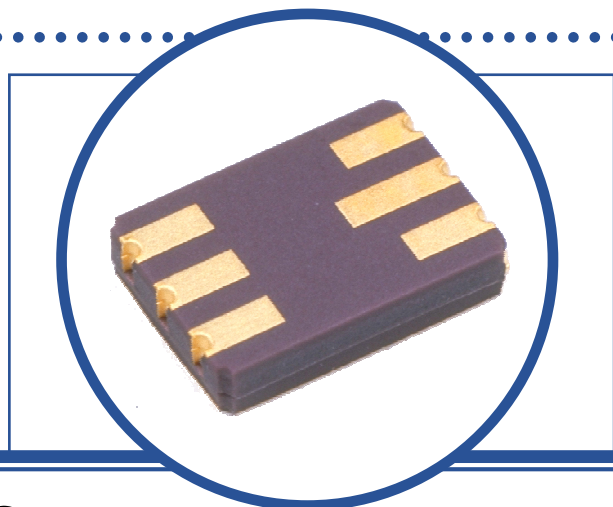


DUAL NPN SWITCHING TRANSISTORS

2N2369ADCSM

- Dual Silicon Planer Epitaxial NPN Transistors
- Hermetic Ceramic Surface Mount Package
- Designed For High Speed Switching Applications
- Screening Options Available



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

		Each Side	Total Device
V _{CB0}	Collector – Base Voltage	40V	
V _{CEO}	Collector – Emitter Voltage	15V	
V _{CES}	Collector – Emitter Voltage	40V	
V _{EBO}	Emitter – Base Voltage	4.5V	
I _C	Continuous Collector Current	200mA	
P _D	Total Power Dissipation at T _A = 25°C	360mW	500mW
	Derate Above 25°C	2.06mW/°C	2.86mW/°C
P _D	Total Power Dissipation at T _{sp} = 125°C	360mW	500mW
	Derate Above 125°C	4.80mW/°C	6.67mW/°C
T _J	Junction Temperature Range	-65 to +200°C	
T _{stg}	Storage Temperature Range	-65 to +200°C	

THERMAL PROPERTIES

Symbols	Parameters	EachSide	Total Device
R _{θJA}	Thermal Resistance, Junction To Ambient	486°C/W	350°C/W
R _{θJSP}	Thermal Resistance, Junction To Solder Point	208.3°C/W	150°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.



DUAL NPN SWITCHING TRANSISTORS 2N2369ADCSM

ELECTRICAL CHARACTERISTICS (Each Side, $T_A = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	15			V
I_{CES}	Collector-Cut-Off Current	$V_{CE} = 20\text{V}$ $I_B = 0$			0.4	μA
I_{CBO}	Collector-Cut-Off Current	$V_{CB} = 40\text{V}$ $I_E = 0$			10	
		$V_{CB} = 32\text{V}$ $I_E = 0$			0.2	
		$V_{CB} = 20\text{V}$ $I_E = 0$ $T_A = 150^\circ\text{C}^{(2)}$			30	
I_{EBO}	Emitter-Cut-Off Current	$V_{EB} = 4.5\text{V}$ $I_C = 0$			10	
		$V_{EB} = 4\text{V}$ $I_C = 0$			0.25	
I_{CEX}	Collector Cut-Off Current	$V_{CE} = 10\text{V}$ $V_{BE} = -0.25\text{V}$ $T_A = 125^\circ\text{C}$			30	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 10\text{mA}$ $V_{CE} = 0.35\text{V}$	40		120	
		$I_C = 30\text{mA}$ $V_{CE} = 0.4\text{V}$	30		120	
		$I_C = 10\text{mA}$ $V_{CE} = 1.0\text{V}$ $T_A = -55^\circ\text{C}$	40		120	
		$I_C = 100\text{mA}$ $V_{CE} = 1.0\text{V}$	20		120	
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}$ $I_B = 1.0\text{mA}$ $T_A = 125^\circ\text{C}$			0.2	
		$I_C = 30\text{mA}$ $I_B = 3\text{mA}$			0.3	
		$I_C = 100\text{mA}$ $I_B = 10\text{mA}$			0.25	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{mA}$ $I_B = 1.0\text{mA}$	0.7		0.85	
		$T_A = 125^\circ\text{C}$	0.59			
		$T_A = -55^\circ\text{C}$			1.02	
		$I_C = 30\text{mA}$ $I_B = 3\text{mA}$			0.9	
		$I_C = 100\text{mA}$ $I_B = 10\text{mA}$	0.8		1.2	

Notes

- (1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$
(2) By design only, not a production test.

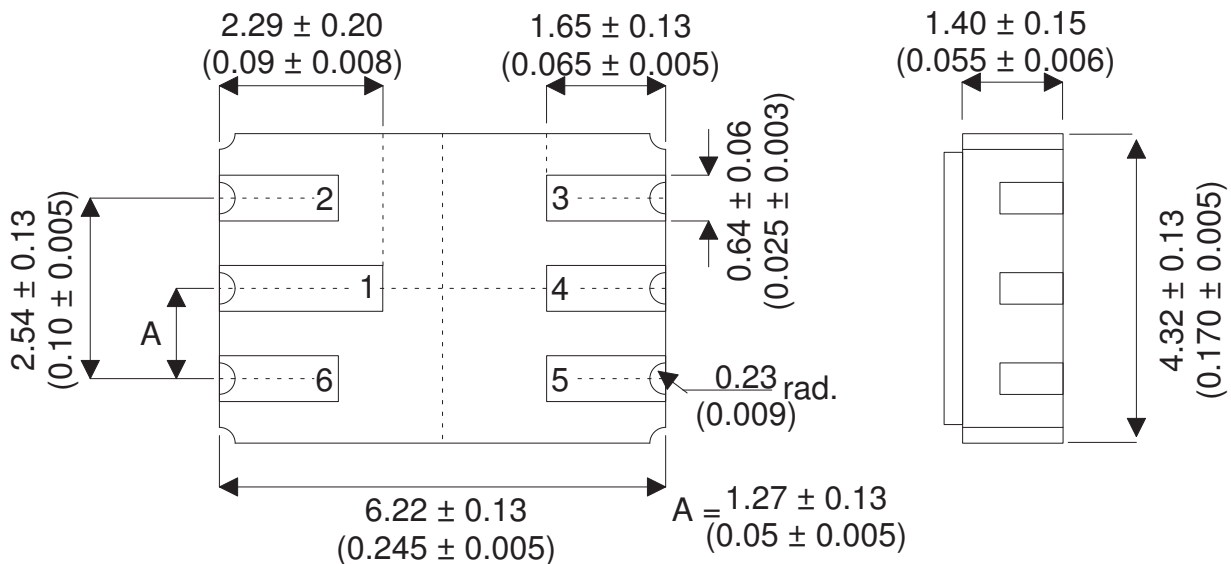
DUAL NPN SWITCHING TRANSISTORS 2N2369ADCSM

DYNAMIC CHARACTERISTICS (Each Side, $T_A = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $f = 100\text{MHz}$	5		10	
C_{obo}	Output Capacitance	$V_{CB} = 5\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			4	pF
C_{ibo}	Input Capacitance	$V_{EB} = 0.5\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			5	
t_s	Storage Time	$I_C = 10\text{mA}$ $I_{B1} = I_{B2} = 10\text{mA}$			13	ns
t_{on}	Turn-On Time	$I_C = 10\text{mA}$ $V_{CC} = 3\text{V}$ $I_{B1} = 3\text{mA}$			12	
t_{off}	Turn-Off Time	$I_C = 10\text{mA}$ $V_{CC} = 3\text{V}$ $I_{B1} = 3\text{mA}$ $I_{B2} = -1.5\text{mA}$			18	

MECHANICAL DATA

Dimensions in mm (inches)



LCC2 (MO-041BB)

Underside View

Pad 1 – Collector 1 Pad 4 – Collector 2
 Pad 2 – Base 1 Pad 5 – Emitter 2
 Pad 3 – Base 2 Pad 6 – Emitter 1

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