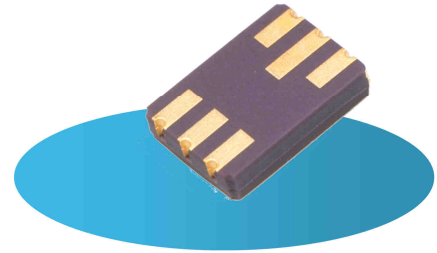


### 2N2222ADCSM

- Dual High Speed Saturated Switching Transistor
- Hermetic Ceramic Surface Mount Package
- Screening Options Available



### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise stated), Per Device

V <sub>CBO</sub>	Collector – Base Voltage	75V
V <sub>CEO</sub>	Collector – Emitter Voltage	40V
V <sub>EBO</sub>	Emitter – Base Voltage	6V
I <sub>C</sub>	Continuous Collector Current	0.8A
P <sub>D</sub>	Total Power Dissipation at T <sub>A</sub> = 25°C Derate Above 25°C	500mW 2.86mW/°C
T <sub>J</sub>	Junction Temperature Range	-65 to +200°C
T <sub>stg</sub>	Storage Temperature Range	-65 to +200°C

### THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
R <sub>θJA</sub> <sup>(1)</sup>	Thermal Resistance, Junction To Ambient	350	°C/W
R <sub>θJSP</sub> <sup>(2)</sup>	Thermal Resistance, Junction To Solder Pads	110	°C/W

#### Notes

- (1) For non-thermal conductive PCB or unknown PCB surface mount conditions in free air.  
 (2) Infinite sink mount to PCB

# DUAL SILICON SWITCHING NPN TRANSISTORS

## 2N2222ADCSM



### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise stated), Per Device

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$V_{(BR)CEO}^{(3)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$	40			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}$	75			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$	6			
$I_{CEX}$	Collector-Emitter Cut-Off Current	$V_{EB} = 3\text{V}$ $V_{CE} = 60\text{V}$			10	nA
$I_{CBO}$	Collector-Base Cut-Off Current	$I_E = 0$ $V_{CB} = 60\text{V}$ $T_A = 150^\circ\text{C}$			10	
$I_{EBO}$	Emitter Cut-Off Current	$I_C = 0$ $V_{EB} = 3\text{V}$			10	nA
$V_{CE(Sat)}^{(3)}$	Collector-Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$			0.3	V
		$I_C = 500\text{mA}$ $I_B = 50\text{mA}$			1.0	
$V_{BE(Sat)}^{(3)}$	Base-Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$	0.6		1.2	
		$I_C = 500\text{mA}$ $I_B = 50\text{mA}$			2.0	
$h_{FE}^{(3)}$	DC Current Gain	$I_C = 0.1\text{mA}$ $V_{CE} = 10\text{V}$	35			-
		$I_C = 1.0\text{mA}$ $V_{CE} = 10\text{V}$	50			
		$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $T_A = -55^\circ\text{C}$	75			
		$I_C = 150\text{mA}$ $V_{CE} = 10\text{V}$	100		300	
		$I_C = 150\text{mA}$ $V_{CE} = 1.0\text{V}$	50			
		$I_C = 500\text{mA}$ $V_{CE} = 10\text{V}$	40			

### DYNAMIC CHARACTERISTICS

$C_{obo}$	Output Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			8	pF
$C_{ibo}$	Input Capacitance	$V_{EB} = 0.5\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			30	
$f_t$	Transition Frequency	$I_C = 20\text{mA}$ $V_{CE} = 20\text{V}$ $f = 100\text{MHz}$	300			MHz
$h_{fe}$	Small Signal Current Gain	$I_C = 1.0\text{mA}$ $V_{CE} = 10\text{V}$ $f = 1.0\text{kHz}$	50		300	-
		$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $f = 1.0\text{kHz}$	75		375	
$t_d$	Delay Time	$V_{CC} = 30\text{V}$ $V_{BE} = 0.5\text{V}$			10	ns
$t_r$	Rise Time	$I_C = 150\text{mA}$ $I_{B1} = 15\text{mA}$			25	
$t_s$	Storage Time	$V_{CC} = 30\text{V}$ $V_{BE} = 0.5\text{V}$			225	
$t_f$	Fall Time	$I_C = 150\text{mA}$ $I_{B1} = I_{B2} = 15\text{mA}$			60	

Note

(3) Pulse Width  $\leq 380\mu\text{s}$ ,  $\delta \leq 2\%$

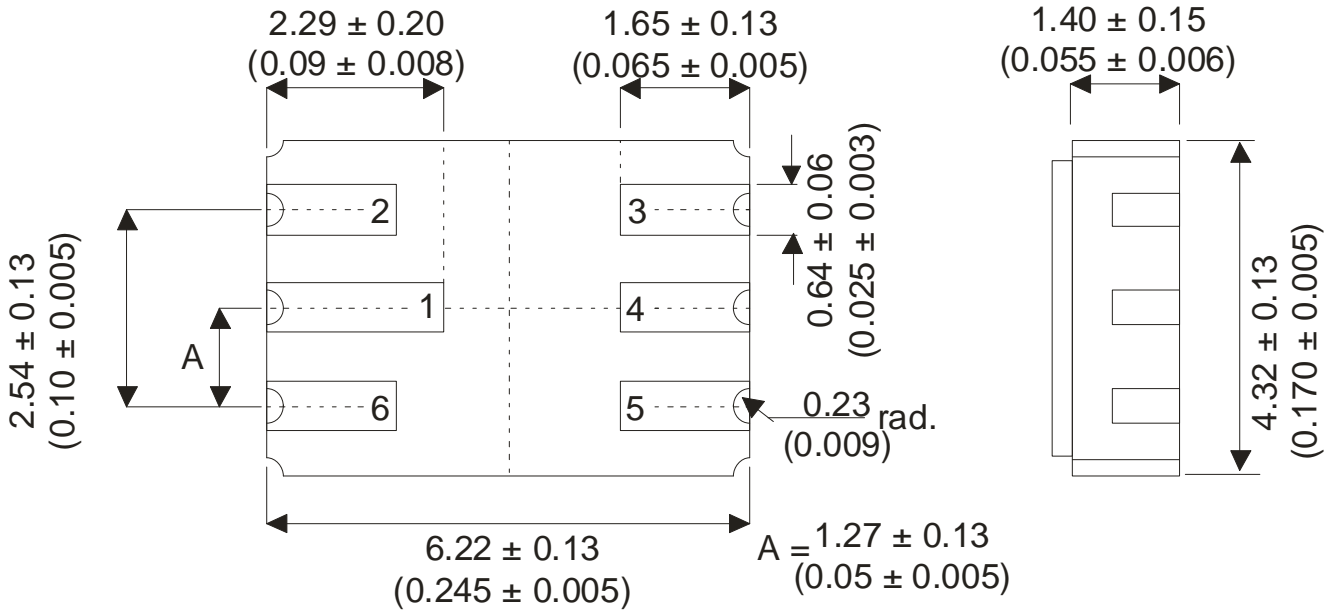
# DUAL SILICON SWITCHING NPN TRANSISTORS

## 2N2222ADCSM



### 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