



#### **MECHANICAL DATA**

Dimensions in mm (inches)

# 1.27 (0.050) 1.07 (0.040) 0.33 (0.013) 0.08 (0.003) Rad 0.43 (0.017) 0.18 (0.007 Rad 1.65 (0.065) 1.40 (0.055)

# **NPN SILICON TRANSISTORS**

## **FEATURES**

- Hermetically sealed ceramic surface mount package
- Small footprint
- Simple drive requirements

#### LCC4 CERAMIC SURFACE MOUNT PACKAGE

#### **Underside View**

Pads 6, 7, 8, 9, 10, 11, 12, 13. Source Pads 4,5 Gate Pads 1,2,15,16,17,18 Drain

Pads 3,14 **Not Connected** 

# **ABSOLUTE MAXIMUM RATINGS** T<sub>CASE</sub> = 25°c unless otherwise stated

$V_{CBO}$	Collector – Base Voltage(I <sub>E</sub> = 0)	100V
$V_{CEO}$	Collector – Emitter Voltage (I <sub>B</sub> = 0)	100V
$V_{EBO}$	Emitter – Base Voltage (I <sub>C</sub> = 0)	6V
$I_{C}$	Collector Current	5A
I <sub>CM</sub>	Collector Peak Current	7A
$I_{B}$	Base Current	1A
$P_{tot}$	Total Dissipation at T <sub>case</sub> ≤ 25°C	6W
	T <sub>amb</sub> ≤ 25°C	1W
T <sub>stg</sub>	Storage Temperature Range	−65 to +200°C
Tj	Junction temperature	200°C

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## 2N5339LCC4

### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	29.2	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	175	°C/W

# **ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Тур.	Max.	Unit
I <sub>CBO</sub>	Collector Cut Off Current	I <sub>E</sub> = 0	V <sub>CB</sub> = 100V			10	μA
I <sub>CEX</sub>	Collector Cut Off Current	V <sub>BE</sub> = 1.5V	V <sub>CE</sub> = 90V			10	μA
			T <sub>case</sub> = 150°C			1	mA
I <sub>CEO</sub>	Collector Cut Off Current	I <sub>B</sub> = 0	V <sub>CE</sub> = 90V			100	μA
V <sub>CEO(sus)*</sub>	Collector Emitter Sustaining Voltage	$I_B = 0$	I <sub>C</sub> = 50mA			100	V
V <sub>CE(sat)*</sub>	Collector Emitter Saturation Voltage	I <sub>C</sub> = 2A	I <sub>B</sub> = 0.2A			0.7	V
		I <sub>C</sub> = 5A	I <sub>B</sub> = 0.5A			1.2	
V <sub>BE(sat)*</sub>	Base Emitter Voltage	I <sub>C</sub> = 2A	I <sub>B</sub> = 0.2A			1.2	V
		I <sub>C</sub> = 5A	I <sub>B</sub> = 0.5A			1.8	
h <sub>FE*</sub>	DC Current Gain	$I_{\rm C} = 0.5 A$	2N5338	30			
		$V_{CE} = 2V$	2N5339	60			
		I <sub>C</sub> = 2A	2N5338	30		150	
		$V_{CE} = 2V$	2N5339	60		240	
		I <sub>C</sub> = 5A	2N5338	20			
		$V_{CE} = 2V$	2N5339	40			
f <sub>T</sub>	Transistion Frequency	I <sub>C</sub> =0.5mA	V <sub>CE</sub> = 10V	30			MHz
C <sub>CBO</sub>	Collector Base Capacitance	I <sub>E</sub> = 0	V <sub>CB</sub> = 10V			250	pF
		f = 0.1MHz				250	
t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 2A	V <sub>CC</sub> = 40V			200	
		$I_{B1} = 0.2 \text{mA}$				200	ns
t <sub>s</sub>	Storage Time	I <sub>C</sub> = 2A	V <sub>CC</sub> = 40V			2.5	μs
t <sub>f</sub>	Fall Time	$I_{B1} = -I_{B2} = 0$	0.2A			200	ns

 $<sup>^*</sup>$  Pulse test  $t_p$  =  $300 \mu s$  , Duty Cycle 1.5%

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