

2N3439  
2N3440

SILICON  
NPN TRANSISTOR



TO-39 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3439 and 2N3440 are silicon NPN transistors designed for consumer and industrial line-operated applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^{\circ}\text{C}$ )

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Continuous Base Current  
Power Dissipation  
Operating and Storage Junction Temperature

SYMBOL	2N3439	2N3440	UNITS
$V_{CBO}$	450	300	V
$V_{CEO}$	350	250	V
$V_{EBO}$	7.0		V
$I_C$	1.0		A
$I_B$	0.5		A
$P_D$	1.0		W
$T_J, T_{stg}$	-65 to +200		$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=360\text{V}$ (2N3439)		20	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=250\text{V}$ (2N3440)		20	$\mu\text{A}$
$I_{CEO}$	$V_{CE}=300\text{V}$ (2N3439)		20	$\mu\text{A}$
$I_{CEO}$	$V_{CE}=200\text{V}$ (2N3440)		50	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=6.0\text{V}$		20	$\mu\text{A}$
$BV_{CEO}$	$I_C=50\text{mA}$ (2N3439)	350		V
$BV_{CEO}$	$I_C=50\text{mA}$ (2N3440)	250		V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=4.0\text{mA}$		0.5	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=4.0\text{mA}$		1.3	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=2.0\text{mA}$ (2N3439)	30		
$h_{FE}$	$V_{CE}=10\text{V}, I_C=20\text{mA}$	40	160	
$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=5.0\text{MHz}$	15		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		10	pF
$C_{ib}$	$V_{EB}=5.0\text{V}, I_C=0, f=1.0\text{MHz}$		75	pF

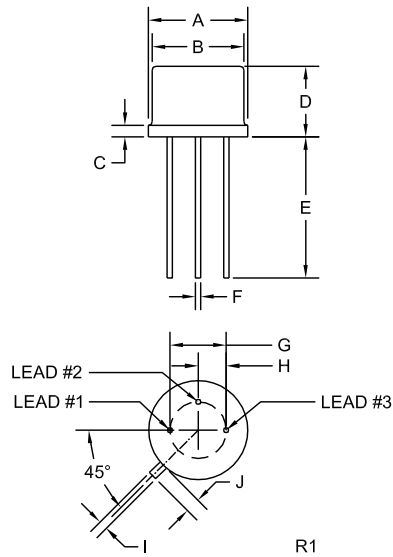
R1 (1-May 2013)

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# TO-39 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

## LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

## MARKING: FULL PART NUMBER

R1 (1-May 2013)