

2N3439
2N3440

**SILICON
NPN TRANSISTOR**



TO-39 CASE



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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	μA
I_{CBO}	$V_{CB}=250\text{V}$ (2N3440)		20	μA
I_{CEX}	$V_{CE}=450\text{V}, V_{BE}=1.5\text{V}$ (2N3439)		500	μA
I_{CEX}	$V_{CE}=300\text{V}, V_{BE}=1.5\text{V}$ (2N3440)		500	μA
I_{CEO}	$V_{CE}=300\text{V}$ (2N3439)		20	μA
I_{CEO}	$V_{CE}=200\text{V}$ (2N3440)		50	μA
I_{EBO}	$V_{EB}=6.0\text{V}$		20	μA
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

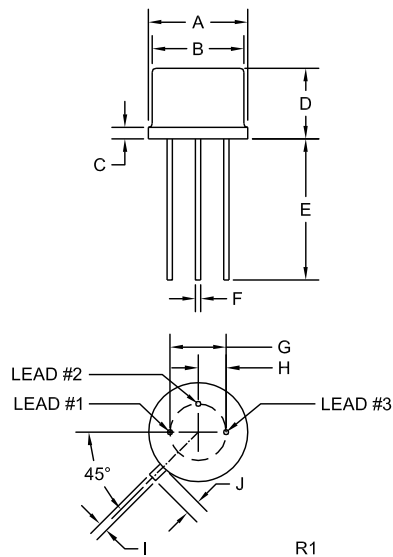
R2 (25-November 2019)

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TO-39 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	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

R2 (25-November 2019)

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OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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