

# Central<sup>TM</sup> Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA  
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N3439

2N3440

Silicon NPN Transistor

JEDEC TO39 Case

## DESCRIPTION

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

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

		<u>2N3439</u>	<u>2N3440</u>	<u>Unit</u>
Collector-Base Voltage	$V_{CB0}$	450	300	V
Collector-Emitter Voltage	$V_{CE0}$	350	250	V
Emitter-Base Voltage	$V_{EB0}$	7.0	7.0	V
Collector Current	$I_C$	1.0	1.0	A
Base Current	$I_B$	0.5	0.5	A
Power Dissipation	$P_T$	1.0	1.0	W
Operating Temperature	$T_J$	-65 to 200		$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 to 200		$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

<u>Symbol</u>	<u>Test Conditions</u>		<u>Min.</u>	<u>Max</u>	<u>Unit</u>
$I_{CB0}$	$V_{CB} = 360\text{V}$	2N3439		20	$\mu\text{A}$
$I_{CB0}$	$V_{CB} = 250\text{V}$	2N3440		20	$\mu\text{A}$
$I_{CE0}$	$V_{CE} = 300\text{V}$	2N3439		20	$\mu\text{A}$
$I_{CE0}$	$V_{CE} = 200\text{V}$	2N3440		50	$\mu\text{A}$
$I_{EB0}$	$V_{EB0} = 6$	Both		20	$\mu\text{A}$
$V_{CE0}$	$I_C = 50\text{mA}$	2N3439	350		V
$V_{CE0}$	$I_C = 50\text{mA}$	2N3440	250		V
$V_{CE}(s)$	$I_C = 50\text{mA}$ , $I_B = 4\text{mA}$	Both		0.5	V
$V_{BE}(s)$	$I_C = 50\text{mA}$ , $I_B = 4\text{mA}$	Both		1.3	V
$h_{FE}$	$V_{CE} = 10\text{V}$ , $2\text{mA}$	2N3439	30		-
$h_{FE}$	$V_{CE} = 10\text{V}$ , $20\text{mA}$	Both	40	160	-
$f_t$	$V_{CE} = 10\text{V}$ , $I_C = 10\text{mA}$ , $f = 5\text{MHZ}$	Both	15		MHZ
$C_{ob}$	$V_{CB} = 10\text{V}$ , $f = 1\text{MHZ}$	Both		10	pf
$C_{ib}$	$V_{EB} = 5\text{V}$ , $f = 1\text{MHZ}$	Both		75	pf