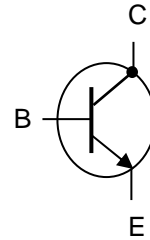


## NPN 2N3439 – 2N3440

### HIGH VOLTAGE TRANSISTOR

The 2N3439 and 2N3440 are high voltage silicon epitaxial transistors mounted in TO-39 metal package. They are intended for use in power amplifier, in consumer and industrial line-operated applications. These devices are particularly suited as drives in high voltage low current inverters, switching and series regulators. Compliance to RoHS.



#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value		Unit
			2N3439	2N3440	
$V_{CE0}$	Collector-Emitter Voltage	$I_B = 0$	350	250	V
$V_{CBO}$	Collector-Base Voltage	$I_E = 0$	450	300	V
$V_{EBO}$	Emitter-Base Voltage	$I_C = 0$	7		V
$I_C$	Collector Current		1		A
$I_B$	Base Current		500		mA
$P_D$	Total Power Dissipation	$T_{amb} = 25^\circ$	1		W
		$T_{case} = 25^\circ$	10		
$T_J$	Junction Temperature		200		°C
$T_{Stg}$	Storage Temperature range		-65 to +200		

#### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-a}$	Thermal Resistance, Junction to ambient	175	°C/W
$R_{thJ-c}$	Thermal Resistance, Junction to case	35	°C/W

## NPN 2N3439 – 2N3440

### ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

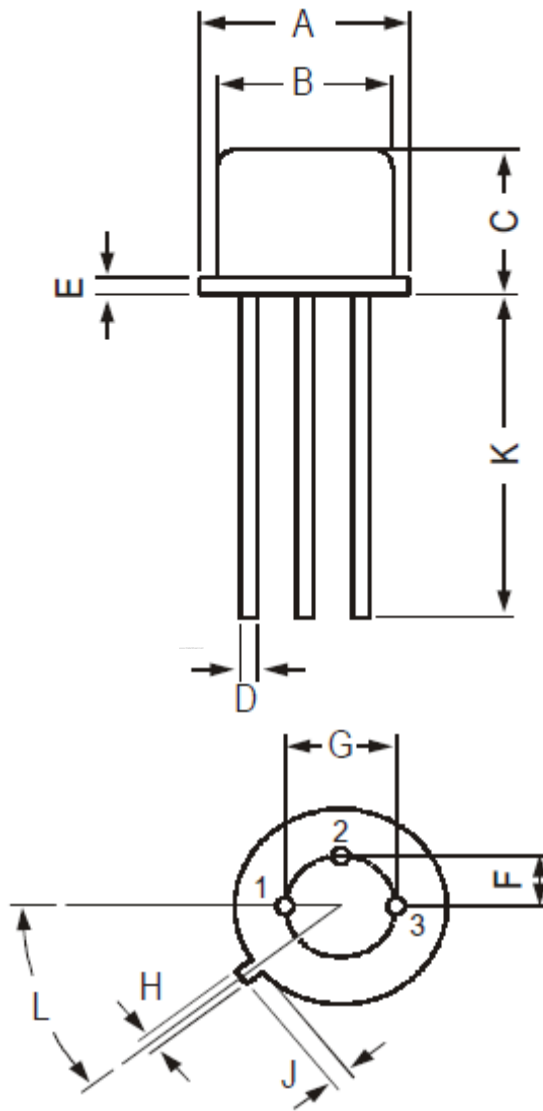
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 360 V, I <sub>E</sub> = 0	2N3439	-	-	20	μA
		V <sub>CB</sub> = 250 V, I <sub>E</sub> = 0	2N3440				
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 300 V, I <sub>B</sub> = 0	2N3439	-	-	20	μA
		V <sub>CE</sub> = 200 V, I <sub>B</sub> = 0	2N3440				
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = 450 V, V <sub>BE</sub> = -1.5 V	2N3439	-	-	500	μA
		V <sub>CE</sub> = 300 V, V <sub>BE</sub> = -1.5 V	2N3440				
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>BE</sub> = 6 V, I <sub>C</sub> = 0	2N3439	-	-	20	μA
			2N3440				
V <sub>CEO</sub>	Collector-emitter Breakdown Voltage	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 0	2N3439	350	-	-	V
			2N3440	250	-	-	
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2 mA, V <sub>CE</sub> = 10 V	2N3439	30	-	-	-
			2N3439	40	-	160	
			2N3440				
V <sub>CE(SAT)</sub>	Collector-Emitter saturation Voltage	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 4 mA	-	-	0.5	V	
V <sub>BE(SAT)</sub>	Base-Emitter saturation Voltage	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 4 mA	-	-	1.3	V	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> = 10 mA, V <sub>CB</sub> = 10 V f = 5 MHz	15	-	-	MHz	
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = 10 V, f = 1MHz	-	-	10	pF	

## NPN 2N3439 – 2N3440

### MECHANICAL DATA CASE TO-39

DIMENSIONS (mm)		
	min	max
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	-
L	42°	48°

Pin 1 :	Emitter
Pin 2 :	Base
Pin 3 :	Collector
Case :	Collector



Revised August 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.