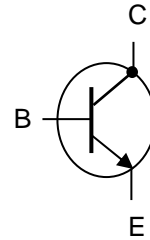


## NPN 2N3439 – 2N3440

### 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
		$T_{case} = 25^\circ$	5		
$T_J$	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

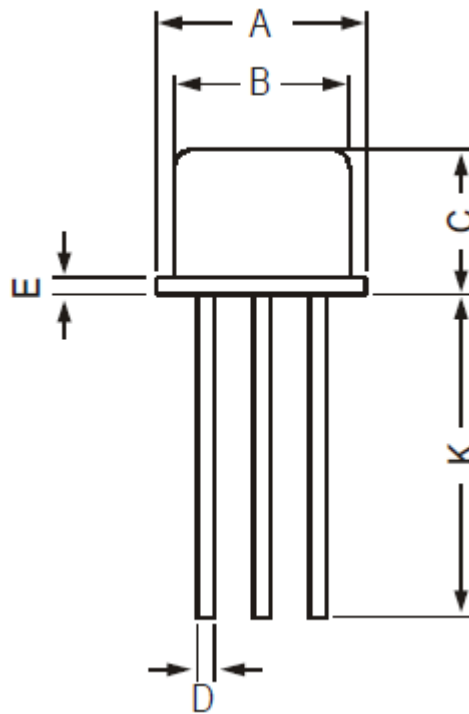
T<sub>j</sub>=25°C unless otherwise specified

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	

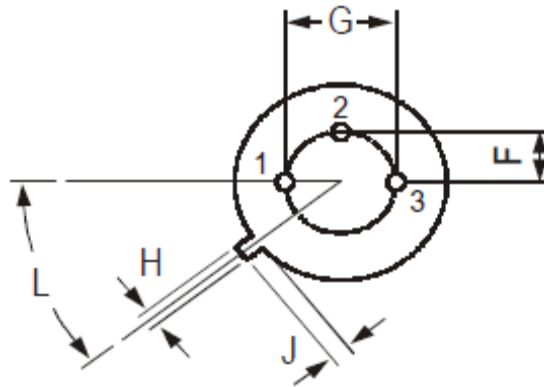
## NPN 2N3439 – 2N3440

### 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



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