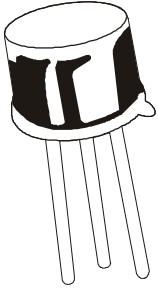




**NPN HIGH VOLTAGE SILICON TRANSISTORS**

**2N3439**  
**2N3440**  
**TO-39**



**High Voltage Silicon Planar Transistors used in High Voltage & High Power Amplifier Applications.**

**ABSOLUTE MAXIMUM RATINGS(Ta=25 deg C unless otherwise specified)**

DESCRIPTION	SYMBOL	2N3439	2N3440	UNITS
Collector -Emitter Voltage	VCEO	350	250	V
Collector -Base Voltage	VCBO	450	300	V
Emitter -Base Voltage	VEBO		7.0	V
Collector Current Continuous	IC		1.0	A
Base Current	IB		0.5	A
Power Dissipation@ Ta=25 degC	PD		1.0	W
Derate Above 25 deg C			5.7	mW/deg C
Power Dissipation@ Tc=25 degC	PD		5.0	W
Derate Above 25 deg C			28.6	mW/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg		-65 to +200	deg C
<b>THERMAL RESISTANCE</b>				
Junction to Ambient	Rth(j-a)		175	deg C/W
Junction to Case	Rth(j-c)		35	deg C/W

**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)**

DESCRIPTION	SYMBOL	TEST CONDITION	2N3439	2N3440	UNITS
Collector -Emitter Voltage	VCEO(sus)*	IC=50mA,IB=0	>350	>250	V
Collector-Cut off Current	ICBO	VCB=360V, IE=0	<20	-	uA
		VCB=250V, IE=0	-	<20	uA
	ICEO	VCE=300V, IB=0	<20	-	uA
		VCE=200V, IB=0	-	<50	uA
	ICEX	VCE=450V, VBE=1.5V	<500	-	uA
VCE=300V, VBE=1.5V		-	<500	uA	
Emitter-Cut off Current	IEBO	VEB=6V, IC=0	<20	<20	uA
DC Current Gain	hFE*	IC=2mA, VCE=10V	>30	-	
		IC=20mA, VCE=10V	40-160	40-160	
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=50mA, IB=4mA	<0.5	<0.5	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=50mA, IB=4mA	<1.3	<1.3	V

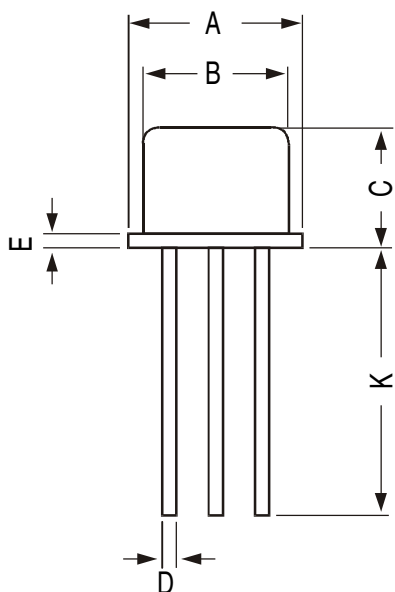
**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)**

**2N3439/3440**

DESCRIPTION	SYMBOL	TEST CONDITION	2N3439	2N3440	UNITS
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Small Signal Current Gain.	hfe	IC=5mA, VCE=10V, f=1kHz	>25	>25	
Output Capacitance	Cob	VCB=10V, IE=0, f=1MHz	<10	<10	pF
Input Capacitance	Cib	VEB=5V, IC=0, f=1MHz	<75	<75	pF
Current Gain-Bandwidth Product	ft	IC=10mA, VCE=10V f=5MHz	>15	>15	MHz
Real Part of Input Impedence	Re(hie)	VCE=10V, IC=5mA f=1MHz	<300	<300	ohms

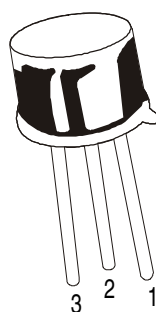
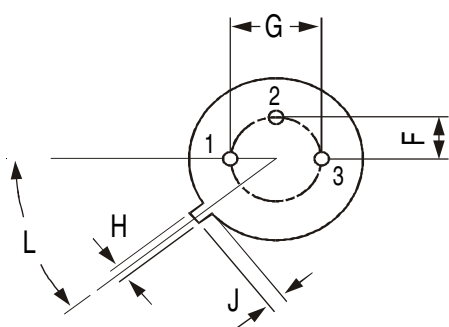
**\*Pulse Test:- Pulse Width =300us, Duty Cycle=2%**

**TO-39 Metal Can Package**



All dimensions are in mm

DIM	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 DEG	48 DEG



**PIN CONFIGURATION**

1. EMITTER
2. BASE
3. COLLECTOR

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20.0K	17" x 15" x 13.5"	32.0K	40 kgs