

# Boca Semiconductor Corp.

## BSC

Switching And Linear Application DC to VHF Amplifier Applications

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N2906A, 07A	UNIT
Collector -Emitter Voltage	V <sub>CEO</sub>	60	V
Collector -Base Voltage	V <sub>CBO</sub>	60	V
Emitter -Base Voltage	V <sub>EBO</sub>	5.0	V
Collector Current Continuous	I <sub>C</sub>	600	mA
Power Dissipation @ Ta=25 degC	PD	400	mW
Derate Above 25deg C		2.28	mW/deg C
@ Tc=25 degC	PD	1.8	W
Derate Above 25deg C		10.3	mW/deg C
Operating And Storage Junction Temperature Range	T <sub>j</sub> , T <sub>stg</sub>		deg C

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

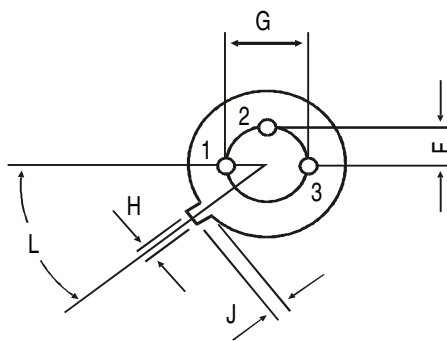
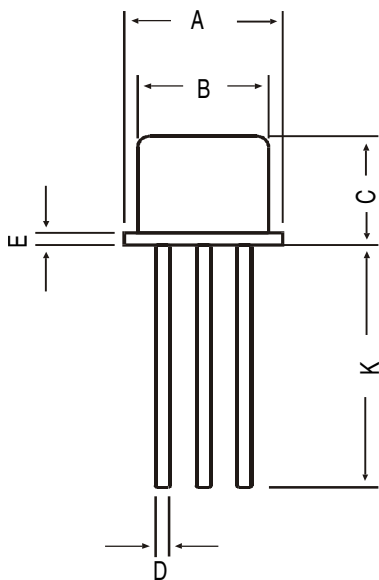
DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
Collector -Emitter Voltage	V <sub>CEO</sub> *	I <sub>C</sub> =10mA, I <sub>B</sub> =0	60	-	V
Collector -Base Voltage	V <sub>CBO</sub>	I <sub>C</sub> =10uA, I <sub>E</sub> =0	60	-	V
Emitter-Base Voltage	V <sub>EBO</sub>	I <sub>E</sub> =10uA, I <sub>C</sub> =0	5.0	-	V
Collector-Cut off Current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0	-	10	nA
		Ta=150 deg C			
		V <sub>CB</sub> =50V, I <sub>E</sub> =0	-	10	uA
	I <sub>C</sub> EX	V <sub>CE</sub> =30V, V <sub>BE</sub> =0.5V	-	50	nA
Base Current	I <sub>B</sub>	V <sub>CE</sub> =30V, V <sub>BE</sub> =0.5V	-	50	nA
Collector Emitter Saturation Voltage	V <sub>CE</sub> (Sat)*	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA	-	0.4	V
		I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.6	V
Base Emitter Saturation Voltage	V <sub>BE</sub> (Sat)*	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA	-	1.3	V
		I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	-	2.6	V
			<b>2N2906A</b>	<b>2N2907A</b>	
DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> =0.1mA, V <sub>CE</sub> =10V	>40	>75	
		I <sub>C</sub> =1mA, V <sub>CE</sub> =10V	>40	>100	
		I <sub>C</sub> =10mA, V <sub>CE</sub> =10V	>40	>100	
		I <sub>C</sub> =150mA, V <sub>CE</sub> =10V*	40-120	100-300	
		I <sub>C</sub> =500mA, V <sub>CE</sub> =10V*	>40	>50	

<b>Transition Frequency</b>	ft **	IC=50mA, VCE=20V, f=100MHz	200	-	MHz
<b>Out-Put Capacitance</b>	Cob	VCB=10V, IE=0, f=100kHz	-	8.0	pF
<b>Input Capacitance</b>	Cib	VBE=2V, IC=0, f=100kHz	-	30	pF
<b>Switching Time</b>					
<b>Delay time</b>	td	IC=150mA, IB1=15mA	-	10	ns
<b>Rise time</b>	tr	VCC=30V	-	40	ns
<b>Turn-On Time</b>	ton			45	ns
<b>Storage time</b>	ts	IC=150mA, IB1=IB2=15mA	-	80	ns
<b>Fall time</b>	tf	VCC=6V	-	30	ns
<b>Turn-Off Time</b>	toff			100	ns

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

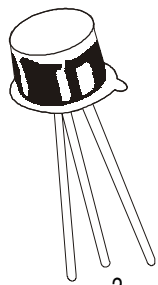
\*\*ft is defined as the frequency at which  $h_{fe}$ / extrapolates to unity

### TO-18 Metal Can Package



All diminsions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



#### PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR