

## isc Silicon NPN RF Transistor

2SC1906

## DESCRIPTION

- Low Noise
- High Gain Bandwidth Product
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

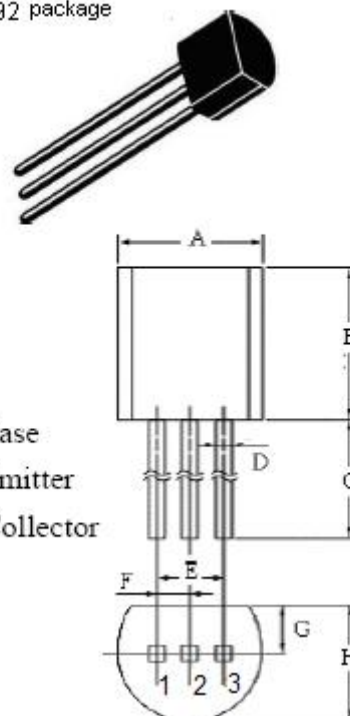
## APPLICATIONS

- Designed for use in VHF amplifier, mixer and local oscillator.

ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	19	V
$V_{EBO}$	Emitter-Base Voltage	2	V
$I_C$	Collector Current-Continuous	50	mA
$I_E$	Emitter Current-Continuous	-50	mA
$P_C$	Collector Power Dissipation @ $T_c=25^{\circ}\text{C}$	0.3	W
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

TO-92 package



DIM	mm	
	MIN	MAX
A	4.33	4.83
B	4.33	4.83
C	14.0	15.0
D	0.36	0.56
E	2.54	
F	1.27	
G	0.92	1.12
H	3.40	3.60

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 10 μA ; I <sub>E</sub> = 0	30			V
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 3mA ; R <sub>BE</sub> = ∞	19			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 10 μA ; I <sub>C</sub> = 0	2			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 20mA ; I <sub>B</sub> = 4mA			1.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 10V; I <sub>E</sub> = 0			0.5	μA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10mA ; V <sub>CE</sub> = 10V	40			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 10mA ; V <sub>CE</sub> = 10V	600	1000		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f= 1.0MHz		1.0	2.0	pF
t <sub>bb'</sub> • C <sub>C</sub>	Base Time Constant	V <sub>CB</sub> = 10V, I <sub>C</sub> = 10 mA, f = 31.8 MHz		10	25	ps
PG	Power Gain	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 5mA; f = 45MHz		33		dB
PG	Power Gain	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 5mA; f = 200MHz		18		dB

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