# isc Silicon NPN RF Transistor 2SC1907

## DESCRIPTION

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

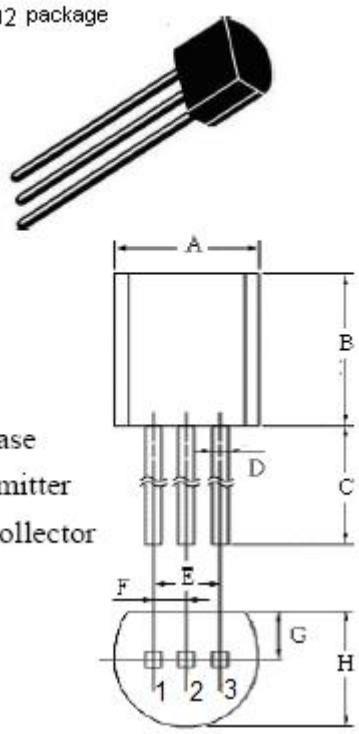
## APPLICATIONS

- Designed for VHF TV tuner and local oscillator applications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| 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℃ | 0.3 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

TO-92 package




1: Base
2: Emitter
3: Collector

| DIM | mm MIN | mm 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

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C$= 10 μ A ; $I_E$= 0 | 30 | | | V |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 3mA ; $R_{BE}$= ∞ | 19 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 10 μ A ; $I_C$= 0 | 2 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 20mA ; $I_B$= 4mA | | | 1.0 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 10V; $I_E$= 0 | | | 0.5 | μ A |
| $h_{FE}$ | DC Current Gain | $I_C$= 10mA ; $V_{CE}$= 10V | 40 | | | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 10mA ; $V_{CE}$= 10V | 900 | 1100 | | MHz |
| $C_{OB}$ | Output Capacitance | $I_E$= 0 ; $V_{CB}$= 10V;f= 1.0MHz | | 1.0 | 2.0 | pF |
| $r_{bb'} \cdot C_C$ | Base Time Constant | $V_{CB}$= 10V,$I_C$ = 10 mA,f = 31.8 MHz | | 10 | 25 | ps |
| $P_{out}$ | Oscillation Output Power | $V_{CB}$ = 10 V,$I_C$ = 10mA;f = 930MHz | | 8 | | mW |