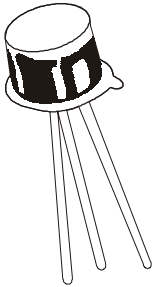


## PNP SILICON PLANAR SWITCHING TRANSISTORS

**2N2906A**  
**2N2907A**  
**TO-18**



### Switching And Linear Application DC to VHF Amplifier Applications

#### ABSOLUTE MAXIMUM RATINGS

| DESCRIPTION                                      | SYMBOL   | 2N2906A, 07A | UNIT     |
|--|----------|--------------|----------|
| Collector -Emitter Voltage                       | VCEO     | 60           | V        |
| Collector -Base Voltage                          | VCBO     | 60           | V        |
| Emitter -Base Voltage                            | VEBO     | 5.0          | V        |
| Collector Current Continuous                     | IC       | 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 | Tj, Tstg | - 65 to +200 | deg C    |

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

| DESCRIPTION                          | SYMBOL     | TEST CONDITION     | VALUE          |                | UNIT |
|--------------------------------------|------------|--------------------|----------------|----------------|------|
|                                      |            |                    | MIN            | MAX            |      |
| Collector -Emitter Voltage           | VCEO*      | IC=10mA, IB=0      | 60             | -              | V    |
| Collector -Base Voltage              | VCBO       | IC=10uA, IE=0      | 60             | -              | V    |
| Emitter-Base Voltage                 | VEBO       | IE=10uA, IC=0      | 5.0            | -              | V    |
| Collector-Cut off Current            | ICBO       | VCB=50V, IE=0      | -              | 10             | nA   |
|                                      |            | Ta=150 deg C       |                |                |      |
|                                      |            | VCB=50V, IE=0      | -              | 10             | uA   |
|                                      | ICEX       | VCE=30V, VBE=0.5V  | -              | 50             | nA   |
| Base Current                         | IB         | VCE=30V, VBE=0.5V  | -              | 50             | nA   |
| Collector Emitter Saturation Voltage | VCE(Sat)*  | IC=150mA, IB=15mA  | -              | 0.4            | V    |
|                                      |            | IC=500mA, IB=50mA  |                | 1.6            | V    |
| Base Emitter Saturation Voltage      | VBE(Sat) * | IC=150mA, IB=15mA  | -              | 1.3            | V    |
|                                      |            | IC=500mA, IB=50mA  | -              | 2.6            | V    |
|                                      |            |                    | <b>2N2906A</b> | <b>2N2907A</b> |      |
| DC Current Gain                      | hFE        | IC=0.1mA, VCE=10V  | >40            | >75            |      |
|                                      |            | IC=1mA, VCE=10V    | >40            | >100           |      |
|                                      |            | IC=10mA, VCE=10V   | >40            | >100           |      |
|                                      |            | IC=150mA, VCE=10V* | 40-120         | 100-300        |      |
|                                      |            | IC=500mA, VCE=10V* | >40            | >50            |      |

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

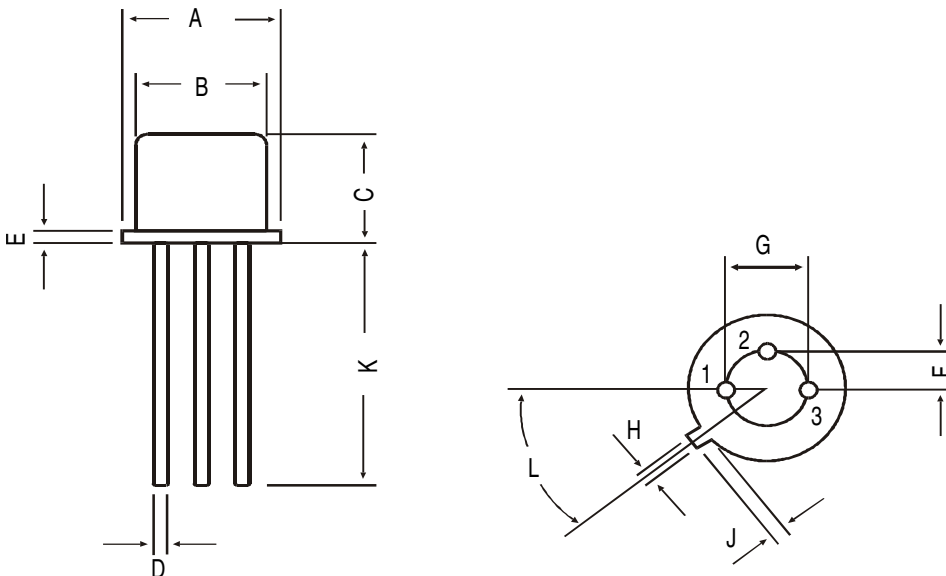
**2N2906A-07A**

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

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

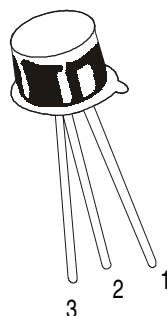
\*\*ft is defined as the frequency at which  $h_{fe}$  extrapolates to unity

**TO-18 Metal Can Package**



| 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 |      |

All dimensions in mm.



**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-18   | 1K/polybag    | 350 gm/1K pcs  | 3" x 7.5" x 7.5" | 5.0K | 17" x 15" x 13.5" | 80.0K | 34 kgs |

## Notes

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