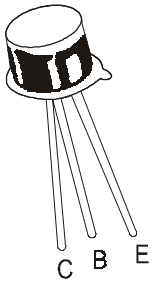
## NPN SILICON TRANSISTORS

**2N6430, 6431**




**TO-18**
**Metal Can Package**

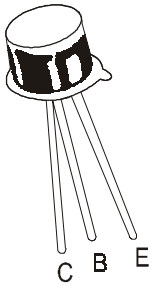
## General Purpose Transistors.

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

| DESCRIPTION | SYMBOL | 2N6430 | 2N6431 | UNIT |
|---|---|---|---|---|
| Collector Emitter Voltage | $V_{CEO}$ | 200 | 300 | V |
| Collector Base Voltage | $V_{CBO}$ | 200 | 300 | V |
| Emitter Base Voltage | $V_{EBO}$ | 6 | | V |
| Collector Current Continuous | $I_C$ | 50 | | mA |
| Total Device Dissipation @Ta=25ºC | $P_D$ | 500 | | mW |
| Derate Above 25ºC | | 2.86 | | mW/ºC |
| Total Device Dissipation @ Tc=25ºC | $P_D$ | 1.8 | | W |
| Derate Above 25ºC | | 10.3 | | mW/ºC |
| Operating and Storage Junction Temperature Range | $T_j$, $T_{stg}$ | -65 to +200 | | ºC |

**ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise )**

| DESCRIPTION | | SYMBOL | TEST CONDITION | VALUE MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| Collector Emitter Breakdown Voltage | | $BV_{CEO}$* | $I_C$=1.0mA,$I_B$=0 | | | | |
| | 2N6430 | | | 200 | | | V |
| | 2N6431 | | | 300 | | | V |
| Collector Base Breakdown Voltage | | $BV_{CBO}$ | $I_C$=100µA.$I_E$=0 | | | | |
| | 2N6430 | | | 200 | | | V |
| | 2N6431 | | | 300 | | | V |
| Emitter Base Breakdown Voltage | | $BV_{EBO}$ | $I_E$=100µA, $I_C$=0 | 6.0 | | | V |
| Collector Cut off Current | | | | | | | |
| | 2N6430 | $I_{CBO}$ | $V_{CB}$=160V, $I_E$=0 | | | 100 | nA |
| | 2N6431 | | $V_{CB}$=200V, $I_E$=0 | | | 100 | nA |
| Emitter Cut off Current | | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 100 | nA |
| DC Current Gain | | $h_{FE}$ | $I_C$=1mA,$V_{CE}$=10V | 25 | | | |
| | | | $I_C$=10mA,$V_{CE}$=10V | 40 | | | |
| | | | $I_C$=30mA,$V_{CE}$=10V | 50 | | | |



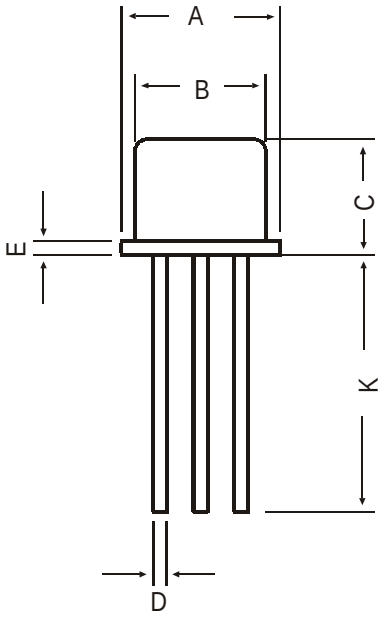

**TO-18**
**Metal Can Package**

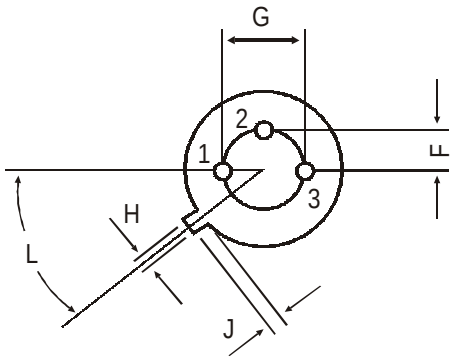
**ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)**

| DESCRIPTION | SYMBOL | TEST CONDITION | VALUE | | | |
|---|---|---|---|---|---|---|
| | | | MIN | TYP | MAX | UNIT |
| **Collector Emitter (sat) Voltage** | $V_{CE(Sat)}$ | $I_C$=20mA,$I_B$=2.0mA | | | 0.5 | V |
| **Base Emitter (sat) Voltage** | $V_{BE(Sat)}$ | $I_C$=20mA,$I_B$=2.0mA | | | 0.9 | V |
| **DYNAMIC CHARACTERISTICS** | | | | | | |
| **Current Gain Bandwidth Product** | $f_T$ | $I_C$=10mA, $V_{CE}$=20V f=100MHz | 50 | | 500 | MHz |
| **Output Capacitance** | $C_{cb}$ | $V_{CB}$=20V, $I_E$=0 f=1MHz | | | 4.0 | pF |

***Pulse Condition: Pulse Width =300µs, Duty Cycle =2%**

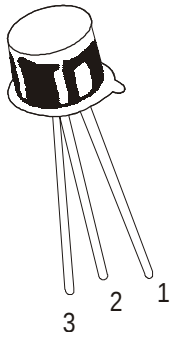
## TO-18 Metal Can Package




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

## 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" | 5K | 17" x 15" x 13.5" | 80K | 34 kgs |

**TO-18**
**Metal Can Package**

## Disclaimer

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