

**DESCRIPTION**

- Low Base Time Constant;  
 $r_{bb'} \cdot CC = 10 \text{ ps TYP.}$
- High Gain Bandwidth Product  
 $f_T = 1100 \text{ MHz TYP.}$
- Low Output Capacitance;  
 $C_{OB} = 1.5 \text{ pF Max.}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

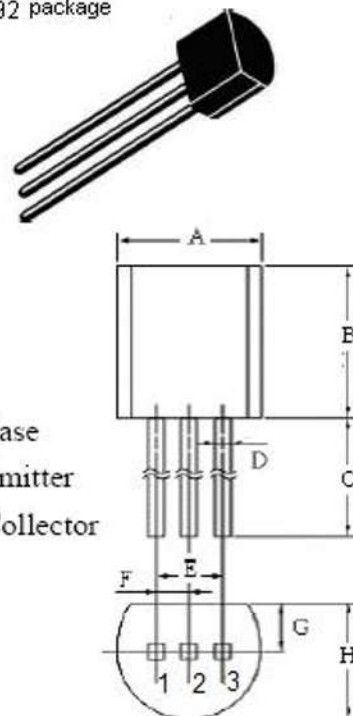
**APPLICATIONS**

- Designed for TV VHF, UHF tuner oscillator applications.

**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                               | 15      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                |
| $I_C$     | Collector Current-Continuous                            | 50      | mA               |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 0.25    | W                |
| $T_J$     | Junction Temperature                                    | 125     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~125 | $^\circ\text{C}$ |

TQ-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 |

## isc Silicon NPN RF Transistor

2SC1730

## ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL              | PARAMETER                            | CONDITIONS                                                   | MIN | TYP. | MAX | UNIT          |
|---------------------|--------------------------------------|--------------------------------------------------------------|-----|------|-----|---------------|
| $V_{CE(sat)}$       | Collector-Emitter Saturation Voltage | $I_C=10\text{mA}$ ; $I_B=1\text{mA}$                         |     |      | 0.5 | V             |
| $I_{CBO}$           | Collector Cutoff Current             | $V_{CB}=12\text{V}$ ; $I_E=0$                                |     |      | 0.1 | $\mu\text{A}$ |
| $h_{FE}$            | DC Current Gain                      | $I_C=5\text{mA}$ ; $V_{CE}=10\text{V}$                       | 40  |      | 180 |               |
| $f_T$               | Current-Gain—Bandwidth Product       | $I_E=5\text{mA}$ ; $V_{CE}=10\text{V}$                       | 800 | 1100 |     | MHz           |
| $C_{OB}$            | Output Capacitance                   | $I_E=0$ ; $V_{CB}=10\text{V}$ ; $f=1.0\text{MHz}$            |     |      | 1.5 | pF            |
| $r_{bb'} \cdot C_C$ | Base Time Constant                   | $V_{CE}=10\text{V}$ , $I_E=-5\text{mA}$ , $f=31.9\text{MHz}$ |     | 10   | 15  | ps            |

◆  $h_{FE}$  Classifications

| Marking  | M     | L      | K      |
|----------|-------|--------|--------|
| $h_{FE}$ | 40-80 | 60-120 | 90-180 |

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