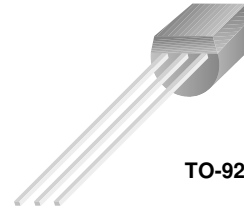


# BF494

## NPN RF Transistor



TO-92

1. Collector 2. Emitter 3. Base

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                      | Value      | Unit             |
|-----------|--------------------------------|------------|------------------|
| $V_{CEO}$ | Collector-Emitter Voltage      | 20         | V                |
| $V_{CBO}$ | Collector-Base Voltage         | 30         | V                |
| $V_{EBO}$ | Emitter-Base Voltage           | 5.0        | V                |
| $I_C$     | Collector Current - Continuous | 30         | mA               |
| $T_J$     | Junction Temperature           | 150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature Range      | - 55 ~ 150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

### Thermal Characteristics

| Symbol          | Parameter   | Value | Unit                      |
|-----------------|---|-------|---------------------------|
| $P_D$           | Total Device Dissipation, by $R_{\theta JA}$<br>Derate above $25^\circ\text{C}$ | 350   | mW                        |
|                 |   | 2.8   | mW/ $^\circ\text{C}$      |
| $R_{\theta JC}$ | Thermal Resistance, Junction to case  | 125   | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient   | 357   | $^\circ\text{C}/\text{W}$ |

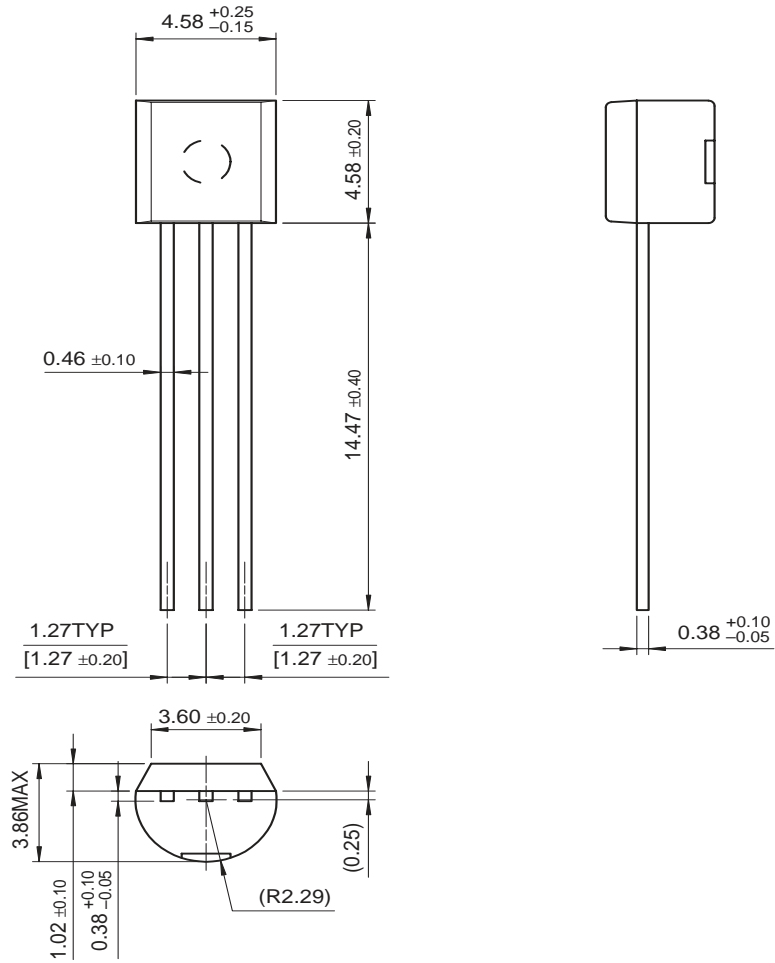
### Electrical Characteristics\* $T_C = 25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Conditions                                | Min. | Max. | Units |
|---------------|--------------------------------------|---|------|------|-------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C = 1.0\text{mA}, I_B = 0$             | 20   |      | V     |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage     | $I_C = 10\mu\text{A}, I_E = 0$            | 30   |      | V     |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage       | $I_E = 10\mu\text{A}, I_C = 0$            | 5.0  |      | V     |
| $I_{CES}$     | Collector-Emitter Sustaining Current | $V_{CE} = 40\text{V}, V_{EB} = 0\text{V}$ |      | 10   | nA    |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 10\text{V}, I_C = 1\text{mA}$   | 67   | 222  |       |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 10\text{mA}, I_B = 5\text{mA}$     |      | 0.2  | V     |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C = 10\text{mA}, I_B = 5\text{mA}$     |      | 0.92 | V     |
| $V_{BE(ON)}$  | Base-Emitter On Voltage              | $V_{CE} = 10\text{V}, I_C = 10\text{mA}$  | 650  | 740  | mV    |

\* DC Item are tested by Pulse Test: Pulse Width $\leq$ 300us, Duty Cycle $\leq$ 2%

# Package Dimensions

## TO-92



Dimensions in Millimeters

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Rev. I20