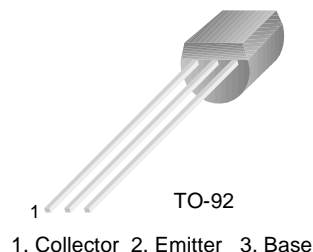


BF240

NPN RF Transistor



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

| Symbol | Parameter | Value | Units |
|----------------|--|------------|------------------|
| V_{CEO} | Collector-Emitter Voltage | 40 | V |
| V_{CBO} | Collector-Base Voltage | 40 | V |
| V_{EBO} | Emitter-Base Voltage | 4.0 | V |
| I_C | Collector Current - Continuous | 50 | mA |
| T_J, T_{STG} | Operating and Storage Junction 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

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|-------------------------------------|--|--|------|------|-------|
| Off Characteristics | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage * | $I_C = 1.0\text{mA}, I_B = 0$ | 40 | | V |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = 100\mu\text{A}, I_E = 0$ | 40 | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = 10\mu\text{A}, I_C = 0$ | 4.0 | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 20\text{V}, I_E = 0$ | | 100 | nA |
| On Characteristics | | | | | |
| h_{FE} | DC Current Gain | $I_C = 1\text{mA}, V_{CE} = 10\text{V}$ | 65 | 225 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 1\text{mA}, I_B = 0.1\text{mA}$ | | 0.65 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = 1\text{mA}, I_B = 0.1\text{mA}$ | | 0.74 | V |
| Small Signal Characteristics | | | | | |
| f_T | Current gain Bandwidth Product | $I_C = 7.0\text{mA}, V_{CE} = 10\text{V}, f = 100\text{MHz}$ | | 1100 | MHz |
| C_{re} | Common-Emitter Ruerse Transfer Capacitance | $V_{CB} = 10\text{V}, I_E = 0, f = 1.0\text{MHz}$ | | 0.34 | pF |

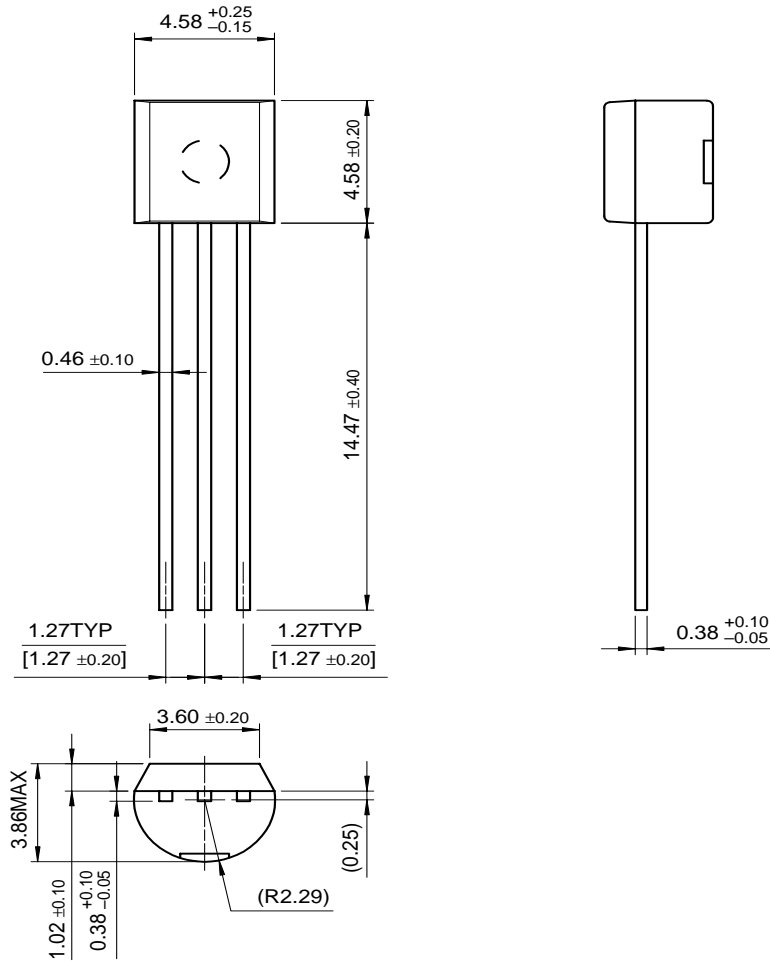
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Max. | Units |
|-----------------|---|------|----------------------|
| P_D | Total Device Dissipation | 350 | mW |
| | Derate above 25°C | 2.8 | mW/ $^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case | 125 | $^\circ\text{C/W}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357 | $^\circ\text{C/W}$ |

Package Dimensions

TO-92



Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

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|--------------------------|------------------------|---|
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