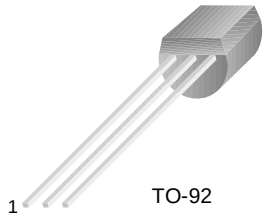
FAIRCHILD
SEMICONDUCTOR®

BF199

NPN RF Transistor



TO-92

1. Collector 2. Emitter 3. Base

Absolute Maximum Ratings* T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	25	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	°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_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	I_C = 1.0mA, I_B = 0	25		V
$V_{(BR)CBO}$	Collector-Base BreakdownVoltage	I_C = 100µA, I_E = 0	40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 10µA, I_C = 0	4.0		V
I_{CES}	Collector Cut-off Current	V_{CE} = 30V, I_E = 0		50	nA
On Characteristics					
h_{FE}	DC Current Gain	I_C = 7.0mA, V_{CE} = 10V	38		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 10mA, I_B = 5.0mA		0.2	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 10mA, I_B = 5.0mA		0.92	V
V_{BE}(on)	Base-Emitter On Voltage	I_C = 7.0mA, V_{CE} = 10V		0.925	V
Small Signal Characteristics					
f_T	Current gain Bandwidth Product	I_C = 7.0mA, V_{CE} = 10V, f = 100MHz		1100	MHz
C_{re}	Common-Emitter Ruerse Transfer Capacitance	V_{CB} = 10V, I_E = 0, f = 1.0MHz		0.4	pF

* Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 2.0%

Thermal Characteristics T_A=25°C unless otherwise noted

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

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Package Dimensions

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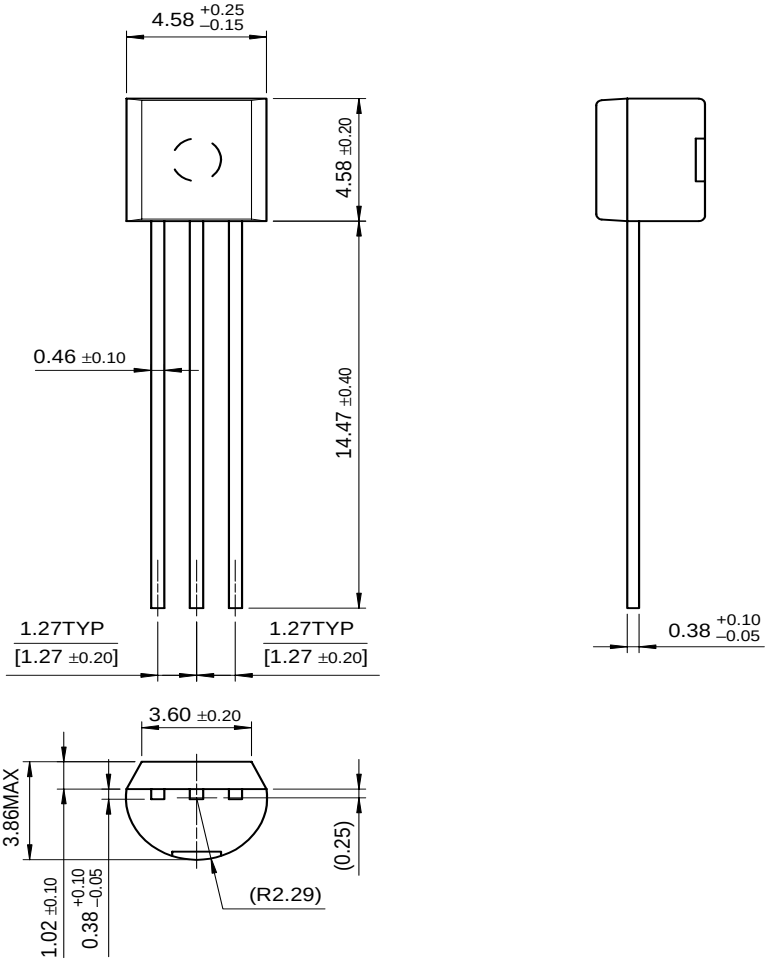

Dimensions in Millimeters

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