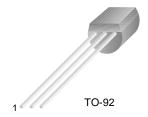


BF199

NPN RF Transistor



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.

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characte	eristics	•	•	•	
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage *	$I_C = 1.0 \text{mA}, I_B = 0$	25		V
V _{(BR)CBO}	Collector-Base BreakdownVoltage	$I_C = 100\mu A, I_E = 0$	40		V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu A, I_C = 0$	4.0		V
I _{CES}	Collector Cut-off Current	$V_{CE} = 30V, I_{E} = 0$		50	nA
On Characte	eristics	•	•	•	
h _{FE}	DC Current Gain	I _C = 7.0mA, V _{CE} = 10V	38		
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C = 10 \text{mA}, I_B = 5.0 \text{mA}$		0.2	V
V _{BE} (sat)	Base-Emitter Saturation Voltage	$I_C = 10 \text{mA}, I_B = 5.0 \text{mA}$		0.92	V
V _{BE} (on)	Base-Emitter On Voltage	I _C = 7.0mA, V _{CE} = 10V		0.925	V
Small Signa	I Characteristics		•		
f _T	Current gain Bandwidth Product	$I_C = 7.0 \text{mA}, V_{CE} = 10 \text{V},$ f = 100 MHz		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%

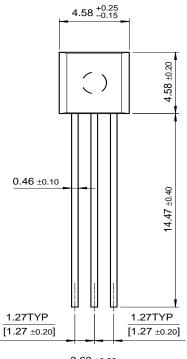
Thermal Characteristics $T_A=25$ °C unless otherwise noted

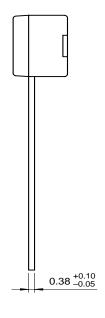
Symbol	Parameter	Max.	Units
P _D	Total Device Dissipation	350	mW
	Derate above 25°C	2.8	mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

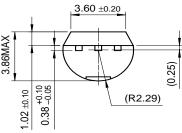
These ratings are based on a maximum junction temperature of 150 degrees C.
These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

Package Dimensions

TO-92







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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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PRODUCT STATUS DEFINITIONS

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