



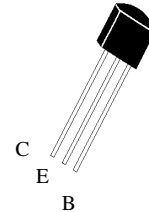
File No. : 2049

Rev. No. : A

DEVICE SPECIFICATION

TYPE : BF194/BF195
 POLARITY : NPN
 APPLICATION : IF/RF Transistor
 PACKAGE : TO - 92

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ABSOLUTE MAXIMUM RATINGS:

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector - Base Voltage	V_{CB0}	30	V
Collector - Emitter Voltage	V_{CEO}	20	V
Emitter - Base Voltage	V_{EBO}	5	V
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	250	mW
Collector Current	I_C	30	mA
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +125	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Thermal Resistance, junction to Ambient $R_{\theta_{J-A}} = 0.4^\circ\text{C/mW}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^\circ\text{C}$, Unless otherwise specified)

CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
<u>OFF CHARACTERISTICS</u>				
Collector - Emitter breakdown Voltage ($I_C = 1.0\text{ mA dc}$, $I_B = 0$)	$B_{V_{CEO}}$	20	-	Vdc
Collector - Base breakdown voltage ($I_C = 10\ \mu\text{A dc}$, $I_E = 0$)	$B_{V_{CBO}}$	30	-	Vdc
Emitter - Base break down voltage ($I_E = 10\ \mu\text{A dc}$, $I_C = 0$)	$B_{V_{EBO}}$	5	-	Vdc
<u>ON CHARACTERISTICS</u>				
DC Current Gain ($I_C = 1.0\text{ mA dc}$, $V_{CE} = 10.0\text{ V dc}$)	h_{FE}	38	200	-
Base - Emitter Voltage ($I_C = 1\text{ mA dc}$, $V_{CE} = 10\text{ V dc}$)	$V_{BE(ON)}$	0.65	0.74	Vdc



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CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
<u>SMALL SIGNAL CHARACTERISTICS</u>				
Current - Gain - Bandwidth Product ($I_C = 1 \text{ mA dc}$, $V_{CE} = 10 \text{ V dc}$, $f = 100 \text{ MHz}$)	f_T	-	260(typ)	MHz
Common - Emitter Feedback Capacitance ($V_{CE} = 10 \text{ V dc}$, $I_C = 1 \text{ mA dc}$)	C_{re}		0.95(typ)	pF
Noise Figure ($I_C = 1 \text{ mA}$, $V_{CE} = 10\text{V}$, $G_S = 20\text{mA/V}$, $f = 1 \text{ MHz}$) ($I_C = 1 \text{ mA}$, $V_{CE} = 10\text{V}$, $G_S = 10\text{mA/V}$, $f = 100 \text{ MHz}$)	NF		3.5(typ) 4.0 (typ)	dB dB

hFE Classification:

Classification	BF195D	BF195C	BF194B
hFE	38-71	71-110	110-200