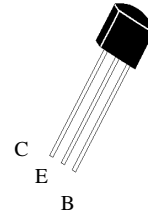


**DEVICE SPECIFICATION**

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



**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
<b><u>OFF CHARACTERISTICS</u></b>				
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
<b><u>ON CHARACTERISTICS</u></b>				
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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Rev. No. : A

**DEVICE SPECIFICATION**

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CHARACTERSTIC	SYMBOL	MIN	MAX	UNIT
<b><u>SMALL SIGNAL CHARACTERISTICS</u></b>				
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