

BF 494

BF 495

查询BF-494供应

捷多邦 专业PCB打样工厂 24小时加急出货

NPN SILICON RF SMALL SIGNAL TRANSISTORS

MICRO ELECTRONICS

THE BF494, BF495 ARE NPN SILICON PLANAR
EPITAXIAL TRANSISTORS FOR RF SMALL SIGNAL
APPLICATIONS UP TO 100MHz.

CASE TO-92E



CBE

ABSOLUTE MAXIMUM RATINGS

		BF494	BF495
Collector-Base Voltage	V_{CBO}	30V	30V
Collector-Emitter Voltage	V_{CEO}	20V	20V
Emitter-Base Voltage	V_{EBO}	5V	5V
Collector Current	I_C	30mA	
Total Power Dissipation ($T_A \leq 75^\circ\text{C}$)	P_{tot}	300mW	
		derate 4mW/°C above 75°C	
Operating Junction & Storage Temperature	T_j, T_{stg}	-55 to 150°C	

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BF494			BF495			UNIT	TEST CONDITIONS
		MIN	TYP	MAX	MIN	TYP	MAX		
Emitter-Base Breakdown Voltage	V_{EBO}	5			5			V	$I_E = 10\mu\text{A}$ $I_C = 0$
Collector Cutoff Current	I_{CBO}		0.1			0.1		μA	$V_{CB} = 30\text{V}$ $I_E = 0$
Collector Cutoff Current	I_{CEO}		1			1		μA	$V_{CE} = 20\text{V}$ $I_B = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.1			0.1			V	$I_C = 10\text{mA}$ $I_B = 1\text{mA}$
Base-Emitter Voltage	V_{BE}	.65	.68	.74	.65	.68	.74	V	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$
D.C. Current Gain	H_{FE}	67	115	220	36	67	125		$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}^*$
Current Gain-Bandwidth Product	f_T	260			200			MHz	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$
Feedback Capacitance	C_{re}	.85			.85			pF	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$ $f = 450\text{KHz}$
Noise Figure	NF	4			4			dB	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$ $R_G = 100\Omega$ $f = 100\text{MHz}$
Mixing Noise Figure	NF_c	2						dB	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$ $R_G = 830\Omega$ $f = 1\text{MHz}$
	NF_c				2.5			dB	$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$ $R_G = 670\Omega$ $f = 1\text{MHz}$

* HFE Grouping :

PBF: 100-220

C : 72-110

D : 36-80

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f=450kHz	$g_{11}=0.33m\Omega$	$ y_{12} =2.8\mu\Omega$	$ y_{21} =36m\Omega$	$g_{22}=6\mu\Omega$
Common Emitter	$b_{11}=0.065m\Omega$	$-\theta_{12}=90^\circ$	$-\theta_{21}=0^\circ$	$b_{22}=4.5\mu\Omega$
	$C_{11}=23pF$			$C_{22}=1.6pF$
f=10.7MHz	$g_{11}=0.45m\Omega$	$ y_{12} =65\mu\Omega$	$ y_{21} =36m\Omega$	$g_{22}=8.5\mu\Omega$
Common Emitter	$b_{11}=1.5m\Omega$	$-\theta_{12}=90^\circ$	$-\theta_{21}=10^\circ$	$b_{22}=0.11m\Omega$
	$C_{11}=22pF$			$C_{22}=1.6pF$
f=100MHz	$g_{11}=36m\Omega$	$ y_{12} =420\mu\Omega$	$ y_{21} =33m\Omega$	$g_{22}=22\mu\Omega$
Common Base	$-b_{11}=3m\Omega$	$-\theta_{12}=88^\circ$	$-\theta_{21}=146^\circ$	$b_{22}=1.1m\Omega$
	$-C_{11}=4.8pF$			$C_{22}=1.75pF$

BF495 TYPICAL y-PARAMETERS AT $T_A=25^\circ C$ $I_C=1mA$ $V_{CE}=10V$

f=450kHz	$g_{11}=0.5m\Omega$	$ y_{12} =2.6\mu\Omega$	$ y_{21} =36m\Omega$	$g_{22}=2.7\mu\Omega$
Common Emitter	$b_{11}=0.1m\Omega$	$-\theta_{12}=90^\circ$	$-\theta_{21}=0^\circ$	$b_{22}=4.5\mu\Omega$
	$C_{11}=32pF$			$C_{22}=1.6pF$
f=10.7MHz	$g_{11}=0.6m\Omega$	$ y_{12} =60\mu\Omega$	$ y_{21} =36m\Omega$	$g_{22}=4.5\mu\Omega$
Common Emitter	$b_{11}=2m\Omega$	$-\theta_{12}=90^\circ$	$-\theta_{21}=10^\circ$	$b_{22}=0.11m\Omega$
	$C_{11}=30pF$			$C_{22}=1.6pF$
f=100MHz	$g_{11}=38m\Omega$	$ y_{12} =410\mu\Omega$	$ y_{21} =34m\Omega$	$g_{22}=12\mu\Omega$
Common Base	$-b_{11}=1m\Omega$	$-\theta_{12}=85^\circ$	$-\theta_{21}=140^\circ$	$b_{22}=1.1m\Omega$
	$-C_{11}=1.6pF$			$C_{22}=1.75pF$

