

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	20	Vdc
Collector-Base Voltage	V _{CBO}	30	Vdc
Emitter-Base Voltage	V _{EBO}	5.0	Vdc
Collector Current – Continuous	I _C	100	mA _{dc}
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	350 2.8	mW mW/°C
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	1.0 8.0	Watt mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	125	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	357	°C/W

BF494
BF495

CASE 29-02, STYLE 1
TO-92 (TO-226AA)

SILICON

Refer to BF254 for graphs.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I _C = 1.0 mA _{dc} , I _B = 0)	V _{(BR)CEO}	20			Vdc
Collector-Base Breakdown Voltage (I _C = 10 μA _{dc} , I _E = 0)	V _{(BR)CBO}	30			Vdc
Emitter-Base Breakdown Voltage (I _E = 10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	5.0			Vdc
Collector Cutoff Current (V _{CB} = 10 Vdc, I _E = 0)	I _{CBO}			100	nA _{dc}
Emitter Cutoff Current (V _{EB} = 3.0 Vdc, I _C = 0)	I _{EBO}			100	nA _{dc}

ON CHARACTERISTICS

DC Current Gain (I _C = 1.0 mA, V _{CE} = 10 Vdc)	BF494 BF494A BF494B BF495 BF495A BF495B	h _{FE}	65 65 125 35 35 65		220 125 220 125 75 125	
Base-Emitter On Voltage (I _C = 1.0 mA _{dc} , V _{CE} = 10 Vdc)		V _{BE(on)}			0.74	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current Gain–Bandwidth Product (I _C = 1.0 mA _{dc} , V _{CE} = 10 Vdc, f = 100 MHz)	f _T	150				MHz
Common Emitter Feedback Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	C _{re}		0.90			pF
Noise Figure (I _C = 1.0 mA _{dc} , V _{CE} = 10 Vdc, f = 1 MHz, R _S = 50 ohms)	N _f		1.7			dB

TYPICAL ADMITTANCE PARAMETERS (I_C = 1.0 mA_{dc}, V_{CE} = 10 Vdc, frequency as stated)

Symbol	f = 450 KHz		f = 10.7 MHz		Unit
	BF494	BF495	BF494	BF495	
g _{11e}	0.20	0.40	0.26	0.5	mmhos
b _{11e}	0.05	0.06	1.2	1.6	mmhos
g _{22e}	3.0	1.5	5.3	4.5	μmhos
b _{22e}	8.0	8.0	190	190	μmhos
b _{12e}	- 5.0	- 5.0	- 130	- 130	μmhos
g _{12e}	- 0.7	- 0.4	- 3.0	- 3.5	μmhos
g _{21e}	30	30	30	30	mmhos
b _{21e}	- 0.003	- 0.004	- 0.7	- 1.0	mmhos