



**MICRO ELECTRONICS**

CASE T0-92E

BF199 is an NPN silicon planar epitaxial transistor designed for RF amplifiers and video IF amplifiers in common emitter configuration.



CBE

ABSOLUTE MAXIMUM RATINGS

Collector-Base Voltage	V <sub>CB0</sub>	40V
Collector-Emitter Voltage	V <sub>CE0</sub>	25V
Emitter-Base Voltage	V <sub>EB0</sub>	4V
Collector Current	I <sub>C</sub>	25mA
Base Current	I <sub>B</sub>	2mA
Total Power Dissipation @ T <sub>A</sub> ≤ 45°C	P <sub>tot</sub>	300mW
Operating Junction & Storage Temperature	T <sub>j</sub> , T <sub>stg</sub>	-55 to +150°C

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	40			V	I <sub>C</sub> =10μA I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	LV <sub>CE0</sub>	25			V	I <sub>C</sub> =2mA I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	4			V	I <sub>E</sub> =10μA I <sub>C</sub> =0
Collector Cutoff Current	I <sub>CB0</sub>			100	nA	V <sub>CB</sub> =20V I <sub>E</sub> =0
Base-Emitter Voltage	V <sub>BE</sub>		0.78	0.9	V	V <sub>CE</sub> =10V I <sub>C</sub> =7mA
D.C. Current Gain	H <sub>FE</sub>	38	85			V <sub>CE</sub> =10V I <sub>C</sub> =7mA
Current Gain-Bandwidth Product	f <sub>T</sub>		700		MHz	V <sub>CB</sub> =10V I <sub>C</sub> =5mA f=100MHz
Feedback Capacitance	C <sub>re</sub>		0.32		pF	V <sub>CB</sub> =10V I <sub>C</sub> =1mA f=0.47MHz

TWO PORT CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT	TEST CONDITIONS
Input Conductance	g <sub>ie</sub>	5	mS	V <sub>CE</sub> =10V I <sub>C</sub> =7mA f=35MHz
Input Capacitance	C <sub>ie</sub>	45	pF	
Reverse Transfer Admittance	y <sub>re</sub>	65	μS	
Phase Angle of Transfer Admittance	-∠y <sub>re</sub>	95	°	
Transfer Admittance	y <sub>fe</sub>	175	mS	
Phase Angle of Transfer Admittance	-∠y <sub>fe</sub>	25	°	
Output Conductance	g <sub>oe</sub>	75	μS	
Output Capacitance	C <sub>oe</sub>	1.6	pF	

**MICRO ELECTRONICS LTD.**

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