BF199

NPN SILICON PLANAR EPITAXIAL RF TRANSISTOR

MICRO ELECTRONICS

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

CASE TO-92E

CBE

ABSOLUTE MAXIMUM RATINGS

Collector-Base Voltage	V_{CBO}	40V
Collector-Emitter Voltage	V_{CEO}	25V
Emitter-Base Voltage	V_{EBO}	4V
Collector Current	I_C	25mA
Base Current	I_B	2mA
Total Power Dissipation @ $T_A \leq 45°C$	P_{tot}	300mW
Operating Junction & Storage Temperature	Tj, Tstg	-55 to +150°C

EEECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV_{CBO}	40			V	I_C=10μA I_E=0
Collector-Emitter Breakdown Voltage	LV_{CEO}	25			V	I_C=2mA I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	4			V	I_E=10μA I_C=0
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB}=20V I_E=0
Base-Emitter Voltage	V_{BE}		0.78	0.9	V	V_{CE}=10V I_C=7mA
D.C. Current Gain	H_{FE}	38	85			V_{CE}=10V I_C=7mA
Current Gain-Bandwidth Product	f_T		700		MHz	V_{CB}=10V I_C=5mA f=100MHz
Feedback Capacitance	Cre		0.32		pF	V_{CB}=10V I_C=1mA f=0.47MHz

TWO PORT CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT	TEST CONDITIONS
Input Conductance	gie	5	mS	
Input Capacitance	Cie	45	pF	
Reverse Transfer Admittance	$\|y_{re}\|$	65	μS	V_{CE}=10V I_C=7mA
Phase Angle of Transfer Admittance	$-\varphi_{re}$	95	°	f=35MHz
Transfer Admittance	$\|y_{fe}\|$	175	mS	
Phase Angle of Transfer Admittance	$-\varphi_{fe}$	25	°	
Output Conductance	goe	75	μS	
Output Capacitance	Coe	1.6	pF	

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