



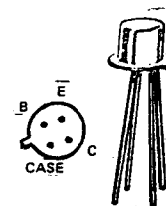
BF 173

NPN SILICON PLANAR EPITAXIAL TRANSISTOR

MICRO ELECTRONICS

CASE T0-72J

THE BF173 IS AN NPN SILICON PLANAR EPITAXIAL TRANSISTOR INTENDED FOR USE IN VIDEO IF AMPLIFIERS AND PARTICULAR FOR THE OUTPUT STAGES.

**ABSOLUTE MAXIMUM RATINGS**

Collector-Base Voltage	VCBO	40V
Collector-Emitter Voltage	VCEO	25V
Emitter-Base Voltage	VEBO	4V
Collector Current	IC	25mA
Base Current	IB	2mA
Total Power Dissipation @ $T_A=45^\circ\text{C}$	Ptot	200mW
Operating Junction & Storage Temperature	Tj, Tstg	-65 to 175°C

THERMAL RESISTANCE

Junction to Ambient	θ_{ja}	650°C/W max.
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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BVCBO	40			V	IC=10 μ A IE=0
Collector-Emitter Breakdown Voltage	LVCEO *	25			V	IC=2mA IB=0
Emitter-Base Breakdown Voltage	BVEBO	4			V	IE=10 μ A IC=0
Base-Emitter Voltage	VBE *		740	900	mV	IC=7mA VCE=10V
D.C. Current Gain	HFE *	38 15	90			IC=7mA VCE=10V IC=20mA VCE=2V
Current Gain-Bandwidth Product	fT		550		MHz	IC=5mA VCB=10V f=100MHz
Feedback Capacitance	Cre		0.23		pF	IC=1mA VCB=10V f=10.7MHz
Power Gain	Gpe		26		dB	IC=7.2mA VCE=20V f=36.4MHz

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

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SMALL SIGNAL Y-PARAMETERS @ $I_C=7\text{mA}$ $V_{CE}=10\text{V}$ $f=35\text{MHz}$

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Input Conductance	g_{ie}		4.5		$\text{m}\Omega$
Input Capacitance	C_{ie}		45		pF
Reverse Transfer Admittance	$ y_{re} $		55		μS
Phase Angle of Reverse Transfer admittance	θ_{re}		266		deg.
Forward Transfer Admittance	$ y_{fe} $	115	145		$\text{m}\Omega$
Phase Angle of Forward Transfer Admittance	θ_{fe}		338		deg.
Output Conductance	g_{oe}		65		μS
Output Capacitance	C_{oe}		2.1		pF