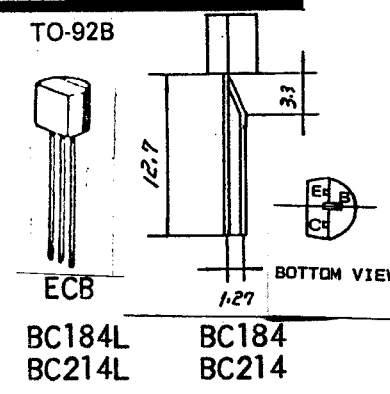




BC183,L · BC213,L

COMPLEMENTARY SILICON AF SMALL SIGNAL AMPLIFIERS & DRIVERS

The BC183, BC183L (NPN) & BC213, BC213L (PNP) are complementary silicon planar epitaxial transistors for use in AF small signal amplifiers and drivers, as well as for low power universal applications. Both types feature good linearity of D.C. current gain.



ABSOLUTE MAXIMUM RATINGS

	BC183,L	BC213,L
Collector-Base Voltage	45V	45V
Collector-Emitter Voltage	30V	30V
Emitter-Base Voltage	6V	5V
Collector Current		200mA
Total Power Dissipation @ $T_A=25^{\circ}\text{C}$ Derate above 25°C		300mW 2.4mW/ $^{\circ}\text{C}$
Operating Junction and Storage Temperature	T_j, T_{stg}	-55 to $+150^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	BV_{CE0}	30			V	$I_C=2\text{mA}$ $I_B=0$
Collector-Base Breakdown Voltage	BV_{CB0}	45			V	$I_C=10\mu\text{A}$ $I_E=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	6 5			V	$I_E=10\mu\text{A}$ $I_C=0$
Collector Cutoff Current	I_{CB0}			15	nA	$V_{CB}=30\text{V}$ $I_E=0$
Emitter Cutoff Current	I_{EB0}			15	nA	$V_{EB}=4\text{V}$ $I_C=0$

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ELECTRICAL CHARACTERISTICS (TA=25°C)

Collector-Emitter Saturation BC183,L BC213,L	VCE(sat)	0.07 0.25 0.6	V	IC=10mA IB=0.5mA IC=100mA IB=5mA*
Base-Emitter Saturation BC183,L BC213,L	VBE(sat)	1.2 1.1	V	IC=100mA IB=5mA*
Base-Emitter Voltage BC183,L BC213,L	VBE	0.55 0.7 0.6 0.72	V	VCE=5V IC=2mA
D.C. Current Gain BC183,L BC213,L BC183,L BC213,L	HFE	100 220 140 130 120		VCE=5V IC=10μA VCE=5V IC=2mA VCE=5V IC=100mA*
Small Signal Current Gain (f=1KHz) BC183,L BC213,L Group A Group B Group C	hfe	240 140 125 240 450	900 260 500 900	VCE=5V IC=2mA
Output Capacitance BC183,L BC213,L	Cob	3 5 5	pF	VCB=10V IE=0 f=1MHz
Input Capacitance BC183,L	Cib	9.5	pF	VEB=0.5V IE=0 f=1MHz
Current Gain-Bandwidth Product BC183,L BC213,L	fT	280 350	MHz	IC=10mA VCE=5V f=100MHz
Noise Figure BC183,L BC213,L	NF	10	dB	IC=200μA VCE=5V RG=2KΩ NB=15.7KHz f1=10Hz f2=10KHz

* Pulse Test : Pulse Width = 300μS, Duty Cycle ≤ 2%.