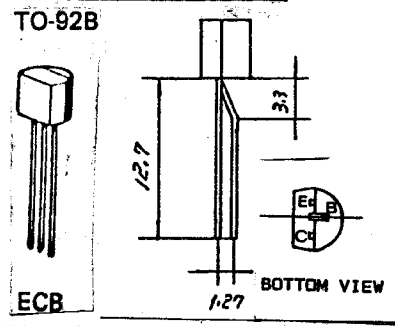
BC184 BC184L BC214 BC214L

COMPLEMENTARY SILICON AF SMALL SIGNAL AMPLIFIERS & DRIVERS

The BC184, BC184L (NPN) and BC214, BC214L (PNP) are complementary silicon planar epitaxial transistors for use in AF small signal amplifiers and drivers, as well as for low noise pre-amplifiers applications. Both types feature good linearity of DC current gain.



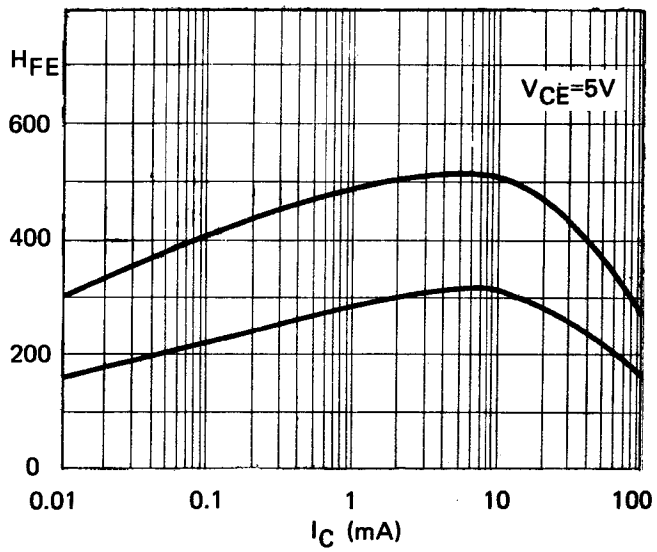
BC184L BC214L — BC184 BC214

ABSOLUTE MAXIMUM RATINGS

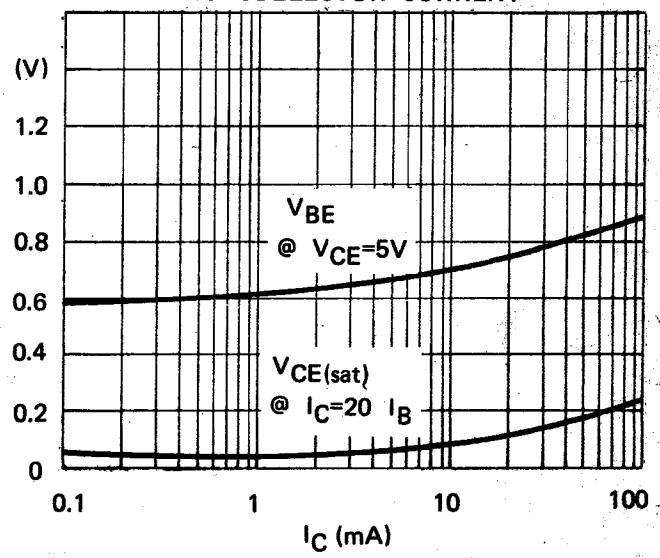
		BC184,L	BC214,L
Collector-Base Voltage	V_{CBO}	45V	45V
Collector-Emitter Voltage	V_{CEO}	30V	30V
Emitter-Base Voltage	V_{EBO}	6V	5V
Collector Current	I_C	200mA	
Total Power Dissipation @ T_A=25°C Derate above 25°C	P_{tot}	300mW 2.4mW/°C	
Operating Junction and Storage Temperature	T_j, T_{stg}	-55 to +150°C	

TYPICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

D.C. CURRENT GAIN vs COLLECTOR CURRENT



V_{BE} AND $V_{CE(sat)}$ vs COLLECTOR CURRENT



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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	BV_{CEO}	30			V	I_C=2mA I_B=0
Collector-Base Breakdown Voltage	BV_{CBO}	45			V	I_C=10μA I_E=0
Emitter-Base Breakdown Voltage	BV_{EBO}				V	I_E=10μA I_C=0
BC184,L		6				
BC214,L		5				
Collector Cutoff Current	I_{CBO}			15	nA	V_{CB}=30V I_E=0
Emitter Cutoff Current	I_{EBO}			15	nA	V_{EB}=4V I_C=0
Collector-Emitter Saturation	$V_{CE(sat)}$				V	
BC184,L				0.25		I_C=10mA I_B=0.5mA
BC214,L			0.07			
				0.6		I_C=100mA I_B=5mA*
Base-Emitter Saturation	$V_{BE(sat)}$				V	I_C=100mA I_B=5mA*
BC184,L				1.2		
BC214,L				1.1		
Base-Emitter Voltage	V_{BE}				V	V_{CE}=5V I_C=2mA
BC184,L		0.55		0.7		
BC214,L		0.6		0.72		
D.C. Current Gain	H_{FE}	100				V_{CE}=5V I_C=10μA
BC184,L		220				V_{CE}=5V I_C=2mA
BC214,L		140				
BC184,L		130				V_{CE}=5V I_C=100mA*
BC214,L			120			
Small Signal Current Gain (f=1KHz)	h_{fe}					
BC184,L		240		900		V_{CE}=5V I_C=2mA
BC214,L		140				
Group B		240		500		
Group C		450		900		
Output Capacitance BC184,L	C_{ob}		3	5	pF	V_{CB}=10V I_E=0
BC214,L			5			f=1MHz
Input Capacitance BC184,L	C_{ib}		9.5		pF	V_{EB}=0.5V I_E=0 f=1MHz
Current Gain-Bandwidth Product	f_T				MHz	I_C=10mA V_{CE}=5V f=100MHz
BC184,L			280			
BC214,L			350			
Noise Figure BC184,L	NF			4	dB	I_C=200μA V_{CE}=5V
BC214,L				2		R_G=2KΩ NB=15.7KHz f1=10Hz f2=10KHz

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