

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic			Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 3)		BC846 BC847 BC848	V _{(BR)CBO}	80 50 30	— — —	— — —	V	I _C = 10μA, I _B = 0
Collector-Emitter Breakdown Voltage (Note 3)		BC846 BC847 BC848	V _{(BR)CEO}	65 45 30	— — —	— — —	V	I _C = 10mA, I _B = 0
Emitter-Base Breakdown Voltage (Note 3)		BC846, BC847 BC848	V _{(BR)EBO}	6 5	—	—	V	I _E = 1μA, I _C = 0
H-Parameters								
Small Signal Current Gain	Current Gain Group A	A	h _{fe}	—	220	—	—	V _{CE} = 5.0V, I _C = 2.0mA, f = 1.0kHz
		B	h _{fe}	—	330	—	—	
		C	h _{fe}	—	600	—	—	
Input Impedance	Current Gain Group A	A	h _{ie}	—	2.7	—	kΩ	
		B	h _{ie}	—	4.5	—	kΩ	
		C	h _{ie}	—	8.7	—	kΩ	
Output Admittance	Current Gain Group A	A	h _{oe}	—	18	—	μS	
		B	h _{oe}	—	30	—	μS	
		C	h _{oe}	—	60	—	μS	
Reverse Voltage Transfer Ratio	Current Gain Group A	A	h _{re}	—	1.5x10 ⁻⁴	—	—	
		B	h _{re}	—	2x10 ⁻⁴	—	—	
		C	h _{re}	—	3x10 ⁻⁴	—	—	
DC Current Gain		Current Gain Group A B (Note 3) C	h _{FE}	110 200 420	180 290 520	220 450 800	—	V _{CE} = 5.0V, I _C = 2.0mA
Collector-Emitter Saturation Voltage (Note 3)			V _{CE(SAT)}	—	90 200	250 600	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Saturation Voltage (Note 3)			V _{BE(SAT)}	—	700 900	—	mV	I _C = 10mA, I _B = 0.5mA I _C = 100mA, I _B = 5.0mA
Base-Emitter Voltage (Note 3)			V _{BE(ON)}	580 —	660 —	700 770	mV	V _{CE} = 5.0V, I _C = 2.0mA V _{CE} = 5.0V, I _C = 10mA
Collector-Cutoff Current (Note 3)		BC846 BC847 BC848	I _{CES} I _{CES} I _{CES} I _{CBO} I _{CBO}	— — — — —	— — — — —	15 15 15 15 5.0	nA nA nA nA μA	V _{CE} = 80V V _{CE} = 50V V _{CE} = 30V V _{CB} = 40V V _{CB} = 30V, T _A = 150°C
Gain Bandwidth Product			f _T	100	300	—	MHz	V _{CE} = 5.0V, I _C = 10mA, f = 100MHz
Collector-Base Capacitance			C _{CBO}	—	3.0	—	pF	V _{CB} = 10V, f = 1.0MHz
Noise Figure			NF	—	2	10	dB	V _{CE} = 5V, I _C = 200μA, R _S = 2.0kΩ, f = 1.0kHz, Δf = 200Hz

Notes: 3. Short duration pulse test used to minimize self-heating effect.

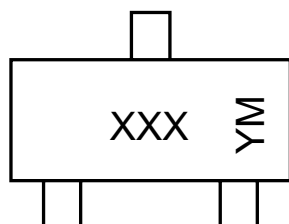
Ordering Information (Note 4)

Device	Packaging	Shipping
BC84xx-7*	SOT-23	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

* xx = device type, e.g. BC846A-7.

Marking Information



XXX = Product Type Marking Code (See Page 1), e.g. K1Q or 1A = BC846A

YM = Date Code Marking

Y = Year ex: N = 2002

M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	P	R

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D