

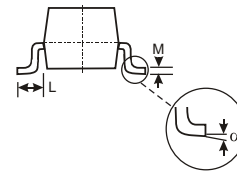
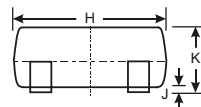
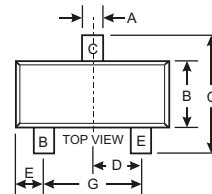
NPN SILICON AF TRANSISTOR

Features

- For AF input stages and driver applications
- High current gain
- Low collector-emitter saturation voltage

MARKING

TYPER	MARKING	TYPER	MARKING
BC846A	1A	BC848C	1L
BC846B	1B	BC849A	2A
BC846C	1C	BC849B	2B
BC847A	1E	BC849C	2C
BC847B	1F	BC850A	2E
BC847C	1G	BC850B	2F
BC848A	1J	BC850C	2G
BC848B	1K		



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Units
Collector Base Voltage	BC846 V_{CBO}	80	V
	BC847, BC850 V_{CBO}	50	V
	BC848, BC849 V_{CBO}	30	V
Collector Emitter Voltage	BC846 V_{CEO}	65	V
	BC847, BC850 V_{CEO}	45	V
	BC848, BC849 V_{CEO}	30	V
Emitter Base Voltage	BC846, BC847 V_{EBO}	6	V
	BC848, BC849, BC850 V_{EBO}	5	V
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_S	- 65 to + 150	°C

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter		Symbol	Min.	Typ.	Max.	Units
Collector-base breakdown voltage at I _C = 10 μA, I _E = 0	BC846 BC847/850 BC848/849	V _{(BR)CBO}	80 50 30			
Collector-emitter breakdown voltage at I _C = 10 mA, I _B = 0	BC846 BC847/850 BC848/849	V _{(BR)CEO}	65 45 30			
Emitter-base breakdown voltage at I _E = 1 μA, I _C = 0	BC846/847 BC848-850	V _{(BR)EBO}	6 5			
DC Current Gain at V _{CE} = 5 V, I _C = 2 mA	A B C	h _{FE} h _{FE} h _{FE}	110 200 420	- - -	220 450 800	- - -
Collector Emitter Saturation Voltage at I _C = 10 mA, I _B = 0.5 mA		V _{CEsat}	-	-	250	mV
at I _C = 100 mA, I _B = 5 mA		V _{CEsat}	-	-	600	mV
Base-emitter saturation voltage at I _C = 10 mA, I _B = 0.5 mA		V _{BEsat}	-	700	850	mV
at I _C = 100 mA, I _B = 5 mA		V _{BEsat}	-	900	1100	mV
Base Emitter On Voltage at I _C = 2 mA, V _{CE} = 5 V		V _{BE(on)}	580	-	700	mV
at I _C = 10 mA, V _{CE} = 5 V		V _{BE(on)}	-	-	770	mV
Collector Cutoff Current at V _{CB} = 30 V		I _{CBO}	-	-	15	nA
Current Gain Bandwidth Product at V _{CE} = 5 V, I _C = 10 mA, f = 100 MHz		f _T	-	300	-	MHz
Output Capacitance at V _{CB} = 10 V, f = 1 MHz		C _{ob}	-	-	6	pF
Input Capacitance at V _{EB} = 0.5 V, f = 1 MHz		C _{ib}	-	9	-	pF
Noise Figure at I _C = 200 μA, V _{CE} = 5 V	BC846, BC847, BC848	NF	-	-	10	dB
R _G = 2 KΩ, f = 1 KHz	BC849, BC850	NF	-	-	4	dB
at I _C = 200 μA, V _{CE} = 5 V,	BC849	NF	-	-	4	dB
R _G = 2 KΩ, f = 30 ~15 KHz	BC850	NF	-	-	3	dB

TYPICAL TRANSIENT CHARACTERISTICS

