

BC846A-BC848C

NPN SURFACE MOUNT SMALL SIGNAL TRANSISTOR IN SOT23

Features

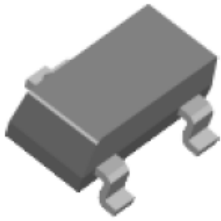
- Ideally Suited for Automatic Insertion
- Complementary PNP Types Available
- For switching and AF Amplifier
- RoHS compliant package

Mechanical Data

- Case: SOT-23 Molded plastic
- Epoxy: UL94V-O rate flame retardant

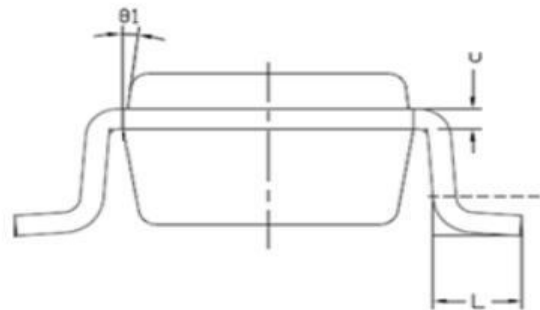
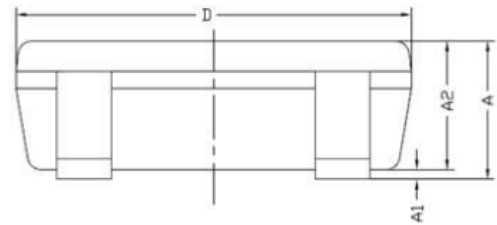
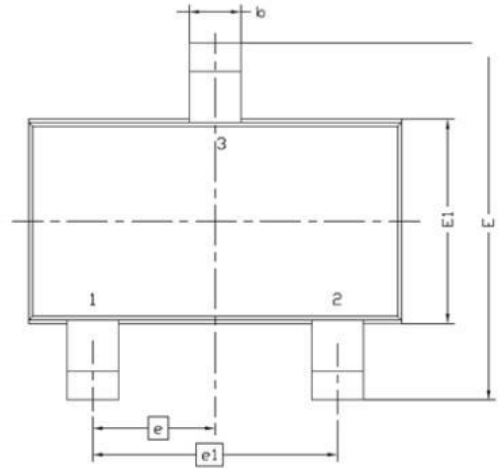
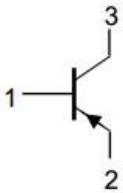
Packing & Order Information

3,000/Reel



**RoHS
COMPLIANT**

Graphic symbol



Symbol	MILLIMETERS	
	MIN	MAX
A	0.8	1.2
A1	0	0.1
A2	0.7	1.1
b	0.3	0.5
c	0.1	0.2
D	2.7	3.1
E	2.6	3
E1	1.4	1.8
e	0.95 BSC	
e1	1.9 BSC	
L	0.3	0.6
theta1	7° NOM	

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings (Tc=25°C unless otherwise noted)

Symbol	Parameter	BC846A,B	BC847A,B	BC848A,B,C	Unit
VCEO	Collector-Emitter Voltage	65	45	30	Vdc
VCBO	Collector-Base Voltage	80	50	30	Vdc
VEBO	Emitter-Base Voltage	6	6	-5	Vdc
Ic	Collector Current Continuous	100	100	100	mAdc

THERMAL CHARACTERISTICS

Symbol	Parameter	Max	Unit
PD(Ta=25°C)	Total Device Dissipation	225	mW
	FR-5 Board(1), TA=25° Derate above 25°	1.8	mW/°C
PD(Ta=25°C)	Total Device Dissipation	300	mW
	Alumina Substrate, TA=25° Derate above 25°	2.4	mW/°C
RθJA	Thermal Resistance Junction to Ambient	80	V
TJ ,Tstg	Junction and Storage Temperature	55 to +150	°C

Electrical characteristics (Tc=25°C unless otherwise noted)

OFF CHARACTERISTICS

Symbol	Parameter		MIN	TYP	MAX	UNIT
V(BR)CEO	Collector-Emitter Breakdown Voltage (Ic=-10mAdc, IB=0)	BC846A,B	65			V
		BC847A,B	45			V
		BC848A,B,C	30			V
V(BR)CBO	Collector-Base Breakdown Voltage (Ic=-10μAdc, IE=0)	BC846A,B	80			V
		BC847A,B	50			V
		BC848A,B,C	30			V
V(BR)EBO	Emitter-Base Breakdown Voltage (IE=-10μAdc, Ic=0)	BC846A,B	6			V
		BC847A,B	6			V
		BC848A,B,C	5			V
IBO	Collector Cutoff Current V					V
	(VCB=-30v)				15	nA
	(VcB=-30Vdc, TA=150°C)				5	uA

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ON CHARACTERISTICS

Symbol	Parameter		MIN	TYP	MAX	UNIT
VCE(sat)	Collector-Emitter Saturation Voltage					V
	(Ic=10mA, IB=-0.5mA)				0.25	V
	(Ic=100mA, IB=-5.0mA)				0.6	V
HFE	DC Current Gain	BC846A,B		90		
	(Ic=10uA, VCE=-5.0V)	BC847A,B		150		
		BC848A,B,C		270		
	(Ic=2.0mA, VCE=-5.0V)	BC846A,B	125	180	250	
		BC847A,B	220	290	475	
BC848A,B,C		420	520	800		
VBE(sat)	Base-Emitter Saturation Voltage					V
	(Ic=10mA, IB=-0.5mA)			0.7		V
	(Ic=100mA, IB=-5.0mA)			0.9		V
VBE(on)	Base-Emitter Voltage					V
	(Ic=2.0mA, VCE=-5.0V)		580	660	700	mV
	(Ic=10mA, VCE=-5.0V)				770	mV

ON CHARACTERISTICS

Symbol	Parameter		MIN	TYP	MAX	UNIT
fT	Current-Gain-Bandwidth Product (Ic=10mA, VCE=-5.0V, f=100MHz)		100			MHz
Cobo	Output Capacitance (VCB=-10V, IE=0, f=1.0MHz)				4.5	pF
NF	Noise Figure (VCE=-5.0V, IC=200uA, Rs=2.0k, f=1.0KHz, BW=200Hz)				10	dB

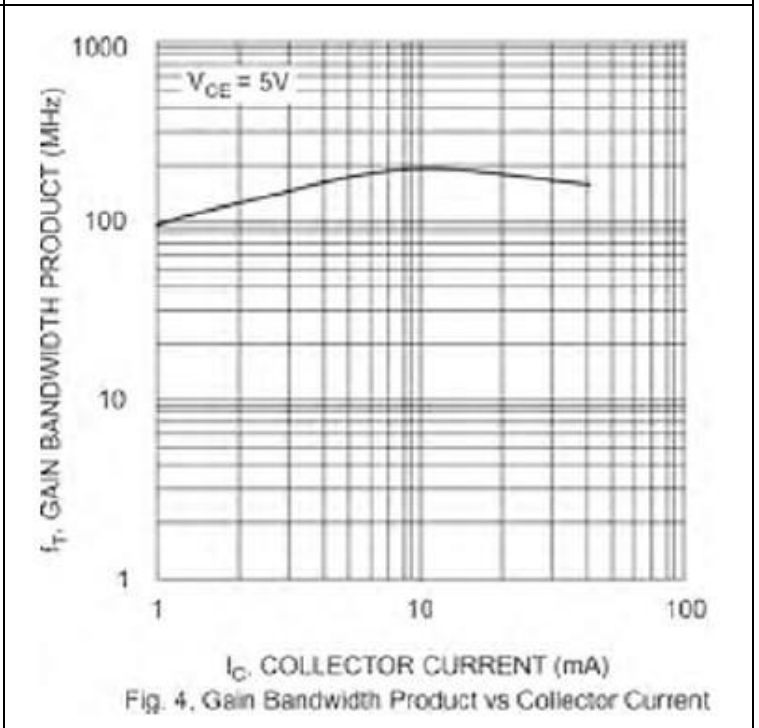
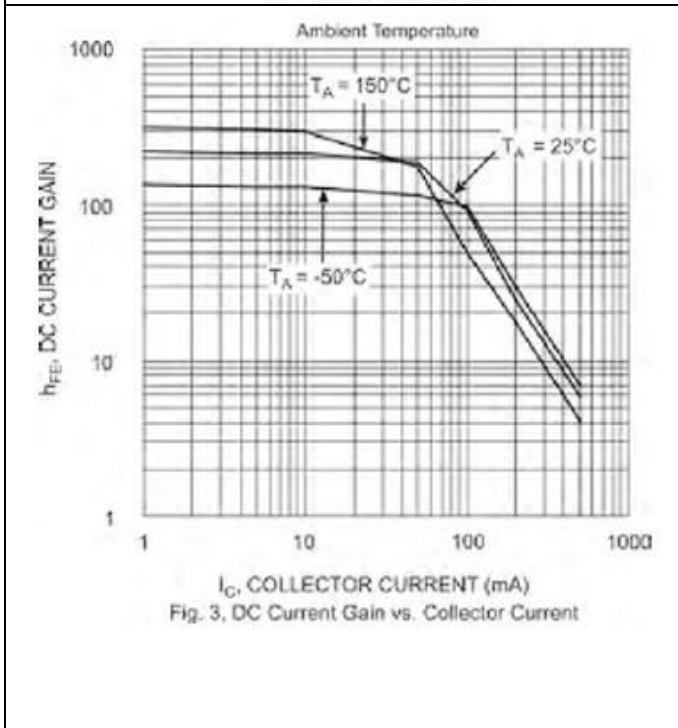
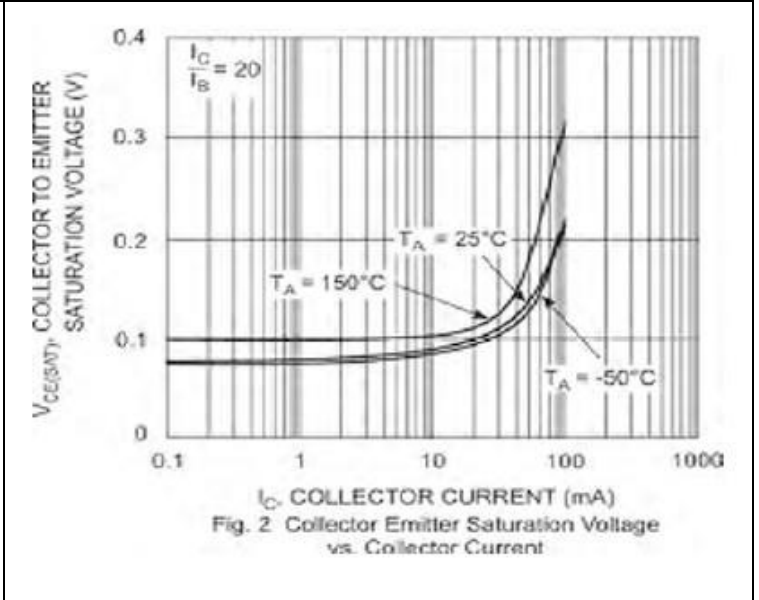
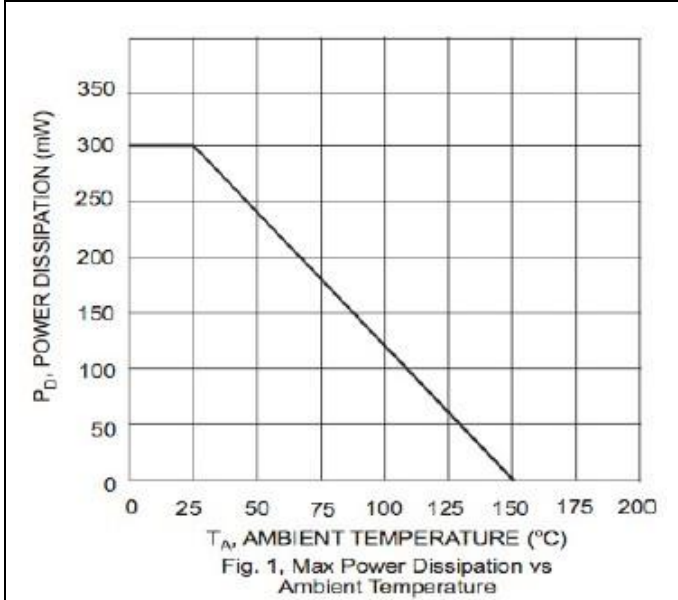
DEVICE MARK

BC846A	1A
BC846B	1B
BC847A	1E
BC847B	1F
BC848A	1J
BC848B	1K
BC848C	

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■ RATINGS AND CHARACTERISTIC CURVES



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