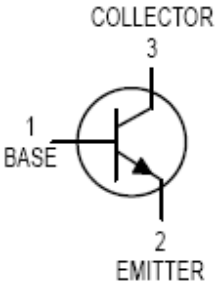
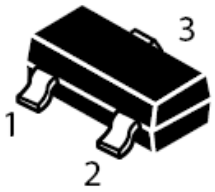
LITE-ON SEMICONDUCTORS

BC847T

NPN General Purpose Transistor





FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

MECHANICAL DATA

- Case: SOT-523 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead Free in RoHS 2002/95/EC Compliant

Maximum Ratings @ T_A = 25℃

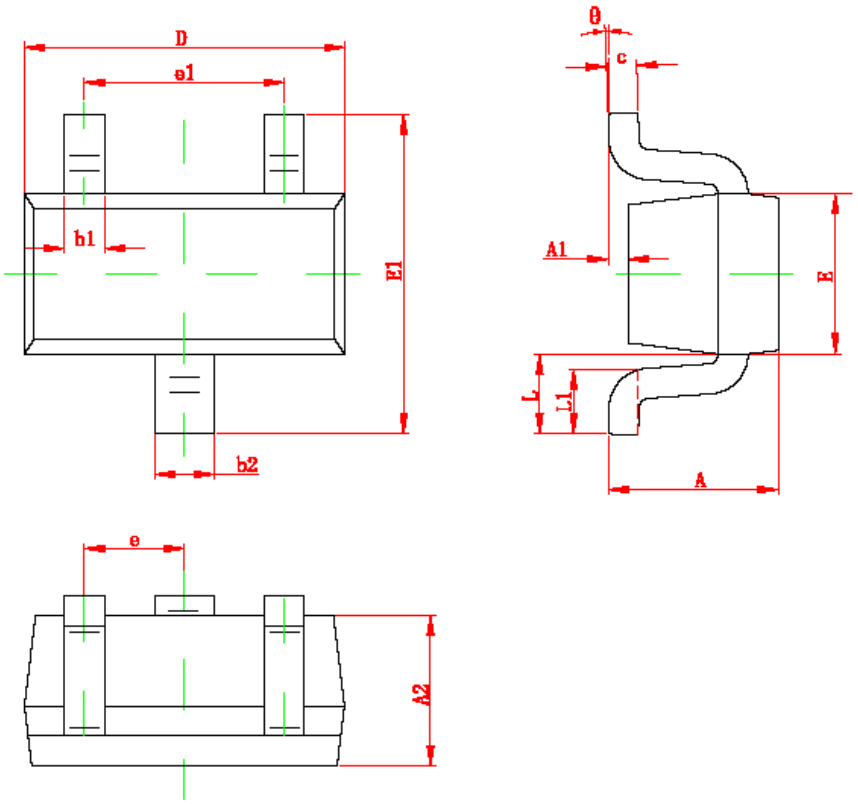
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current -Continuous	I_C	100	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

Electrical Characteristics @ T_A = 25℃ unless otherwise specified

Characteristic	Test Condition		Symbol	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	I_C=10μA,I_E=0		V_{CBO}	50			V
Collector-emitter breakdown voltage	I_C=10mA,I_B=0		V_{CEO}	45			V
Emitter-base breakdown voltage	I_E=1μA,I_C=0		V_{EBO}	6			V
Collector-base cut-off current	V_{CB}=30V		I_{CBO}			15	nA
DC current gain	V_{CE}=5V,I_C=2mA	AT BT CT	h_{FE}	110 200 420		220 450 800	
Collector-emitter saturation voltage	I_C=10mA,I_B=0.5mA I_C=100mA,I_B=5mA		V_{CE}(sat)			0.25 0.6	V
Base-emitter saturation voltage	I_C=10mA,I_B=0.5mA I_C=100mA,I_B=5mA		V_{BE}(sat)		0.7 0.9		V
Base-emitter voltage	I_C=2mA,V_{CE}=5V I_C=10mA,V_{CE}=5V		V_{BE}	580	660	700 770	mV
Transition frequency	V_{CE}=5V,I_C=10mA, f=100MHz		f_T	100			MHz
Collector output capacitance	V_{CB}=10V,f=1MHz		C_{ob}			4.5	pF
Noise figure	V_{CE}=5V, f=1KHz,RS=2KΩ Bandwidth=200Hz	BW CW	NF			10 4	dB

REV. 2, Jun-2012, KSNR06

SOT-523 Outline Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.750	0.850	0.030	0.033
E1	1.450	1.750	0.057	0.069
e	0.500 TYP		0.020 TYP	
e1	0.900	1.100	0.035	0.043
L	0.550 REF		0.022 REF	
L1	0.280	0.440	0.011	0.017
θ	0°	4°	0°	4°

Device Marking :

Device P/N	Classification of h_{FE}	Marking code
BC847AT	110-220	1E
BC847BT	200-450	1F
BC847CT	420-800	1G

Electrical characteristic curves

Fig.1 Power Derating Curve

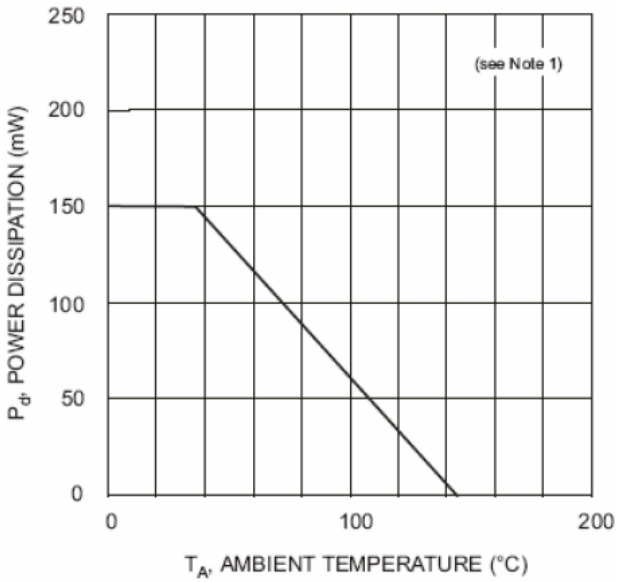


Fig.2 DC Current Gain vs. Collector Current

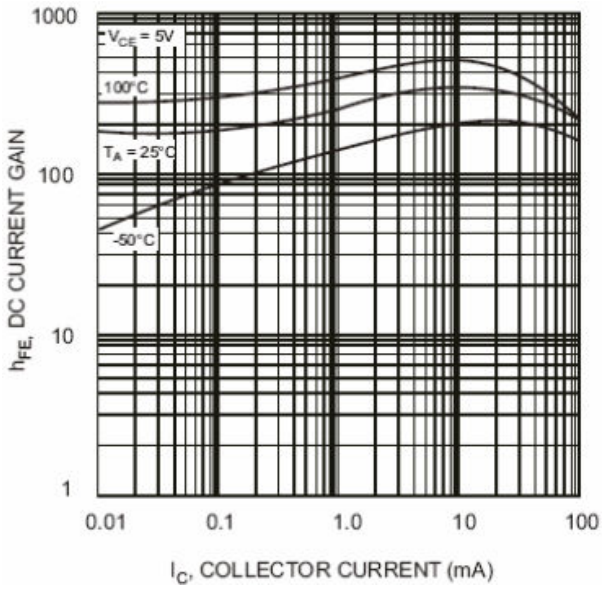


Fig.3 Collector Saturation Voltage vs. Collector Current

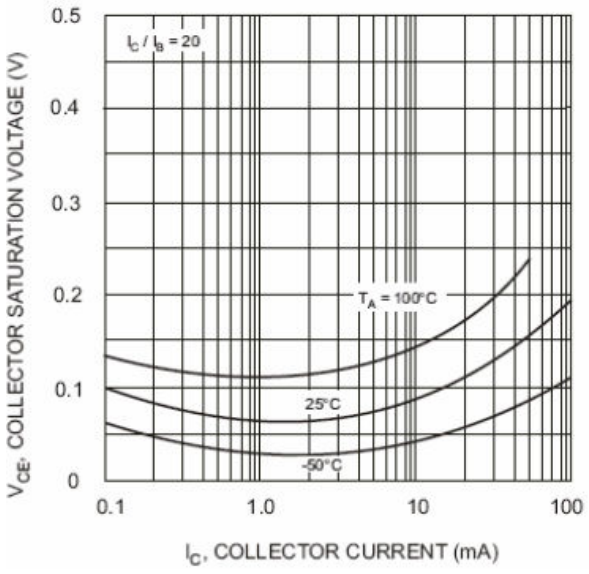
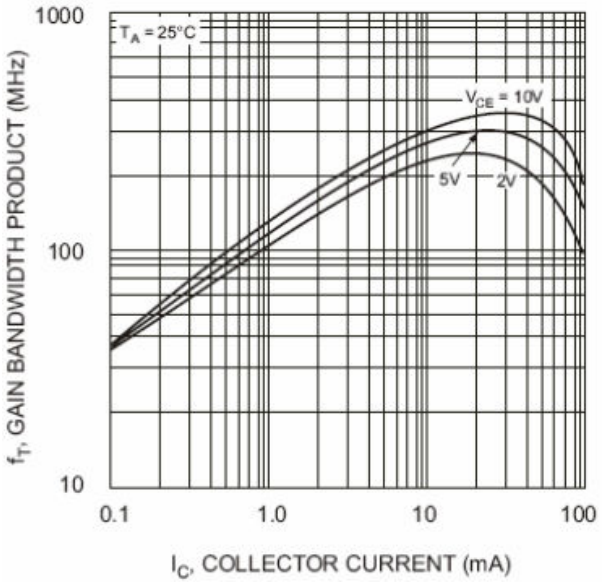


Fig.4 Current Bandwidth Product vs. Collector Current



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