

BC847T TRANSISTOR(NPN) SOT-523 Plastic-Encapsulate Transistors

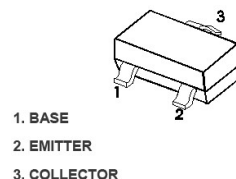
SOT-523

Features

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

Mechanical Data

- SOT-523 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



Marking:

BC847AT: 1E
BC847BT: 1F
BC847CT: 1G

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

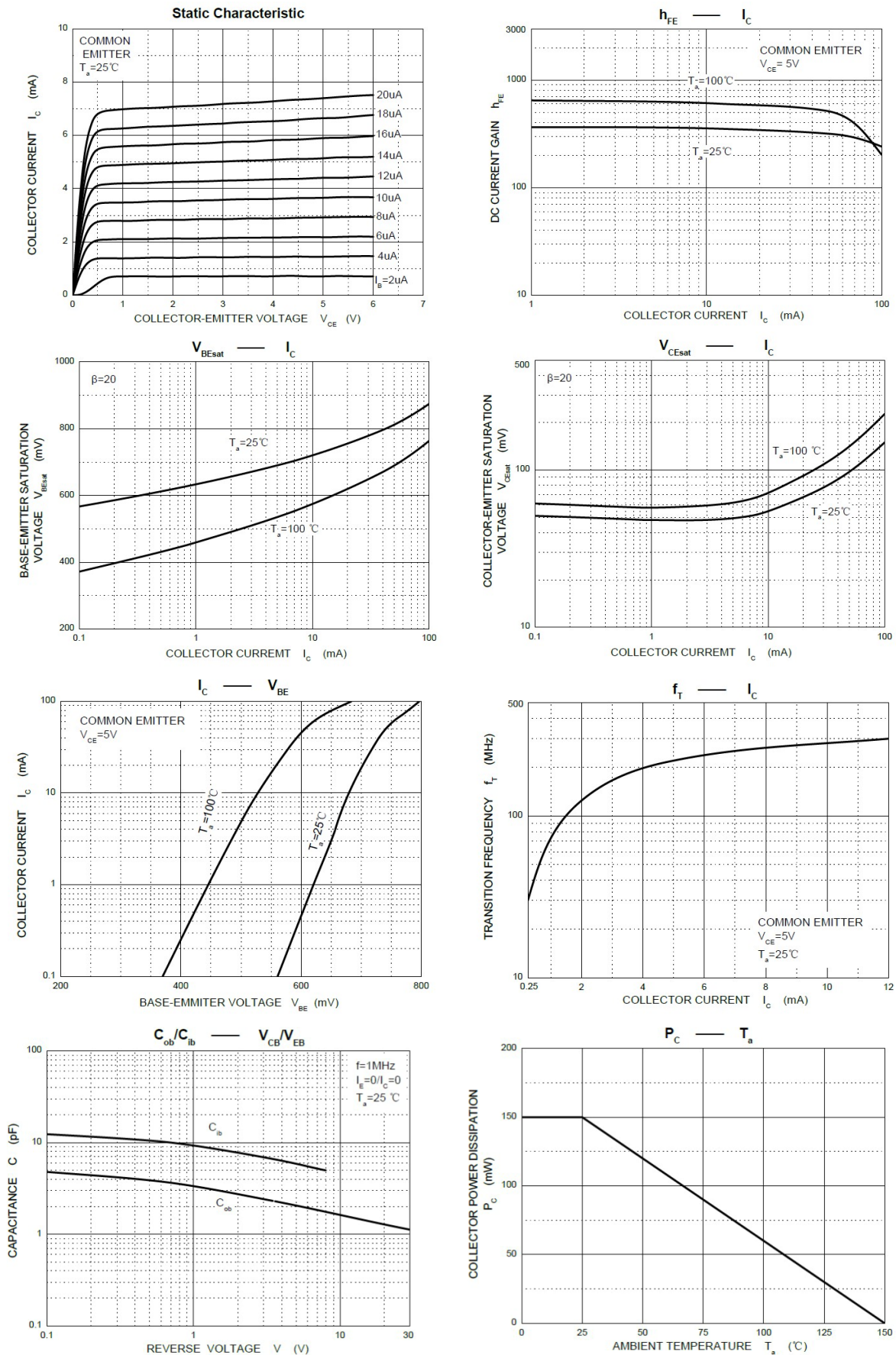
Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	100	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55-+150	°C

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

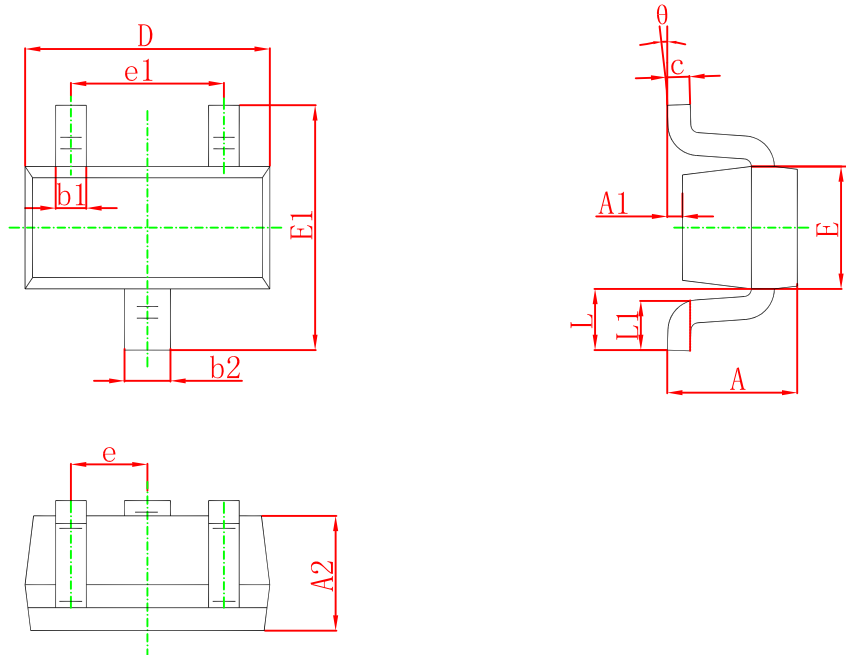
Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30V$			15	nA
DC current gain BC847AT BC847BT BC847CT	h_{FE}	$V_{CE}=5V, I_C=2mA$	110		220	
			200		450	
			420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$			0.25	V
		$I_C=100mA, I_B=5mA$			0.60	
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=0.5mA$		0.7		V
		$I_C=100mA, I_B=5mA$		0.9		
Base -emitter voltage	$V_{BE(ON)}$	$V_{CE}=5V, I_C=2mA$	0.58	0.66	0.70	V
		$V_{CE}=5V, I_C=10mA$			0.77	
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA, f=100MHz$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB}=5V, I_E=0, f=1MHz$			4.5	pF
Noise figure BC847BT BC847CT	NF	$V_{CE}=5V, f=1MHz$			10	dB
		$R_S=2K\Omega, BW=200Hz$			4	

*Pulse test: pulse width≤300us,duty cycle≤2.0%

Typical characteristics



SOT-523 PACKAGE OUTLINE Plastic surface mounted package



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.950	0.026	0.037
A1	0.000	0.100	0.000	0.004
A2	0.650	0.850	0.026	0.033
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.050	0.200	0.002	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
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	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°