Micro Commercial Components

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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

BC847AT, BT, CT

NPN Surface Mount Small Signal Transistor 150mW

Features

- Epitaxial Die Construction
- Complementary PNP Type Available (BC857AT,BT,CT)
- Ultra-Small Surface Mount Package
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

Maximum Data

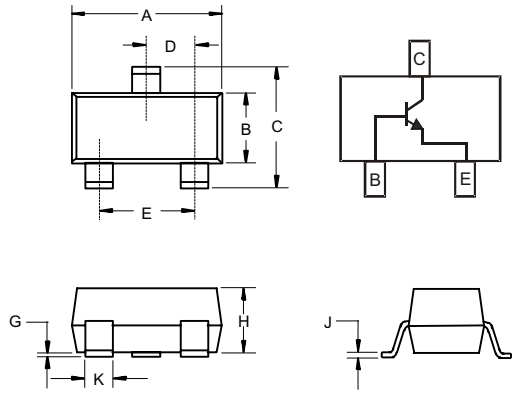
- Case: SOT-523
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking:BC847AT--1E,BC847BT--1F,BC847CT-1G.

Maximum Ratings @ 25℃ Unless Otherwise Specified

Symbol	Parameter	Value	Units
OFF CHARACTERISTICS			
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	45	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	50	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage	6.0	Vdc
I_C	Collector Current	100	mAdc
P_d	Power Dissipation (Note 1)	150	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient(Note 1)	833	℃/W
T_J, T_{STG}	Operating & Storage Temperature	-55~+150	℃

Note: 1. Device mounted on FR-4 PCB with recommended pad layout

SOT-523



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Electrical Characteristics @ 25℃ Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units	Test Condition
OFF CHARACTERISTICS						
h_{FE}	DC Current Gain (Note 2) Current Gain A B C	 110 200 420	 --- 290 520	 222 450 800	---	V_{CE}=5.0V, I_C=2.0mA
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage (Note 2)	---	---	250 600	mV	I_C=10mA, I_B=0.5mA I_C=100mA, I_B=5.0mA
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage (Note 2)	---	700 900	---	mV	I_C=10mA, I_B=0.5mA I_C=100mA, I_B=5.0mA
$V_{BE(ON)}$	Base-Emitter Voltage (Note 2)	580 ---	660 ---	700 770	mV	V_{CE}=5.0V, I_C=2.0mA V_{CE}=5.0V, I_C=10mA
I_{CBO} I_{CBO}	Collector-Cutoff Current (Note 2)	--- ---	--- ---	15 5.0	nA μA	V_{CB}=30V, I_E=0 V_{CB}=30V, T_j=125℃
f_T	Gain Bandwidth Product	100	---	---	MHz	V_{CE}=5.0V, I_C=10mA, f=100MHz
C_{CBO}	Collector-Base Capacitance	---	---	4.5	pF	V_{CB}=10V, f=1.0MHz
NF	Noise Figure BC847BT BC847CT	---	---	10 4.0	dB	V_{CE}=5V,R_S=2.0Kohm, f=1.0MHz,BW=200HZ

Note: 2. Short duration pulse test used to minimize self-heating effect.

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Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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