



Micro Commercial Components  
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## BC847AT, BT, CT

### Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epitaxial Die Construction
- Complementary PNP Type Available (BC857AT,BT,CT)
- Ultra-Small Surface Mount Package
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Data

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

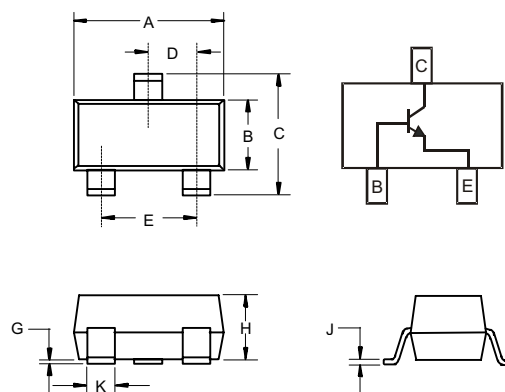
#### Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Parameter	Value	Units
<b>OFF CHARACTERISTICS</b>			
$V_{(BR)CEO}$	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	mA <sub>dc</sub>
$P_d$	Power Dissipation (Note 1)	150	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient(Note 1)	833	°C/W
$T_J, T_{STG}$	Operating & Storage Temperature	-55~+150	°C

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

### NPN Surface Mount Small Signal Transistor 150mW

#### SOT-523



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
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°C Unless Otherwise Specified**

Symbol	Parameter	Min	Typ	Max	Units	Test Condition
<b>OFF CHARACTERISTICS</b>						
$h_{FE}$	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 $\mu A$	$V_{CB}=30V, I_E=0$ $V_{CB}=30V, T_J=125^\circ C$
$f_T$	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.

## Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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