



Micro Commercial Components

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

BC847AT, BT, CT

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

NPN
Surface Mount Small
Signal Transistor
150mW

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

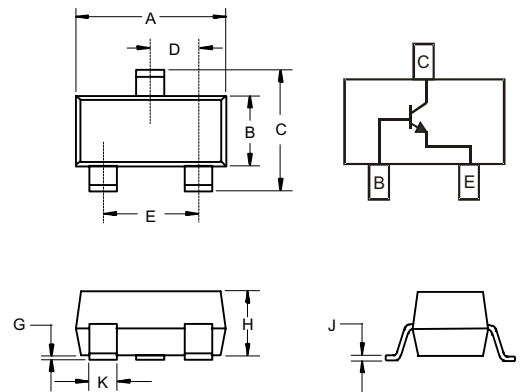
Symbol	Parameter	Value	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	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	°C/W
T_J, T_{STG}	Operating & Storage Temperature	-55~+150	°C

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

SOT-523



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
OFF CHARACTERISTICS						
h _{FE}	DC Current Gain (Note 2)					V _{CE} =5.0V, I _C =2.0mA
	Current Gain A	110	---	222	---	
	B	200	290	450	---	
	C	420	520	800	---	
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
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 _{CB0}	Collector-Cutoff Current (Note 2)	---	---	15	nA	V _{CB} =30V, I _E =0 V _{CB} =30V, T _J =125°C
I _{CBO}		---	---	5.0	μA	
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	---	---	10	V _{CE} =5V, R _S =2.0Kohm, f=1.0MHz, BW=200HZ
		BC847CT	---	---	4.0	

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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