Elektronische Bauelemente

BC847AT /BC847BT /BC847CT

NPN Plastic Encapsulate Transistor

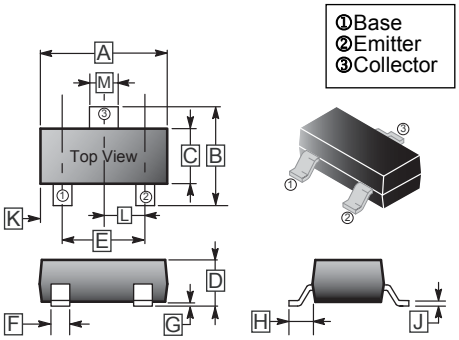
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

FEATURES

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

SOT-523



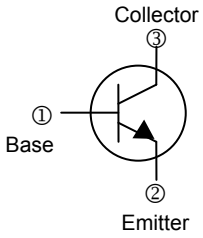
MARKING

Product	Marking Code
BC847AT	1E
BC847BT	1F
BC847CT	1G

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.5	1.7	G	-	0.1
B	1.45	1.75	H	0.55 REF.	
C	0.75	0.85	J	0.1	0.2
D	0.7	0.9	K	-	
E	0.9	1.1	L	0.5 TYP.	
F	0.15	0.25	M	0.25	0.325

PACKAGE INFORMATION

Package	MPQ	LeaderSize
SOT-523	3K	7' inch



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	45	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	0.1	A
Collector Power Dissipation	P_C	150	mW
Junction, Storage Temperature	T_J, T_{STG}	150, -55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage		V_{CBO}	50	-	-	V	I_C = 10 μA, I_E = 0
Collector to Emitter Breakdown Voltage		V_{CEO}	45	-	-	V	I_C = 10 mA, I_B = 0
Emitter to Base Breakdown Voltage		V_{EBO}	6	-	-	V	I_E = 1 μA, I_C = 0
Collector Cutoff Current		I_{CBO}	-	-	15	nA	V_{CB} = 30 V
Collector to Emitter Saturation Voltage		$V_{CE(sat)}$	-	-	0.25	V	I_C = 10mA, I_B = 0.5 mA
			-	-	0.6		I_C = 100mA, I_B = 5 mA
Base to Emitter Saturation Voltage		$V_{BE(sat)}$	-	0.7	-	V	I_C = 10mA, I_B = 0.5 mA
			-	0.9	-		I_C = 100mA, I_B = 5 mA
Base to Emitter Voltage		$V_{BE(on)}$	580	660	700	mV	V_{CE} = 5 V, I_C = 2 mA
			-	-	770		V_{CE} = 5 V, I_C = 10 mA
DC Current Gain	BC847AT	h_{FE}	110	-	220		V_{CE} = 5 V, I_C = 2 mA
	BC847BT		200	-	450		
	BC847CT		420	-	800		
Transition Frequency		f_T	100	-	-	MHz	V_{CE} = 5 V, I_C = 10 mA f = 100MHz
Collector Output Capacitance		C_{Ob}	-	-	4.5	pF	V_{CB} = 10 V, f=1MHz
Noise Figure	BC847BT	NF	-	-	10	dB	V_{CE}= 5V, BW= 200HZ, f= 1KHz, R_S= 2 kΩ
	BC847CT		-	-	4		

CHARACTERISTIC CURVES

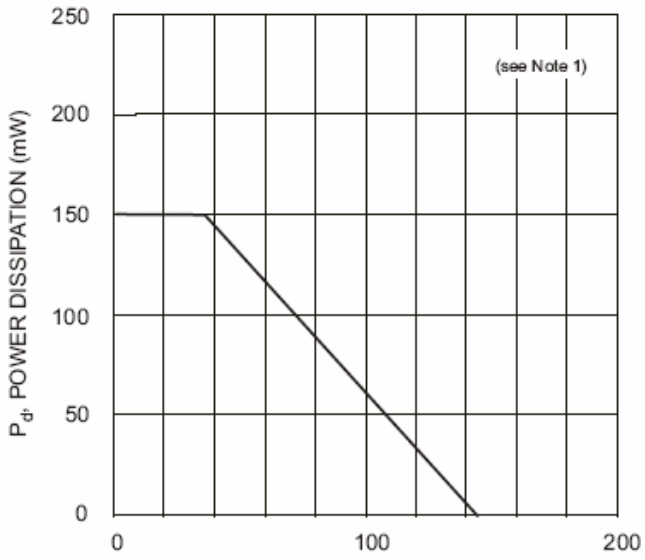


Fig. 1, Power Derating Curve

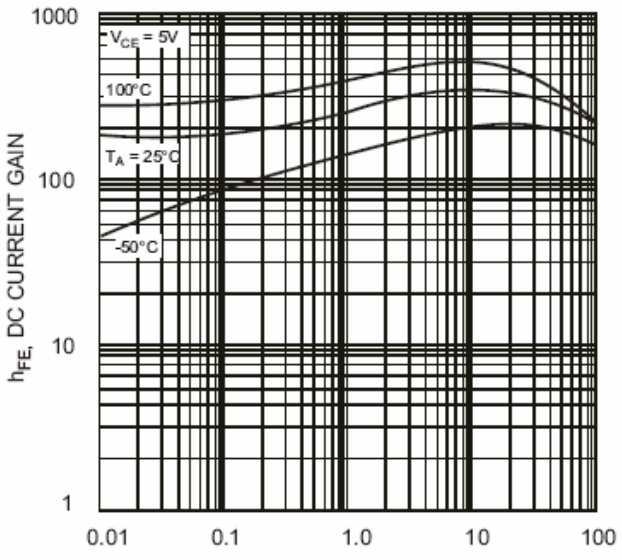


Fig. 2, DC Current Gain vs Collector Current

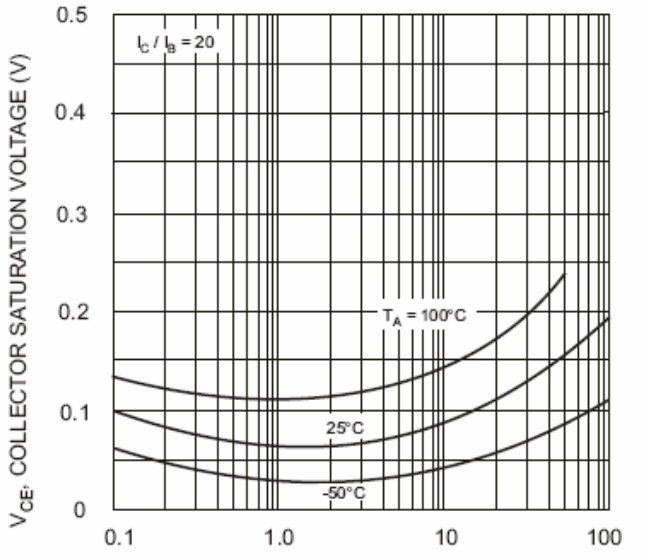


Fig. 3, Collector Saturation Voltage vs Collector Current

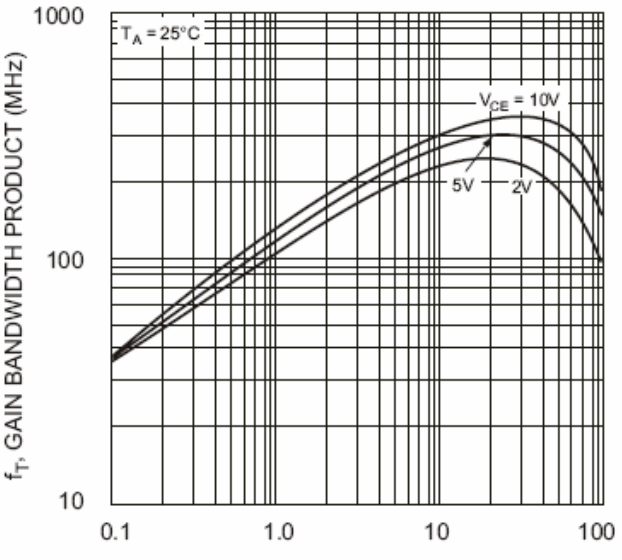


Fig. 4, Gain Bandwidth Product vs Collector Current