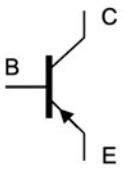
GOOD-ARK
SEMICONDUCTOR

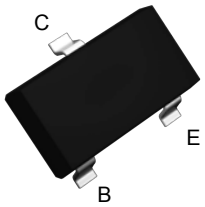
BC807 Series
PNP Transistor

Features

- Complementary to BC817
- Power dissipation of 300mW
- High stability and high reliability



Schematic Diagram



SOT-23

Mechanical Data

- SOT-23 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: any

Absolute Maximum Ratings (T_A=25 °C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	°C/W

CLASSIFICATION OF h_{FE} and Marking Information

Rank	BC807-16	BC807-25	BC807-40
Range	100-250	160-400	250-600
Marking	5A	5B	5C

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Electrical Characteristics (T_A=25 °C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-10uA, 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=-1uA, I_C=0	-5	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=-45V, I_E=0	-	-100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-4V, I_C=0	-	-100	nA
DC Current Gain	h_{FE}^1	V_{CE}=-1V, I_C=-100mA	100	600	-
	h_{FE}^2	V_{CE}=-1V, I_C=-500mA	40	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA	-	-0.7	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA	-	-1.2	V
Transition Frequency	f_T	V_{CE}=-5V, I_C=-10mA, F=100MHz	100	-	MHz

Electrical Characteristic Curves

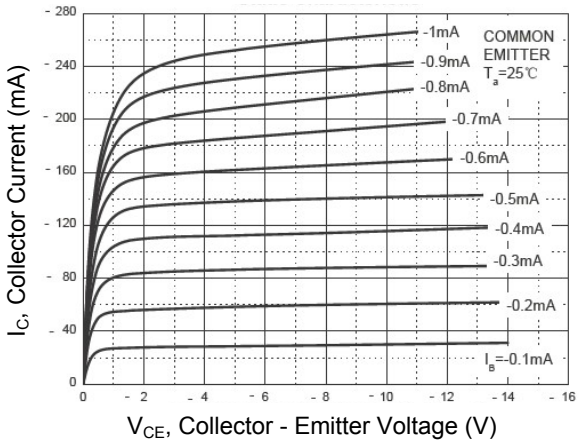


Figure 1. Static Characteristics

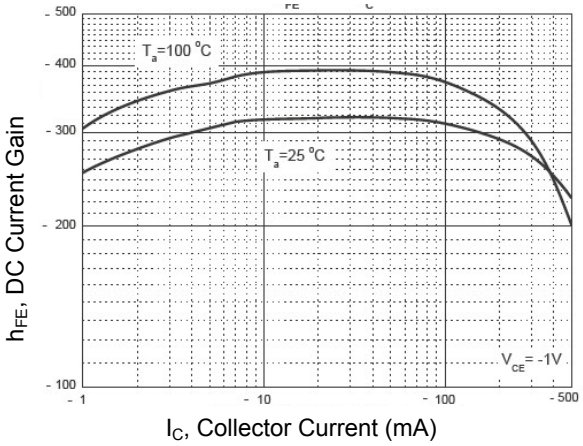
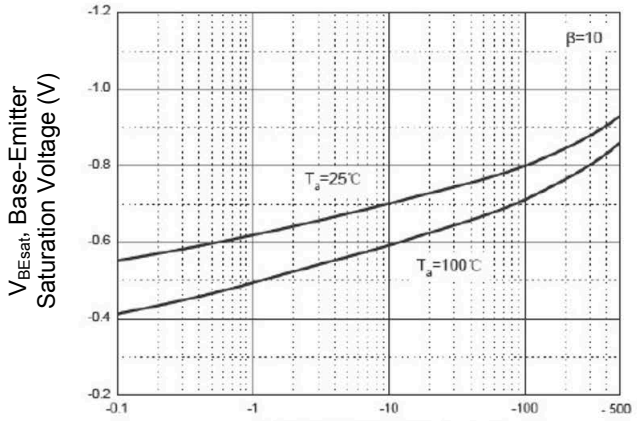


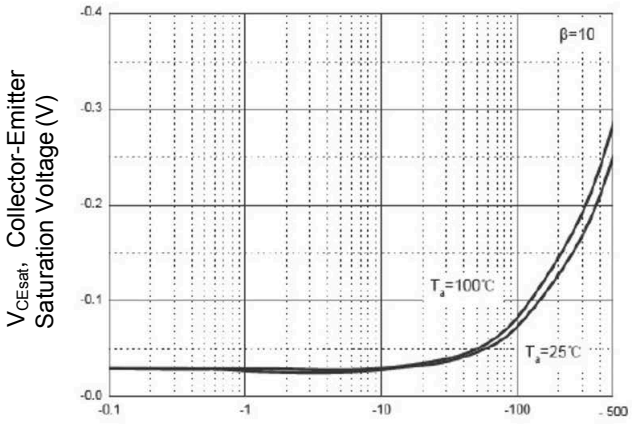
Figure 2. h_{FE} vs. I_C

Electrical Characteristic Curves



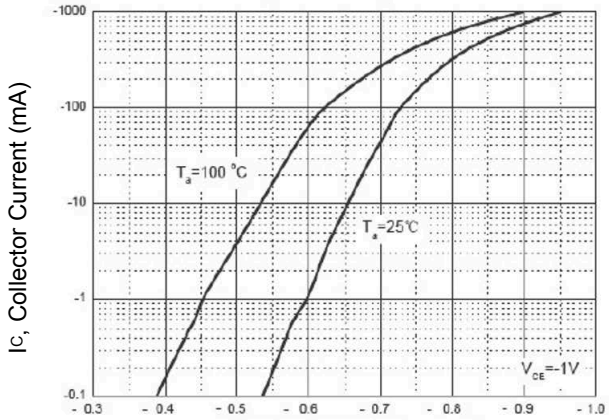
I_C, Collector Current (mA)

Figure 3. Base - Emitter Saturation Voltage vs. Collector Current



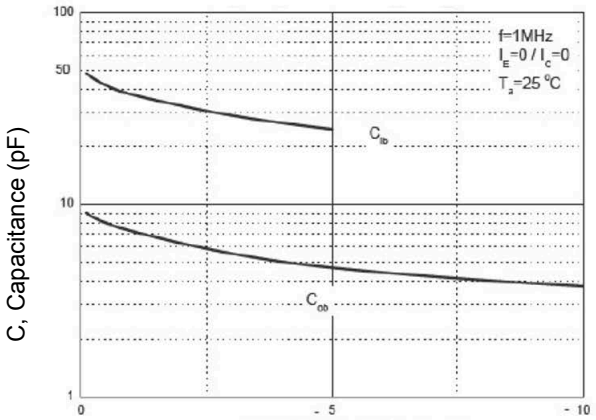
I_C, Collector Current (mA)

Figure 4. Collector - Emitter Saturation Voltage vs. Collector Current



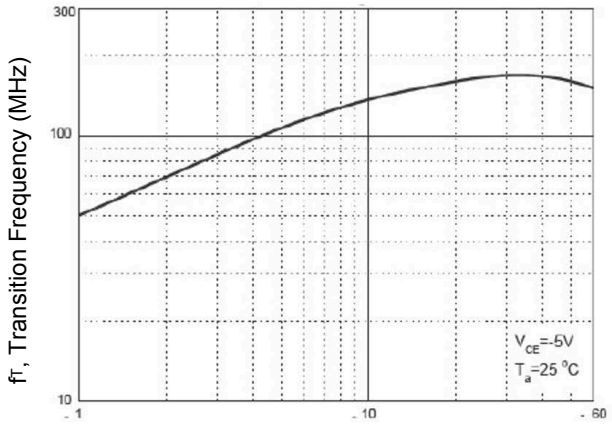
V_{BE}, Base - Emitter Voltage (V)

Figure 5. Collector Current vs. Base - Emitter Voltage



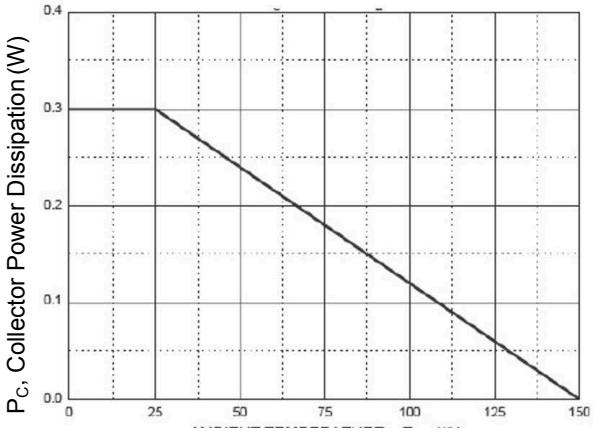
V_R, Reverse Voltage (V)

Figure 6. Capacitance Characteristics



I_C, Collector Current (mA)

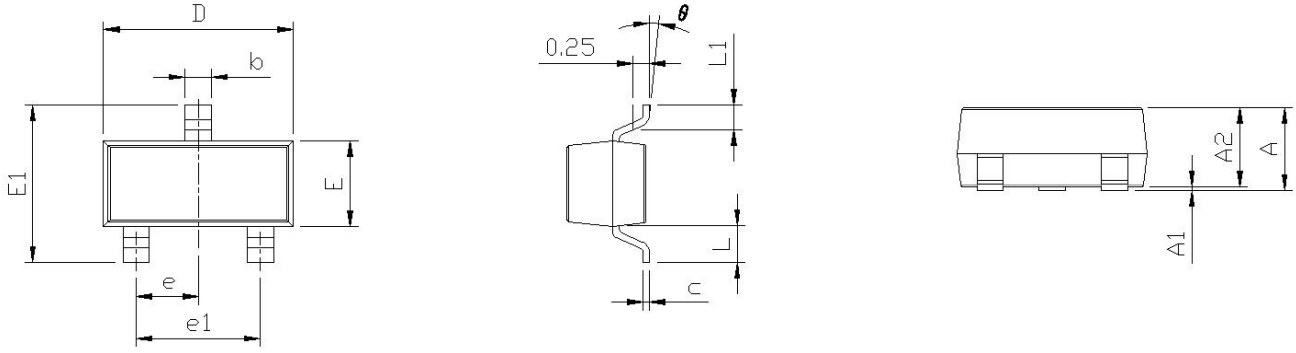
Figure 7. Transition Frequency vs. Collector Current



T_A, Ambient Temperature (°C)

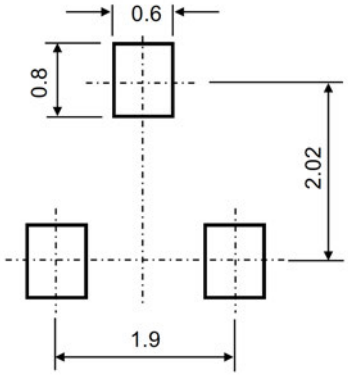
Figure 8. Power Dissipation vs Ambient Temperature

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only