

TRANSISTOR (NPN)

Parameter	Value	Unit
V_{CEO}	45	V
I_C	0.5	A

1. BASE
2. EMITTER
3. COLLECTOR



Features

- Complementary to PNP Transistor (BC807).
- Ideally suited for automatic insertion.
- Epitaxial planar die construction.

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	0.5	A
P_C	Collector Power Dissipation	300	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55-150	°C
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	417	°C/W

Note:

1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.
2. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

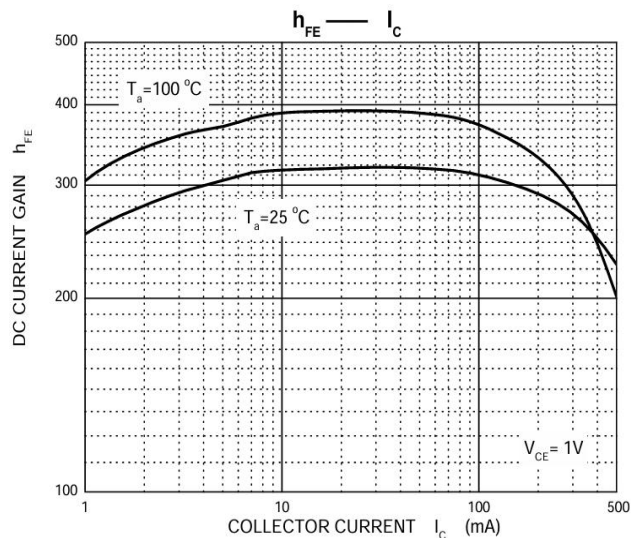
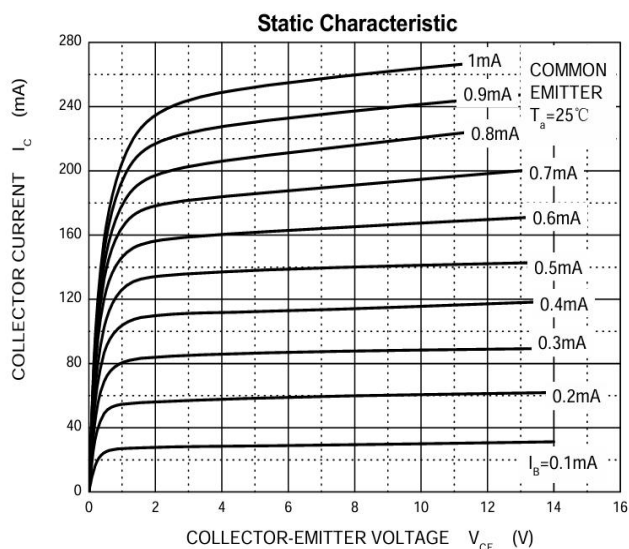
Electrical Characteristics(Ta=25°C unless otherwise noted)

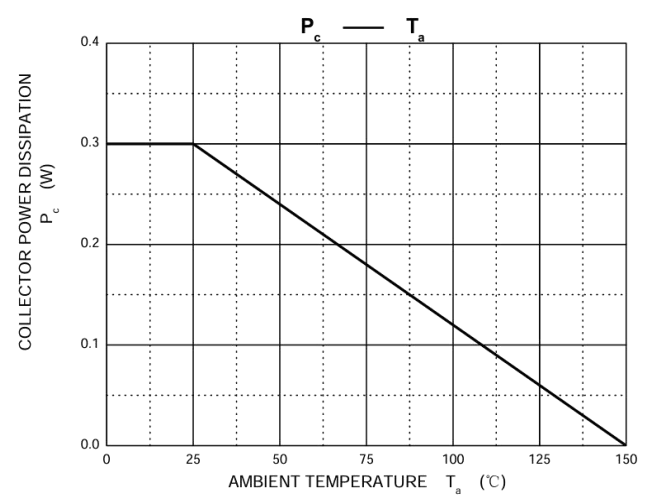
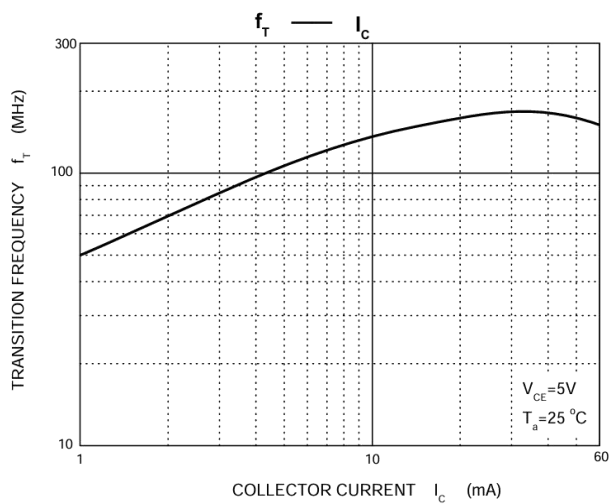
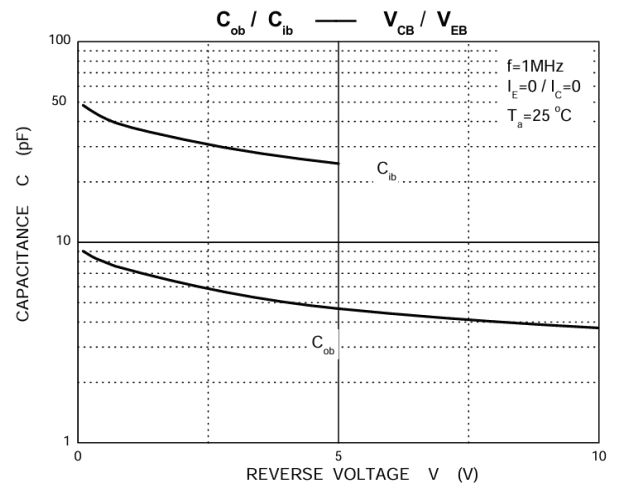
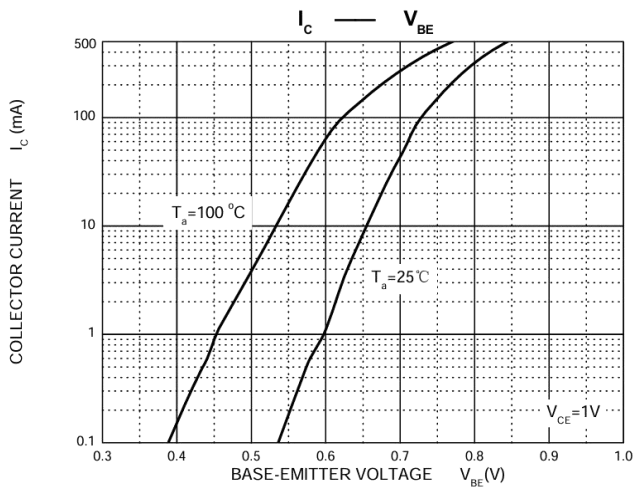
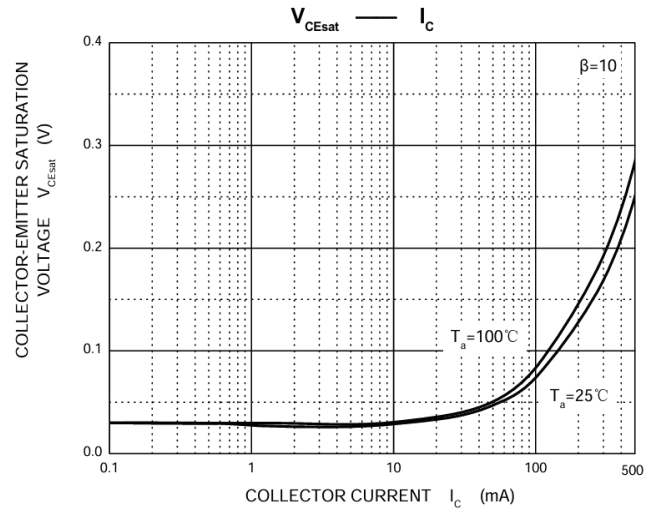
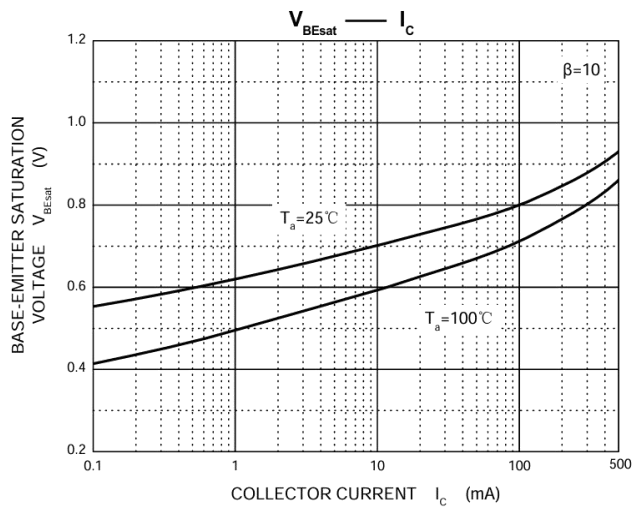
Parameter	Symbol	Test conditions	Min		Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C=10\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=10mA, I_B=0$	45			V
Emitter-base breakdown voltage	V_{EBO}	$I_E=1\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=45V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.1	μA
DC Current Gain (CLASSIFICATION OF h_{FE1})	$h_{FE(1)}$	$V_{CE}=1V, I_C=100mA$	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
Base-emitter voltage	V_{BE}	$V_{CE}=1V, I_C=500mA$			1.2	V
Collector Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		10		pF
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA$ $f=100MHz$	100			MHz

Classification of h_{FE}

Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

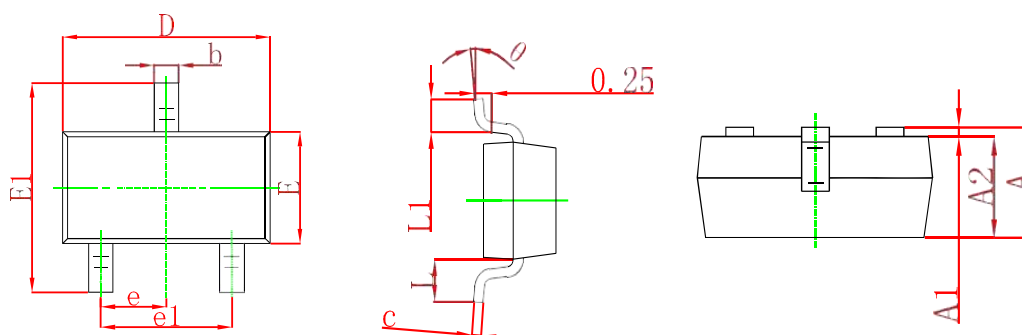
Typical Characteristics





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°

*Important Usage Information and Disclaimer

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