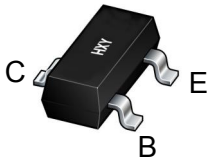
FEATURES

- Collector Current: I_C=0.5A
- Power Dissipation of 300mw

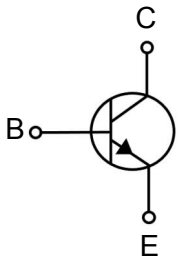


SOT-23

Package Marking and Ordering Information

Product ID	Pack	Qty(PCS)
BC817-16/25/40	SOT-23	3000

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



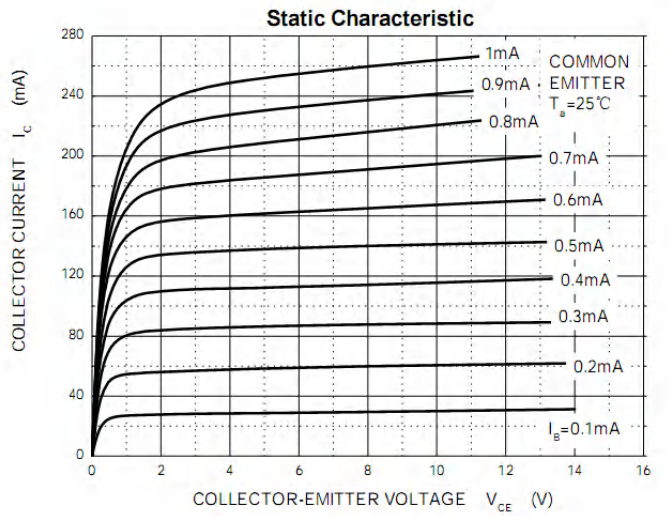
MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

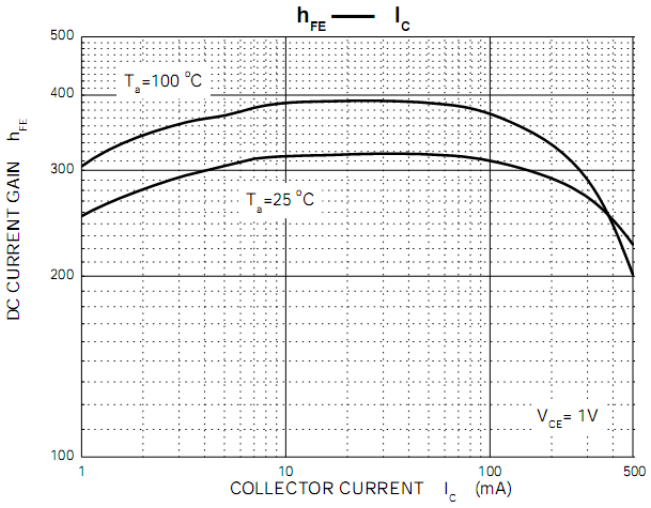
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	417	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55～+150	℃

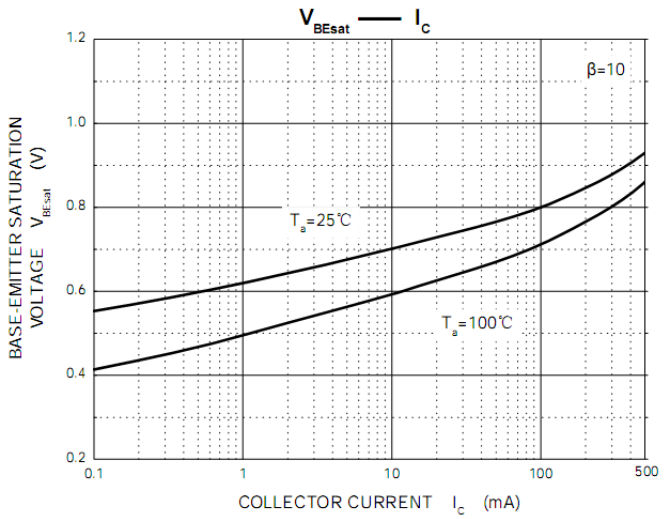
ELECTRICAL CHARACTERISTICS (T_a=25℃unless otherwise specified)

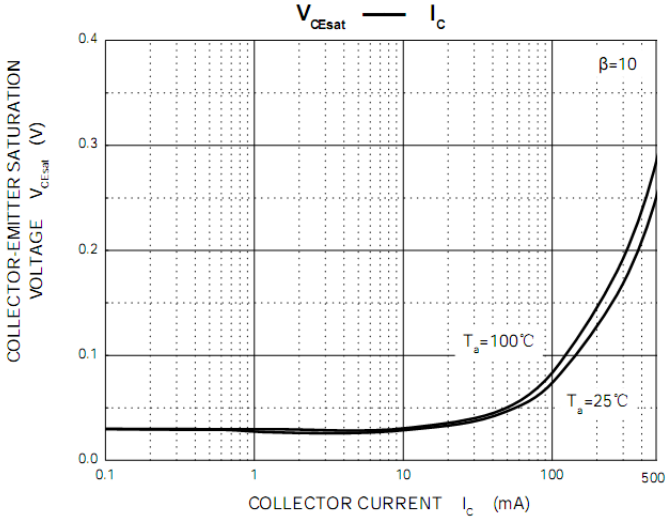
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C= 10μA, I_E=0	50			V
Collector-emitter breakdown voltage	V_{CEO}	I_C= 10mA, I_B=0	45			V
Emitter-base breakdown voltage	V_{EBO}	I_E= 1μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 45 V , I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V, I_C=0			0.1	μA
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
Base-emitter voltage	V_{BE}	V_{CE}= 1 V, I_C= 500mA			1.2	V
Collecter capactiance	C_{ob}	V_{CB}=10V ,f=1MHz		10		pF
Transition frequency	f_T	V_{CE}= 5 V, I_C= 10mA f=100MHz	100			MHz

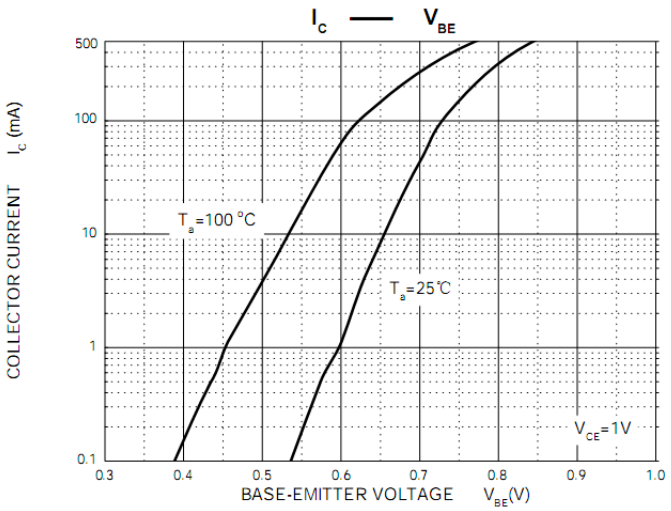
Typical Characteristics

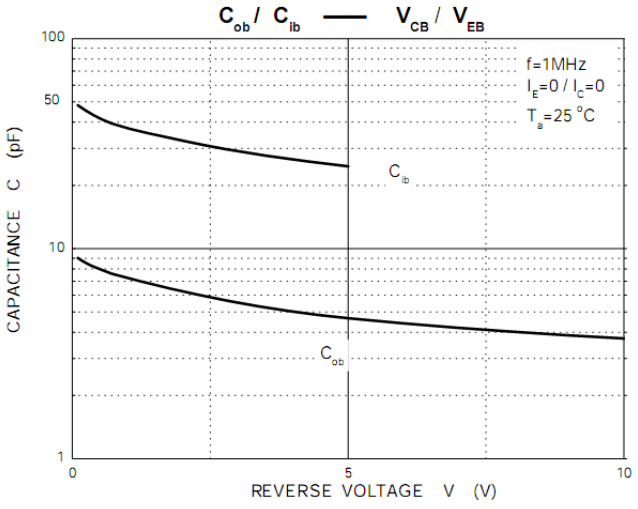


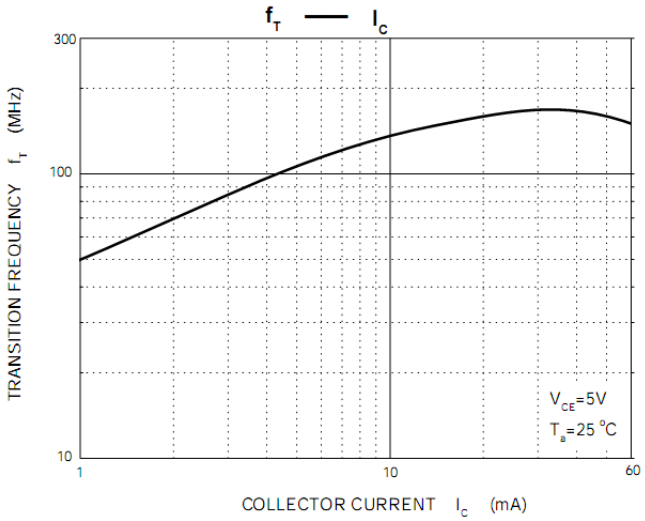


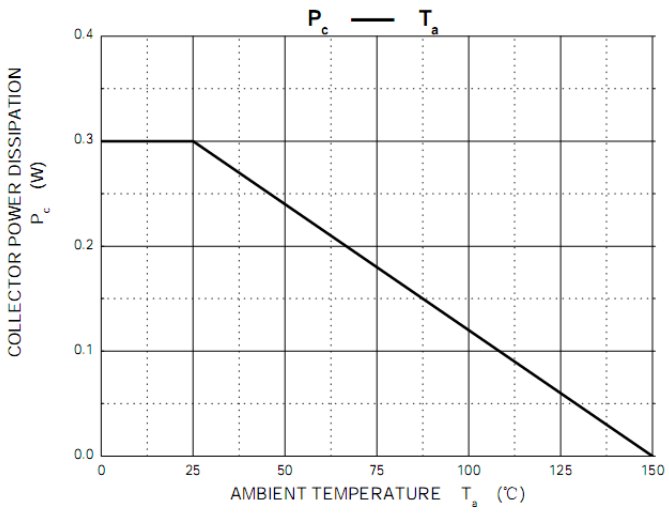

V_{BEsat} — I_C
β=10
T_a=25℃
T_a=100℃
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (V)
COLLECTOR CURRENT I_C (mA)


V_{CEsat} — I_C
β=10
T_a=100℃
T_a=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (V)
COLLECTOR CURRENT I_C (mA)

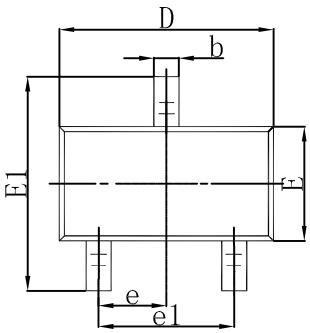

I_C — V_{BE}
T_a=100 °C
T_a=25℃
V_{CE}=1V
COLLECTOR CURRENT I_C (mA)
BASE-EMITTER VOLTAGE V_{BE}(V)

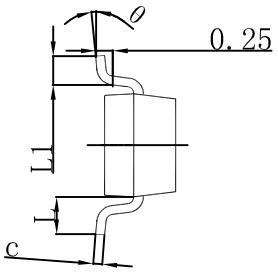

C_{ob} / C_{ib} — V_{CB} / V_{EB}
f=1MHz
I_E=0 / I_C=0
T_a=25 °C
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)

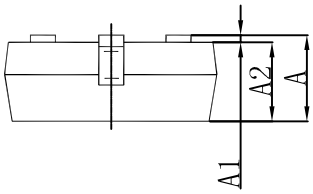

f_T — I_C
V_{CE}=5V
T_a=25 °C
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


P_c — T_a
COLLECTOR POWER DISSIPATION P_c (W)
AMBIENT TEMPERATURE T_a (℃)

SOT-23 Package Outline Dimensions

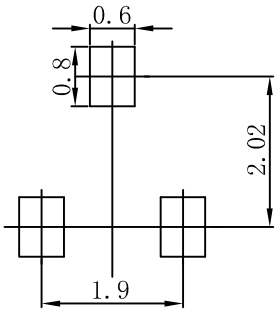






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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°

SOT-23 Suggested Pad Layout



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

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