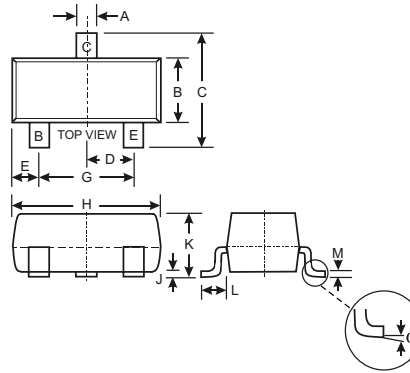


Features

- Ideally Suited for Automatic Insertion
- Epitaxial Planar Die Construction
- For Switching, AF Driver and Amplifier Applications
- Complementary PNP Types Available (BC807)
- Also Available in Lead Free Version

Mechanical Data

- Case: SOT-23, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 3
- Pin Connections: See Diagram
- Marking (See Page 3): BC817-16 6A, K6A
BC817-25 6B, K6B
BC817-40 6C, K6C
- Ordering & Date Code Information: See Page 3
- Approx. Weight: 0.008 grams



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

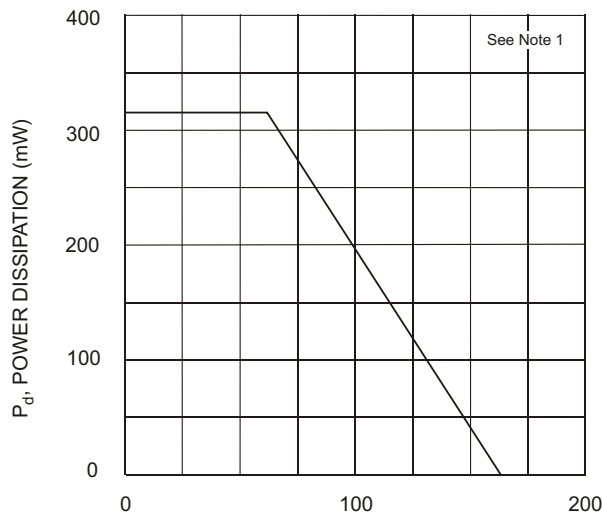
Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	45	V
Emitter-Base Voltage	V _{EB0}	5.0	V
Collector Current	I _C	800	mA
Peak Collector Current	I _{CM}	1000	mA
Peak Emitter Current	I _{EM}	1000	mA
Power Dissipation at T _{SB} = 50°C (Note 1)	P _d	310	mW
Thermal Resistance, Junction to Substrate Backside (Note 1)	R _{θSB}	320	°C/W
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	403	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

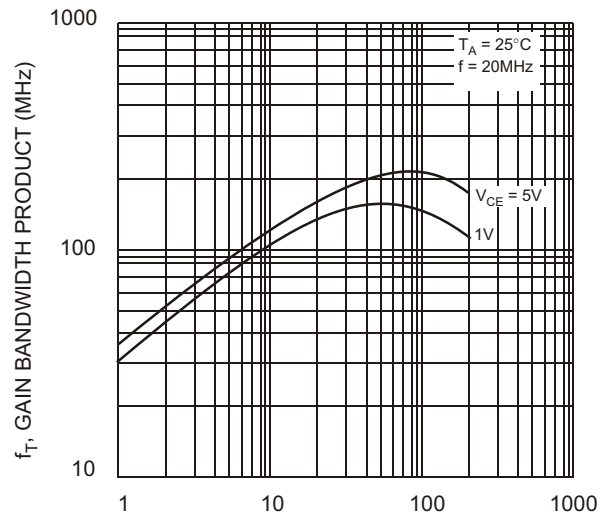
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic (Note 2)	Symbol	Min	Max	Unit	Test Condition
DC Current Gain	h _{FE}	100	250	—	V _{CE} = 1.0V, I _C = 100mA
		160	400		
		250	600		
		60	—		V _{CE} = 1.0V, I _C = 300mA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	0.7	V	I _C = 500mA, I _B = 50mA
		—	1.2	V	V _{CE} = 1.0V, I _C = 300mA
		—	100	nA	V _{CE} = 45V
Base-Emitter Voltage	V _{BE}	—	1.2	V	V _{CE} = 25V, T _j = 150°C
Collector-Emitter Cutoff Current	I _{CES}	—	100	nA	V _{EB} = 4.0V
Emitter-Base Cutoff Current	I _{EBO}	—	100	nA	
Gain Bandwidth Product	f _T	100	—	MHz	V _{CE} = 5.0V, I _C = 10mA, f = 50MHz
Collector-Base Capacitance	C _{CB0}	—	12	pF	V _{CB} = 10V, f = 1.0MHz

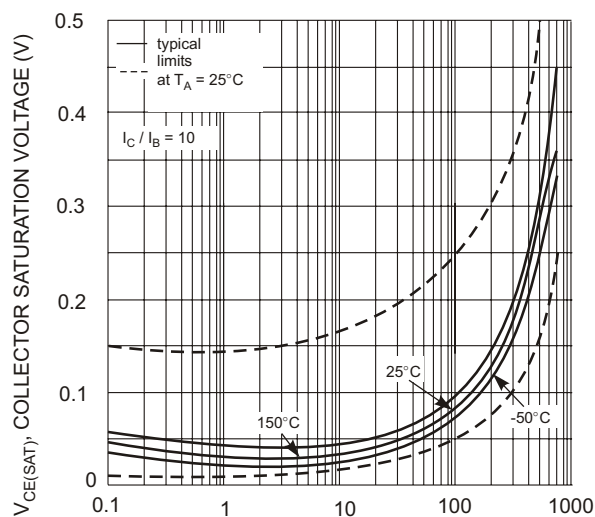
Notes: 1. Device mounted on Ceramic Substrate 0.7mm; 2.5cm² area.
2. Short duration pulse test used to minimize self-heating effect.



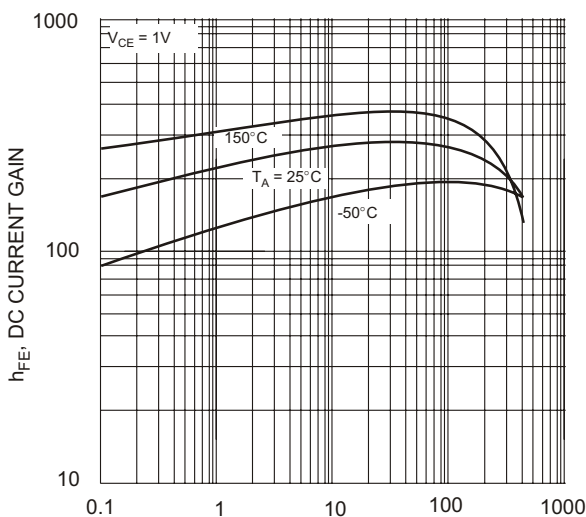
T_{SB} , SUBSTRATE TEMPERATURE ($^{\circ}C$)
Fig. 1, Power Derating Curve



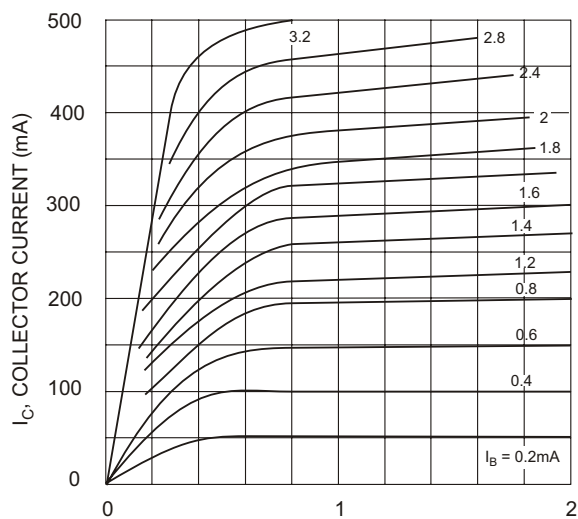
I_C , COLLECTOR CURRENT (mA)
Fig. 2, Gain-Bandwidth Product vs Collector Current



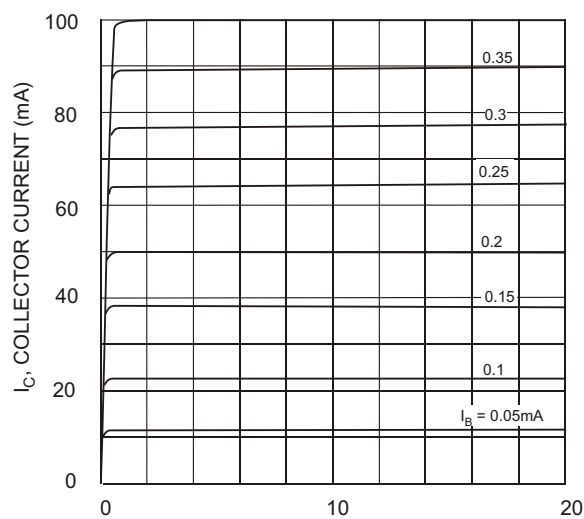
I_C , COLLECTOR CURRENT (mA)
Fig. 3, Collector Sat. Voltage vs Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 4, DC Current Gain vs Collector Current



V_{CE} , COLLECTOR-EMITTER VOLTAGE (V)
Fig. 5, Typical Emitter-Collector Characteristics



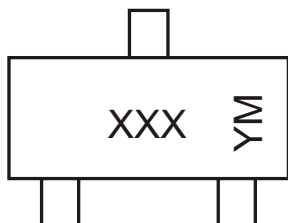
V_{CE} , COLLECTOR-EMITTER VOLTAGE (V)
Fig. 6, Typical Emitter-Collector Characteristics

Ordering Information (Note 3)

Device*	Packaging	Shipping
BC817-xx-7	SOT-23	3000/Tape & Reel

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - * xx = gain group, e.g. BC817-16-7.
 - For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
Example: BC817-16-7-F.

Marking Information



XXX = Product Type Marking Code (See Page 1), e.g. K6A = BC817-16
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	P	R

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D