

Micro Commercial Components

Features



Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311

Phone: (818) 701-4933 (818) 701-4939 Fax:

BC817-16 **THRU** BC817-40

NPN Small

Signal Transistor 310mW

Epitaxial Planar Die Construction Mechanical Data

Case: SOT-23, Molded Plastic

Moisure Sensitivity Level 1

150 C Junction Temperature

Terminals: Solderable per MIL-STD-202, Method 208

Halogen free available upon request by adding suffix "-HF" Lead Free Finish/RoHS Compliant ("P" Suffix designates

RoHS Compliant. See ordering information) Epoxy meets UL 94 V-0 flammability rating

For Switching and AF Amplifier Applications

Ideally Suited for Automatic Insertion

Polarity: See Diagram

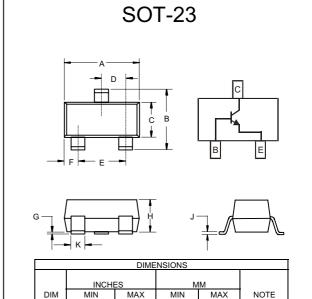
Weight: 0.008 grams (approx.) Marking: BC817-16 6A

> BC817-25 6B BC817-40 6C

Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	l c	500	mA
Peak Collector Current	I _{CM}	1000	mA
Peak Emitter Current	I _{EM}	1000	mA
Power Dissipation@T _s =50°C(Note1)	P _d	300	mW
Operating & Storage Temperature	T_{j}, T_{STG}	-55~150	°C

Note: 1. Device mounted on Ceramic Substrate 0.7mm X 2.5cm² area



Suggested Solder Pad Layout

В

C D

G

083

.047

.070 .018

.0005

.035

104

.055

.041

.024

.0039

.044 .007 2.10

1.20

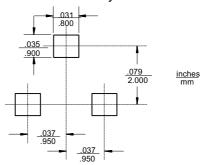
.013

2 64

1.40 1.03

.60

.100



BC817-16 thru BC817-40



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Electrical Characteristics

@25°C unless otherwise specified

Parameter	Symbol	Test conditions	Min	Тур	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 = 1μΑ, 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

CLASSIFICATION OF hFE (1)

Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600

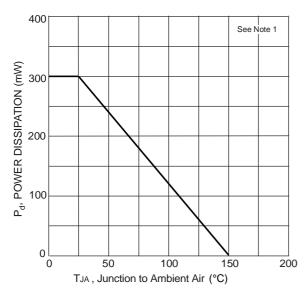


Fig. 1, Power Derating Curve

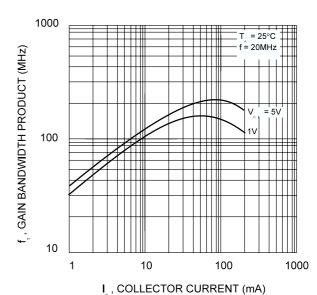
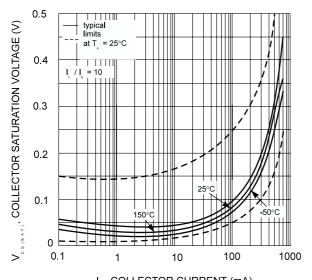


Fig. 2, Gain-Bandwidth Product vs Collector Current

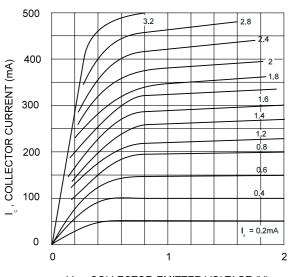
BC817-16 thru BC817-40



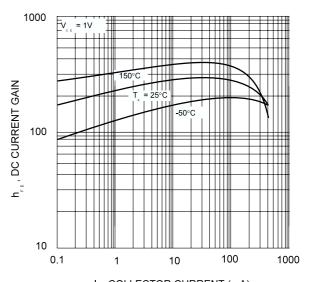
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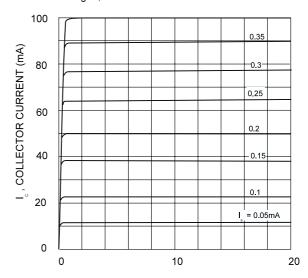
I $_{\!\!_{\circ}}$, COLLECTOR CURRENT (mA) Fig. 3, Collector Sat. Voltage vs Collector Current



 $V_{_{\circ}}$, COLLECTOR-EMITTER VOLTAGE (V) Fig. 5, Typical Emitter-Collector Characteristics



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



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



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Ordering Information:

Device	Packing
Part Number-TP	Tape&Reel 3Kpcs/Reel

Note: Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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