

Micro Commercial Components

Features



Micro Commercial Components 20736 Marilla Street Chatsworth

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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

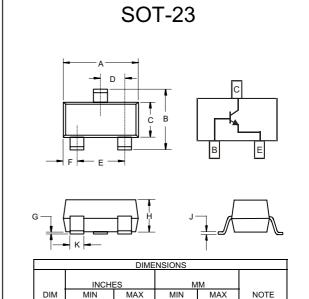
Weight: 0.008 grams (approx.) Marking: BC817-16 6A

> 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	800	mA
Peak Collector Current	I _{CM}	1000	mA
Peak Emitter Current	I _{EM}	1000	mA
Power Dissipation@T _s =50°C(Note1)	P _d	310	mW
Operating & Storage Temperature	T_{j}, T_{STG}	-55~150	°C

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



В

C D

G

083

.047

104

.055

.041

.070 .018 .024 .60 .0005 .0039 .013 .100 .035 .044 .007 Suggested Solder Pad Layout

2.10

1.20

2 64

1.40 1.03

BC817-16 thru BC817-40



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Electrical Characteristics

@25°C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
DC Current Gain	Current Gain Group -16 -25 -40 Current Gain Group -16 -25 -40	h _{FE}	100 160 250 60 100 170	250 400 600 — —	_	$V_{CE} = 1.0V, I_{C} = 100 \text{mA}$ $V_{CE} = 1.0V, I_{C} = 300 \text{mA}$
Thermal Resistance, Junction to Substrate Backside		R _{0SB}	_	323	°C/W	
Thermal Resistance, Junction	on to Ambient Air	$R_{\theta JA}$	_	403	°C/W	
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	_	0.7	V	I _C = 500mA, I _B = 50mA
Base-Emitter Voltage		V _{BE}	_	1.2	V	V _{CE} = 1.0V, I _C = 300mA
Collector-Emitter Cutoff Current		I _{CES}	_	100 5.0	nΑ μΑ	V _{CE} = 45V V _{CE} = 25V, T _j = 150°C
Emitter-Base Cutoff Current		I _{EBO}	_	100	nA	V _{EB} = 4.0V
Gain Bandwidth Product		f⊤	100		MHz	$V_{CE} = 5.0V, I_{C} = 10mA,$ f = 50MHz
Collector-Base Capacitance		Ссво	_	12	pF	V _{CB} = 10V, f = 1.0MHz

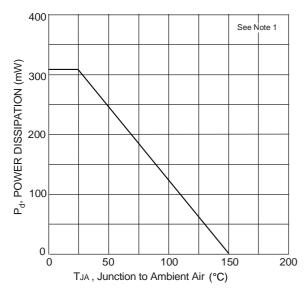


Fig. 1, Power Derating Curve

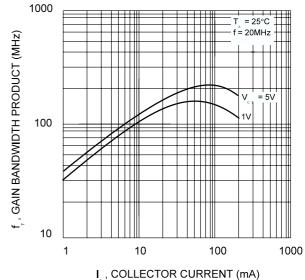


Fig. 2, Gain-Bandwidth Product vs Collector Current

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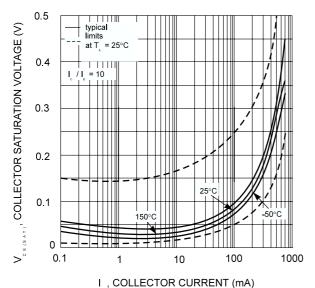
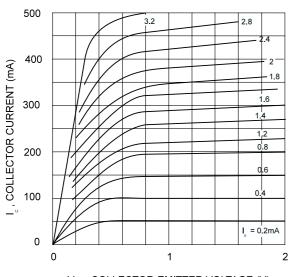
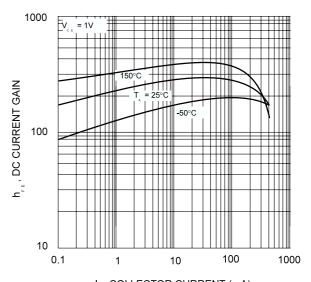


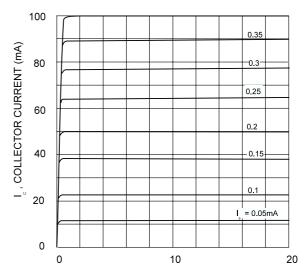
Fig. 3, Collector Sat. Voltage vs Collector Current



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



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



 $V_{_{\rm c\,E}}$, 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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