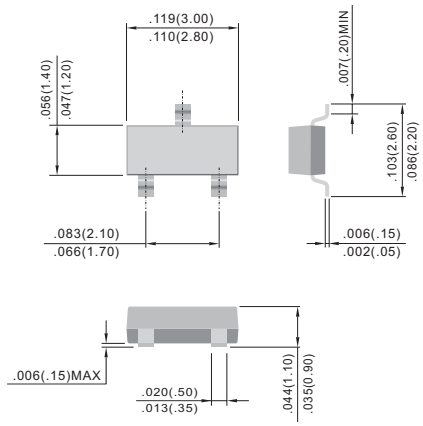
DATA SHEET

BC817 SERIES

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE	45 Volts	POWER	225 mWatts

SOT-23 Unit: inch (mm)



FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current I_C = 500mA
- Pb free product are available : 99% Sn above can meet RoHS environment substance directive request

MECHANICAL DATA

Case: SOT-23, Plastic

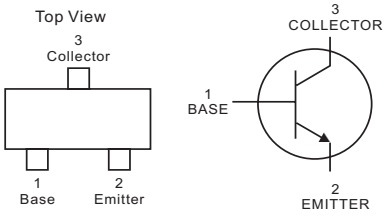
Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.008 gram

Device Marking : BC817-16 : 8A

BC817-25 : 8B

BC817-40 : 8C



MECHANICAL DATA

PARAMETER	SYMBOL	Value	UNIT
Collector-Emitter Voltage	V_{CEO}	45	v
Collector-Base Voltage	V_{CBO}	50	v
Emitter-Base Voltage	V_{EBO}	5.0	v
Collector Current - Continuous	I_C	500	mA
Max Power Dissipation (Note 1)	P_{TOT}	225	mW
Junction and Storage Temperature Range	T_J , T_{STG}	-55 to 150	^oC

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	Value	UNIT
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	$^oC/W$

Note 1 : Transistor mounted on FR-5 board 1.0x0.75x0.062 in

ELECTRICAL CHARACTERISTICS(T_J=25°C,unless otherwise notes)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage (I_C=10mA, I_B=0)	$V_{(BR)CEO}$	45	-	-	V
Collector-Emitter Breakdown Voltage (V_{EB}=0V, I_C=10uA	$V_{(BR)CES}$	50	-	-	V
Emitter-Base Breakdown Voltage (I_E=1.0uA,I_C=0)	$V_{(BR)EBO}$	5.0	-	-	V
Emitter-Base Cutoff Current (V_{EB}=5V)	I_{EBO}	-	-	100	nA
Collector-Base Cutoff Current (V_{CB}=20V,I_E=0) T_J=150°C	I_{CBO}	- -	-	100 5.0	nA uA
DC Current Gain (I_C=100mA,V_{CE}=1V) BC817-16 BC817-25 BC817-40 (I_C=500mA,V_{CE}=1V)	h_{FE}	100 160 250 40	- - - -	250 400 600 -	-
Collector-Emitter Saturation Voltage (I_C=500mA ,I_B=50mA)	$V_{CE(SAT)}$	-	-	0.7	V
Base-Emitte Voltage (I_C=500mA,V_{CE}=1.0V)	$V_{BE(ON)}$	-	-	1.2	V
Collector-Base Capacitance (V_{CB}=10v,I_E=0,f=1MHz)	C_{CBO}	-	5.0	-	pF
Current Gain-Bandwidth Product (I_C=10mA,V_{CE}=5V,f=100MHz)	f_T	100	-	-	MHz

ELECTRICAL CHARACTERISTICS CURVES

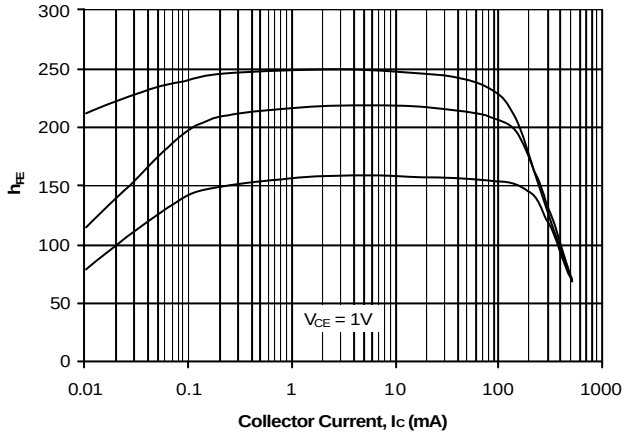


Fig. 1. BC817-16 Typical h_{FE} vs. I_C

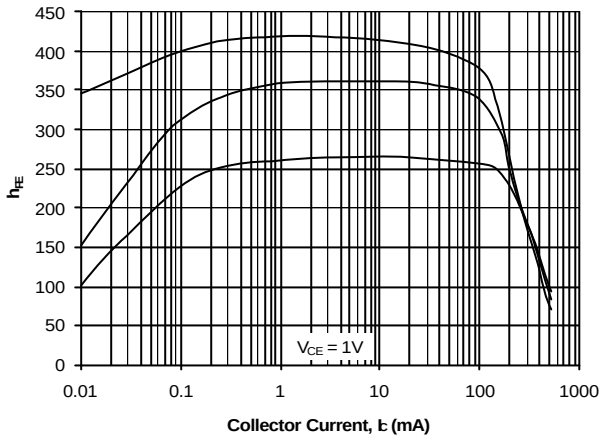


Fig. 2. BC817-25 Typical h_{FE} vs. I_C

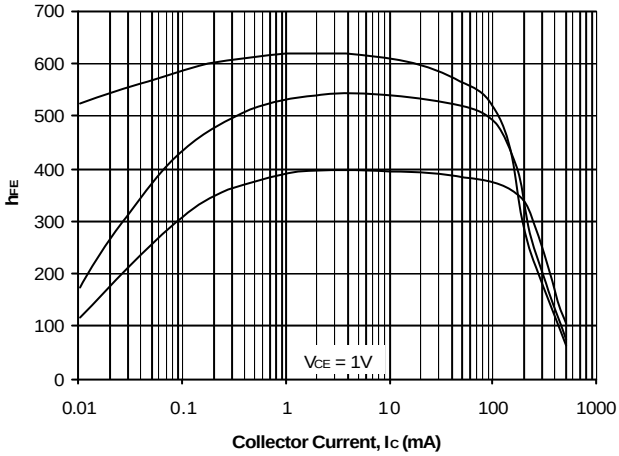


Fig. 3. BC817-40 Typical h_{FE} vs. I_C

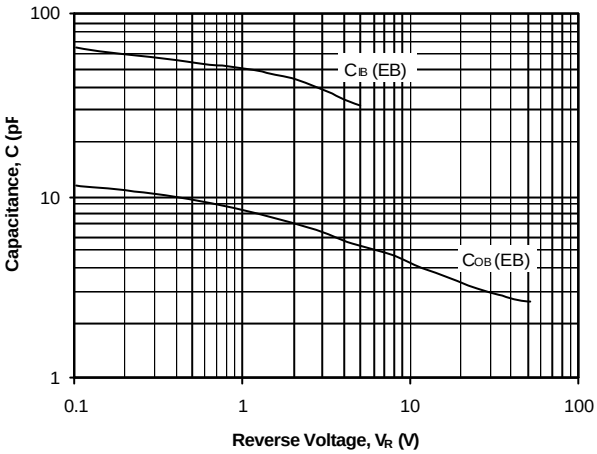
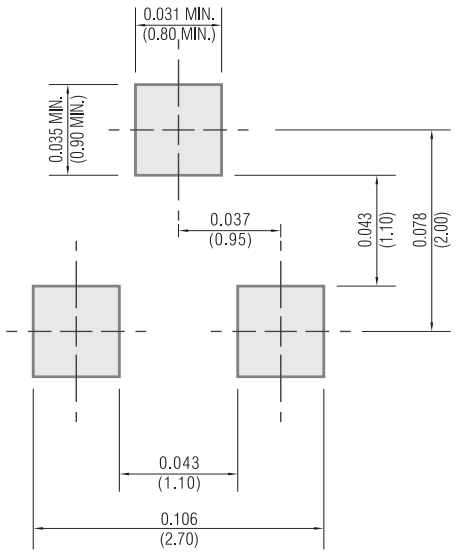


Fig. 4. Typical Capacitances

MOUNTING PAD LAYOUT

SOT-23 Unit: inch (mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

  T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

IMPORTANT NOTICE

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

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