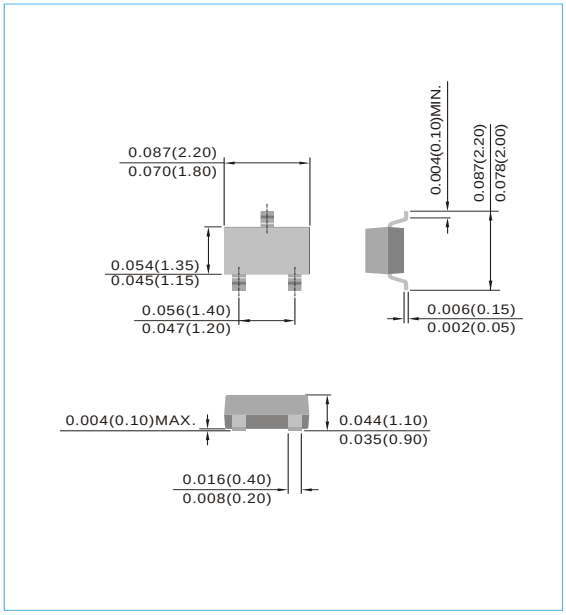
BC817-16W SERIES

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE 45 Volts **POWER** 300 mW

SOT-323 Unit : inch(mm)

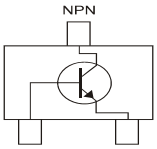


FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current I_C = 500mA
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: SOT-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.001 ounce, 0.005 gram
- Device Marking : BC817-16W : 8S
  BC817-25W : 8V
  BC817-40W : 8W



MAXIMUM RATINGS

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
Total Power Dissipation (NOTE)	P_{TOT}	300	mW
Junction and Storage Temperature Range	T_J , T_{STG}	-55 to +150	°C

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	Value	UNIT
Thermal Resistance Junction to Ambient (NOTE)	$R_{\theta JA}$	420	°C / W

NOTE : Transistor mounted on FR-5 board minimum pad mounting conditions.

BC817-16W SERIES

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

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage (Ic=10mA, IB=0)		$V_{(BR)}CEO$	45	-	-	V
Collector-Base Breakdown Voltage (V_{EB}=0V, Ic=10μA)		$V_{(BR)}CBO$	50	-	-	V
Emitter-Base Breakdown Voltage (I_E=1μA, Ic=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 =25°C T_J =150°C	I_{CBO}	- -	- -	100 5.0	nA μA
DC Current Gain (Ic=100mA, V_{CE}=1V)	BC817-16W BC817-25W BC817-40W	h_{FE}	100 160 250	- - -	250 400 600	- - -
DC Current Gain (Ic=500mA, V_{CE}=1V)			40	-	-	-
Collector-Emitter Saturation Voltage (Ic=500mA, I_B=50mA)		$V_{CE(SAT)}$	-	-	0.7	V
Base-Emitte Voltage (Ic=500mA, V_{CE}=1.0V)		$V_{BE(ON)}$	-	-	1.2	V
Collector-Base Capacitance (V_{CB}=10V, I_E=0, f=1MHz)		C_{CBO}	-	7.0	-	pF
Current Gain-Bandwidth Product (Ic=10mA, V_{CE}=5V, f=100MHz)		f_T	100	-	-	MHz

BC817-16W SERIES

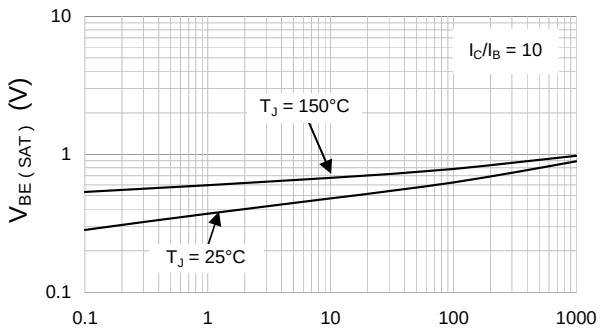


Fig.1 Base-Emitter Saturation Voltage

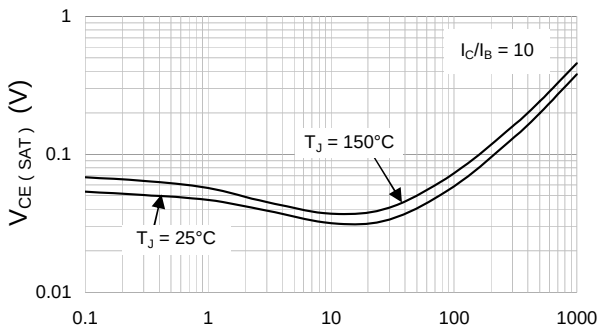


Fig.2 Collector-Emitter Saturation Voltage

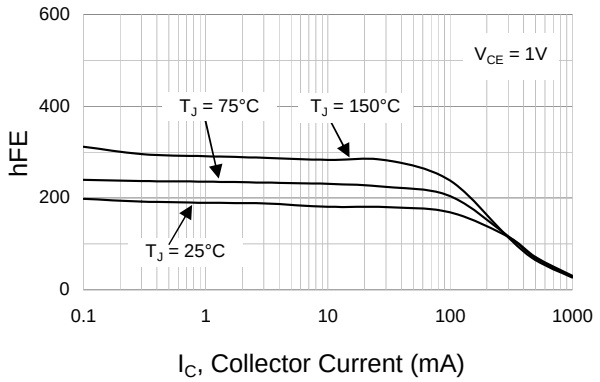


Fig.3 BC817-16W：Typical DC Current Gain

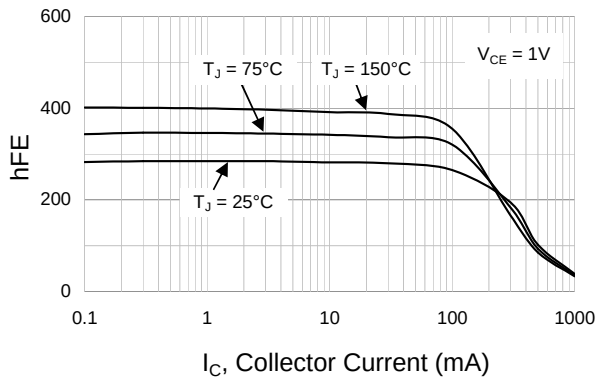


Fig.4 BC817-25W：Typical DC Current Gain

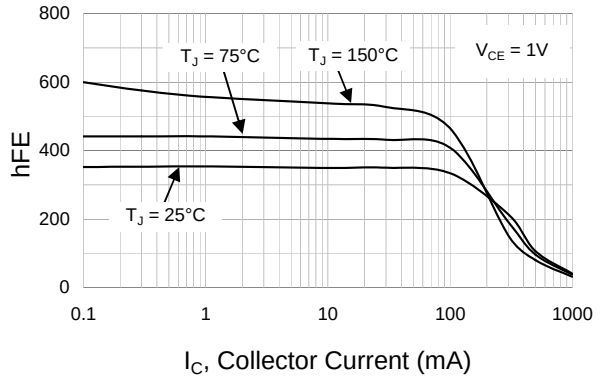


Fig.5 BC817-40W：DC Current Gain

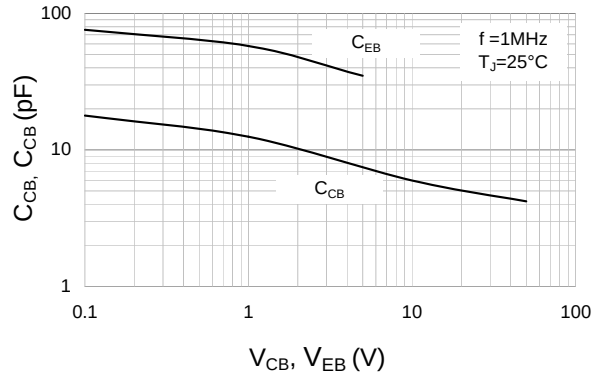
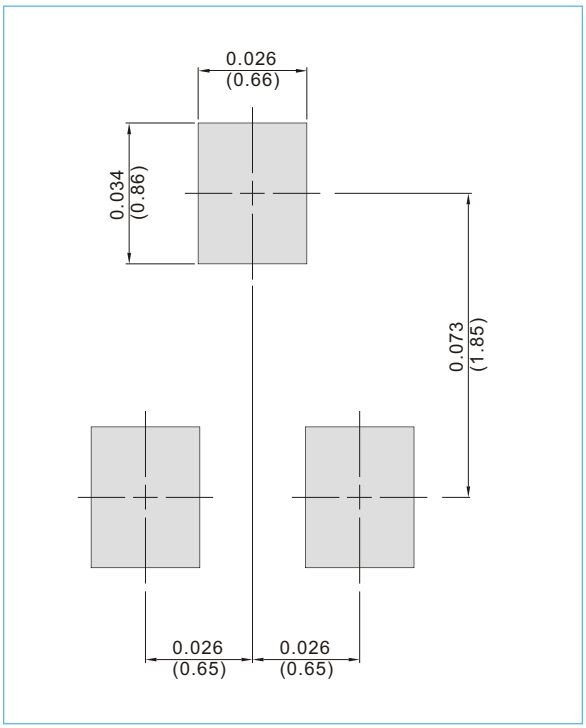


Fig.6 Typical Capacitance

BC817-16W SERIES

MOUNTING PAD LAYOUT

SOT-323 Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

  T/R - 3K per 7” plastic Reel

LEGAL STATEMENT