



BC817-16W SERIES

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE 45 Volts **POWER** 300 mW

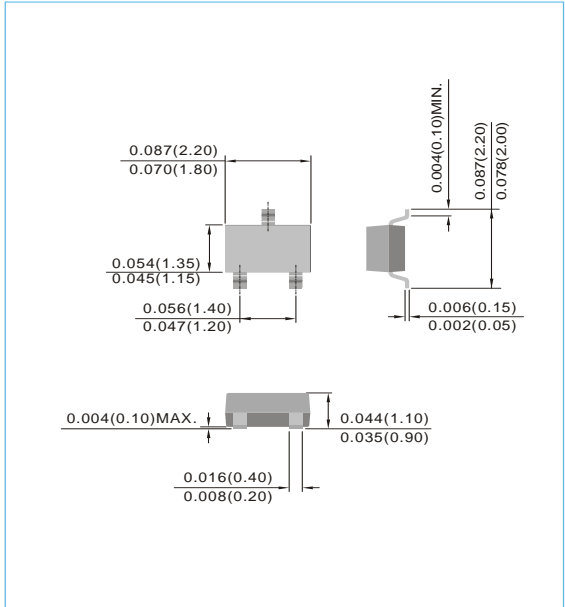
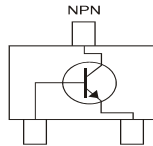
SOT-323 Unit : inch(mm)

FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current $I_C = 500\text{mA}$
- 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_{CE0}	45	V
Collector-Base Voltage	V_{CB0}	50	V
Emitter-Base Voltage	V_{EB0}	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.



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ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$, unless otherwise notes)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT				
Collector-Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_B=0$)	$V_{(BR)CEO}$	45	-	-	V				
Collector-Base Breakdown Voltage ($V_{EB}=0\text{V}$, $I_C=10\mu\text{A}$)	$V_{(BR)CBO}$	50	-	-	V				
Emitter-Base Breakdown Voltage ($I_E=1\mu\text{A}$, $I_C=0$)	$V_{(BR)EBO}$	5.0	-	-	V				
Emitter-Base Cutoff Current ($V_{EB}=5\text{V}$)	I_{EBO}	-	-	100	nA				
Collector-Base Cutoff Current ($V_{CB}=20\text{V}$, $I_E=0$)	I_{CBO}	-	-	100 5.0	nA μA				
DC Current Gain ($I_C=100\text{mA}$, $V_{CE}=1\text{V}$)	h_{FE}	100 160 250	- - -	250 400 600	- - -				
DC Current Gain ($I_C=500\text{mA}$, $V_{CE}=1\text{V}$)						40	-	-	-
Collector-Emitter Saturation Voltage ($I_C=500\text{mA}$, $I_B=50\text{mA}$)	$V_{CE(SAT)}$	-	-	0.7	V				
Base-Emitter Voltage ($I_C=500\text{mA}$, $V_{CE}=1.0\text{V}$)	$V_{BE(ON)}$	-	-	1.2	V				
Collector-Base Capacitance ($V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{CBO}	-	7.0	-	pF				
Current Gain-Bandwidth Product ($I_C=10\text{mA}$, $V_{CE}=5\text{V}$, $f=100\text{MHz}$)	f_T	100	-	-	MHz				



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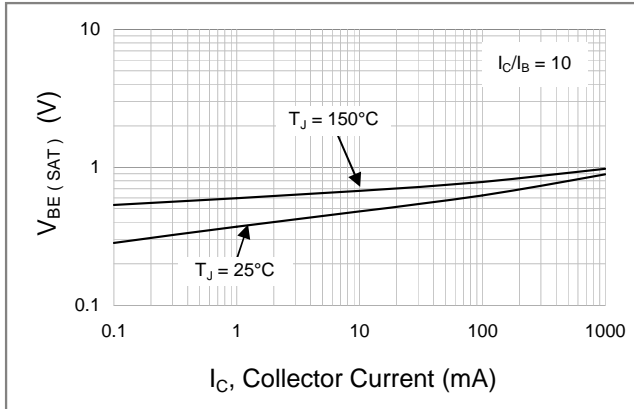


Fig.1 Base-Emitter Saturation Voltage

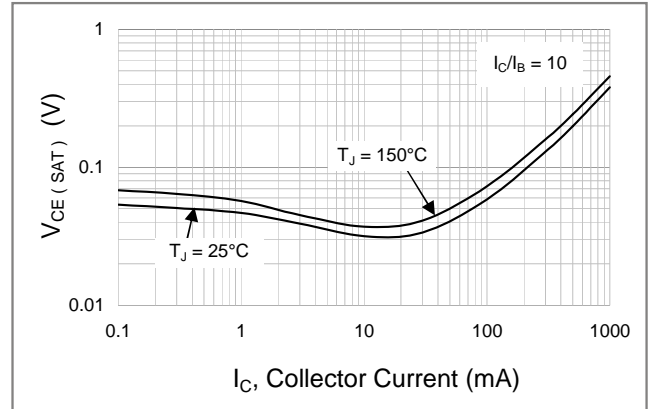


Fig.2 Collector-Emitter Saturation Voltage

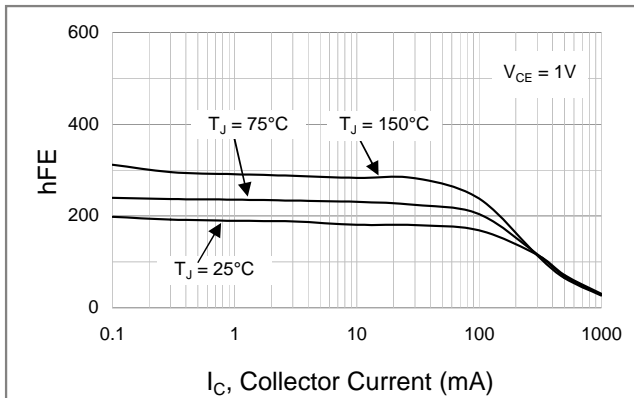


Fig.3 BC817-16W : Typical DC Current Gain

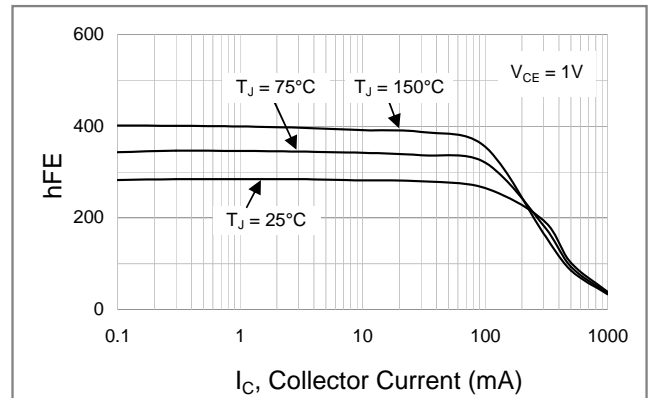


Fig.4 BC817-25W : Typical DC Current Gain

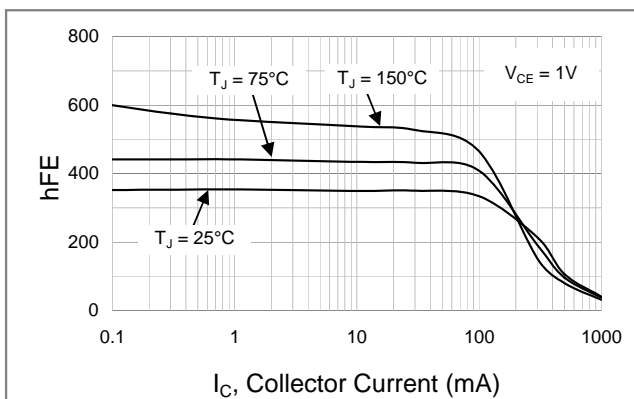


Fig.5 BC817-40W : DC Current Gain

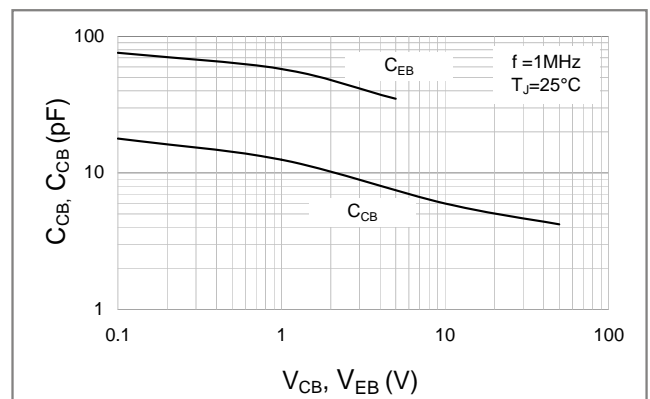
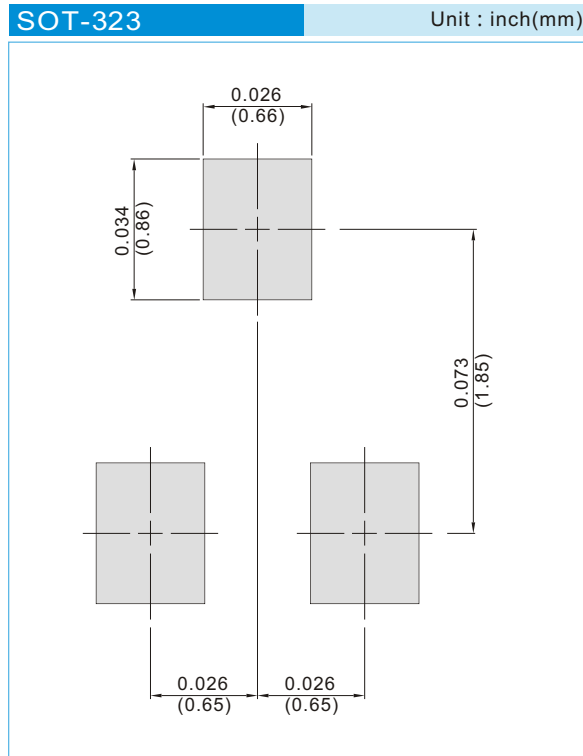


Fig.6 Typical Capacitance



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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