



# BC817-16W SERIES

## NPN GENERAL PURPOSE TRANSISTORS

**VOLTAGE** 45 Volt **POWER** 300 mW

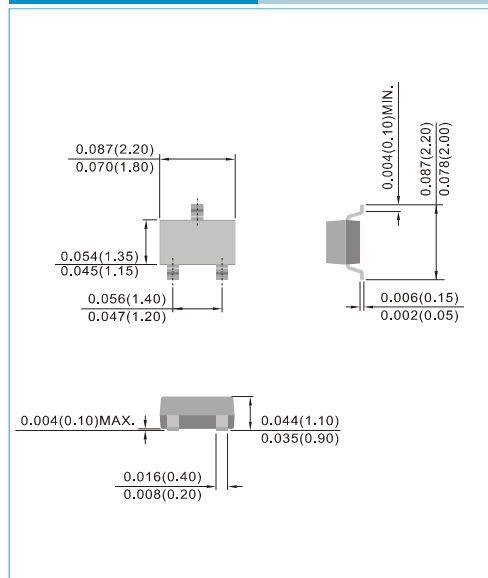
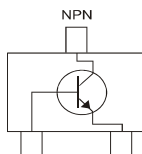
**SOT-323** Unit : inch(mm)

### FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current  $I_C = 500\text{mA}$
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case : SOT-323, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0001 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	V
Collector Current - Continuous	$I_C$	500	mA
Peak Collector Current	$I_{CM}$	1000	mA
Base Current - Peak	$I_{BM}$	200	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.



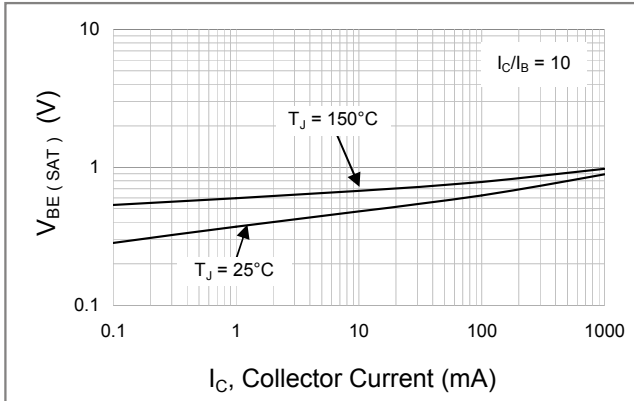
# BC817-16W SERIES

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

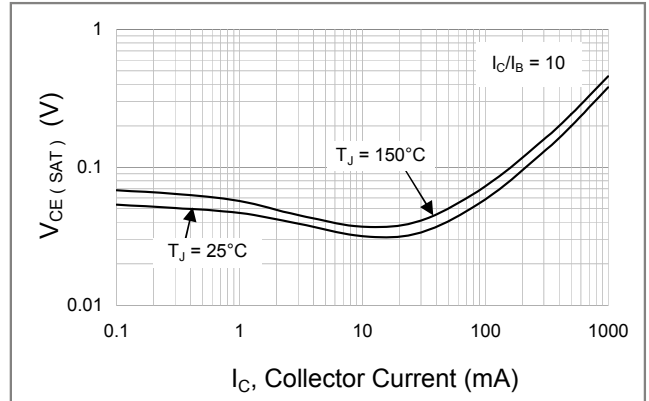
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage ( $I_C=10\text{mA}$ , $I_B=0$ )	$V_{(BR)CEO}$	45	-	-	V
Collector-Base Breakdown Voltage ( $V_{EB}=0\text{V}$ , $I_C=10\mu\text{A}$ )	$V_{(BR)CBO}$	50	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=1\mu\text{A}$ , $I_C=0$ )	$V_{(BR)EBO}$	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 $\mu\text{A}$
DC Current Gain ( $I_C=100\text{mA}$ , $V_{CE}=1\text{V}$ )	$h_{FE}$	100	-	250	-
		160	-	400	-
		250	-	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



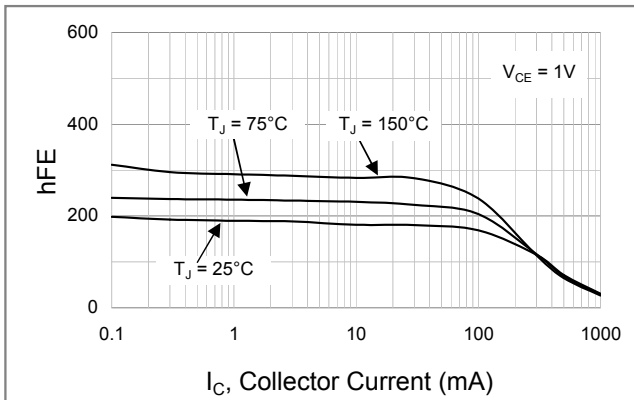
# BC817-16W SERIES



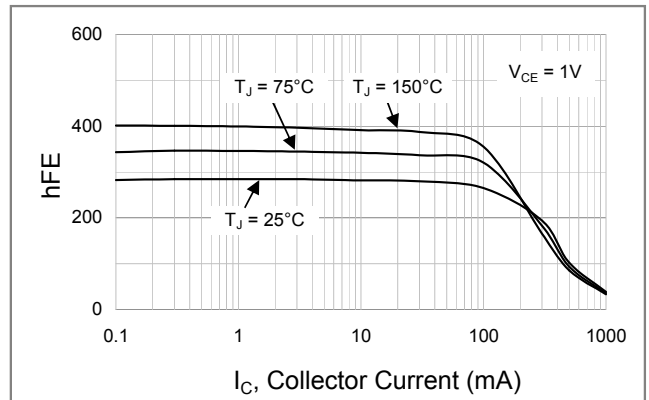
**Fig.1 Base-Emitter Saturation Voltage**



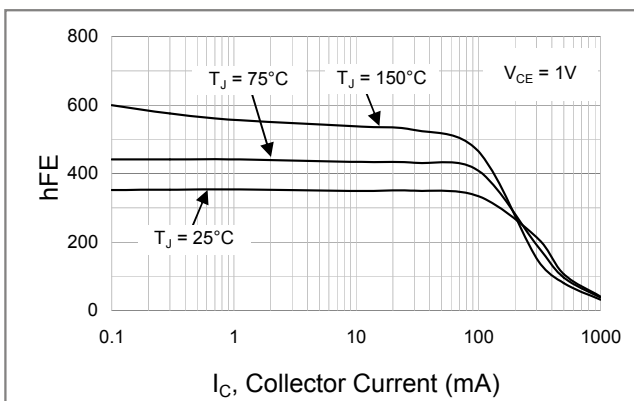
**Fig.2 Collector-Emitter Saturation Voltage**



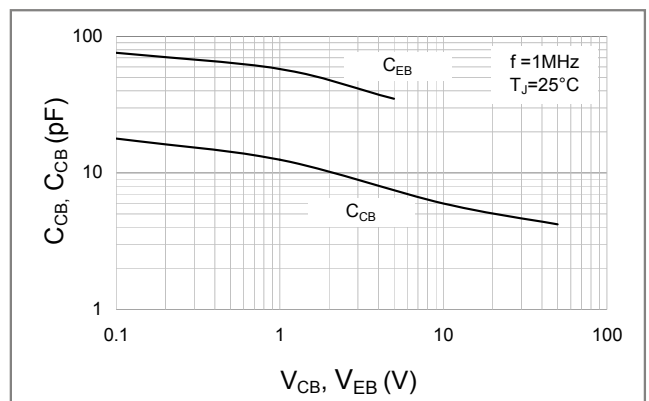
**Fig.3 BC817-16W : Typical DC Current Gain**



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



**Fig.5 BC817-40W : DC Current Gain**



**Fig.6 Typical Capacitance**

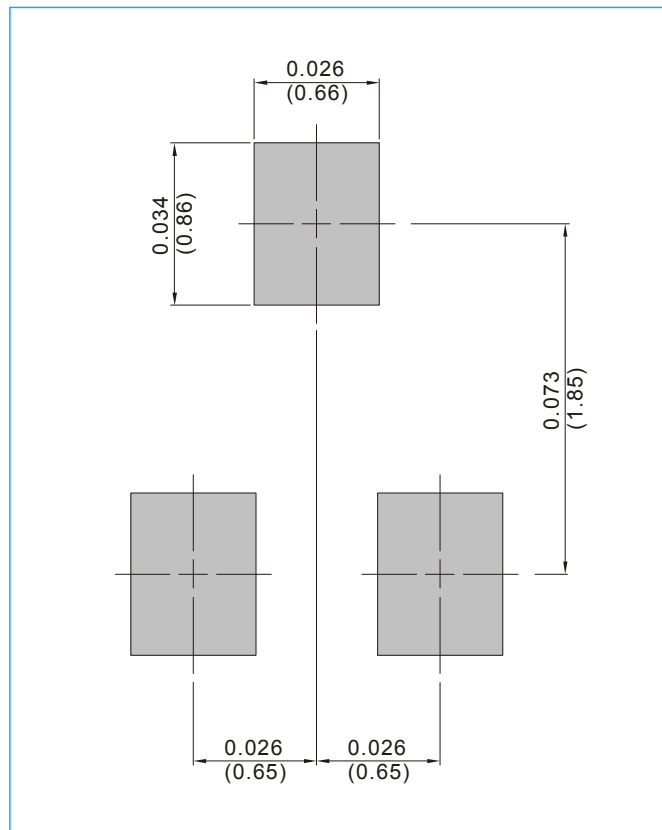


# BC817-16W SERIES

## 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



# BC817-16W SERIES

## Part No\_packing code\_Version

BC817-16W\_R1\_00001

BC817-16W\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



## BC817-16W SERIES

---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panjit:](#)

[BC817-40W\\_R1\\_00001](#) [BC817-40W\\_R1\\_10001](#) [BC817-40W\\_R2\\_00001](#) [BC817-40W\\_R2\\_10001](#)