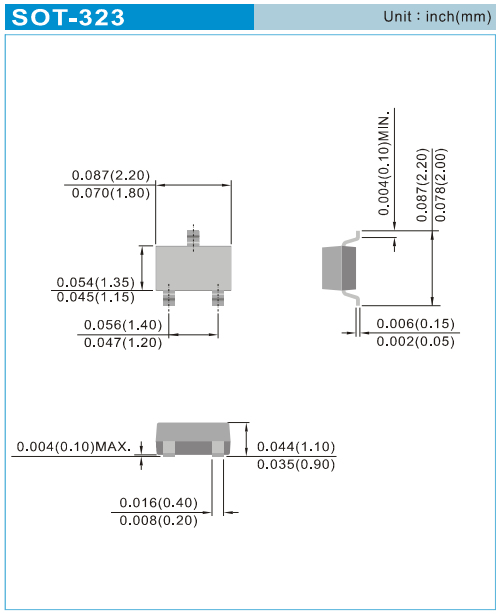
PANJIT SEMI CONDUCTOR

BC817-16W SERIES

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE	45 Volt	POWER	300 mW

SOT-323 Unit : inch(mm)

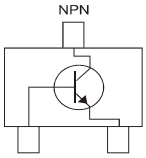


FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current I_C = 500mA
- 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_{CEO}	45	V
Collector-Base Voltage	V_{CBO}	50	V
Emitter-Base Voltage	V_{EBO}	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°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

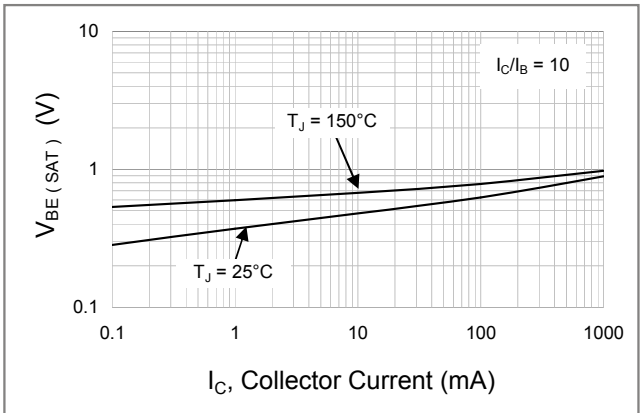


Fig.1 Base-Emitter Saturation Voltage

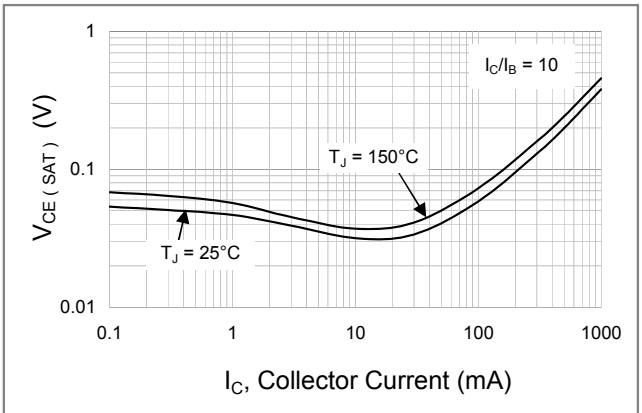


Fig.2 Collector-Emitter Saturation Voltage

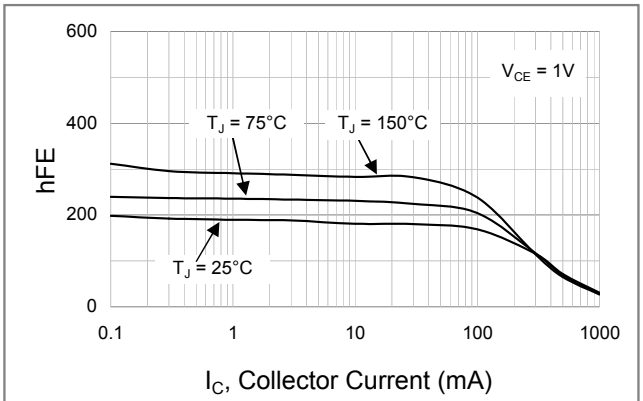


Fig.3 BC817-16W : Typical DC Current Gain

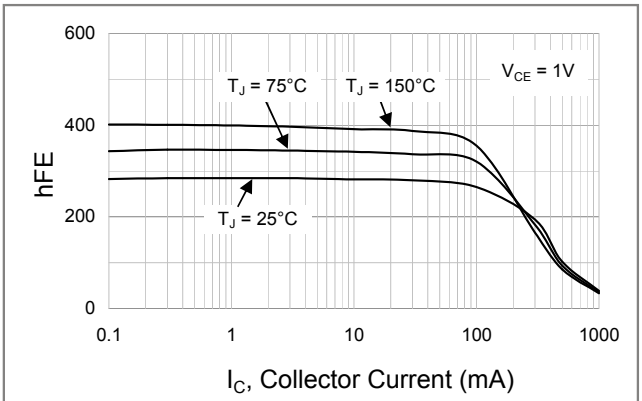


Fig.4 BC817-25W : Typical DC Current Gain

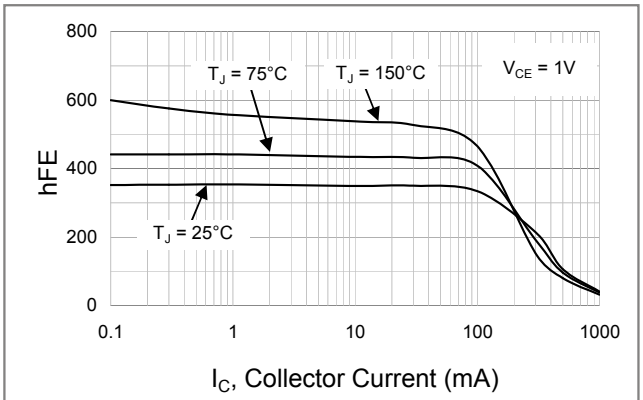


Fig.5 BC817-40W : DC Current Gain

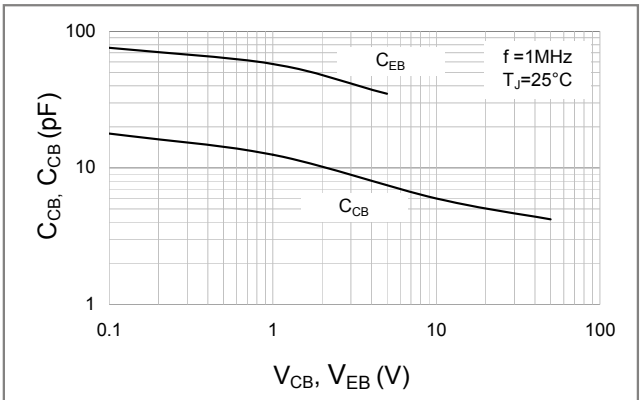


Fig.6 Typical Capacitance

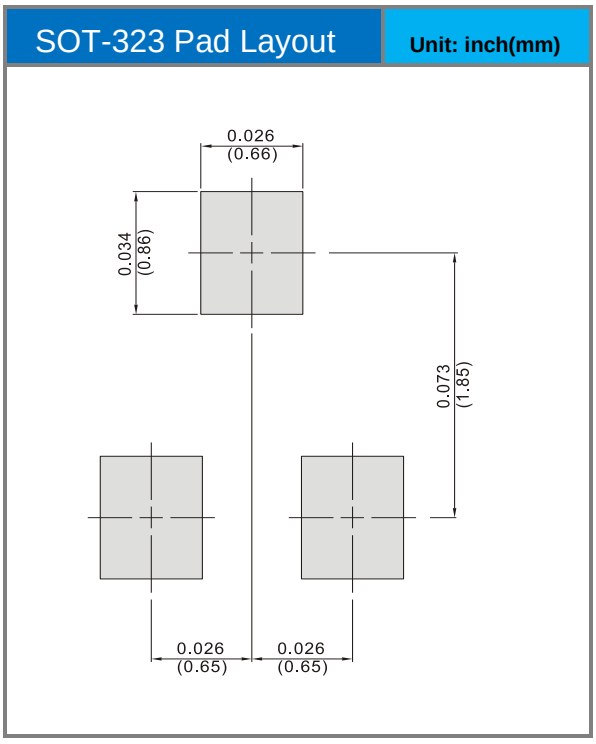
BC817-16W SERIES

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
BC817-16W	SOT-323	3K pcs / 7” reel	8S
BC817-16W	SOT-323	12K pcs / 13” reel	8S
BC817-25W	SOT-323	3K pcs / 7” reel	8V
BC817-25W	SOT-323	12K pcs / 13” reel	8V
BC817-40W	SOT-323	3K pcs / 7” reel	8W
BC817-40W	SOT-323	12K pcs / 13” reel	8W

Mounting Pad Layout

SOT-323 Pad Layout Unit: inch(mm)



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 follow PCN procedure. 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.