



# BC847CSTB6

## DUAL NPN GENERAL PURPOSE TRANSISTOR

**VOLTAGE** 45 Volts **POWER** 210 mWatts

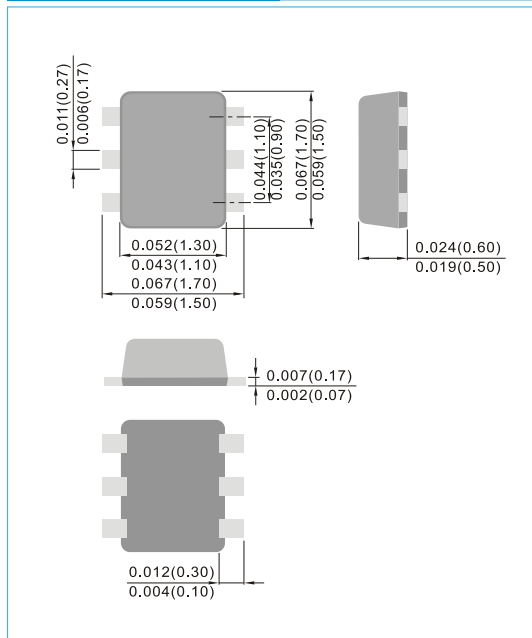
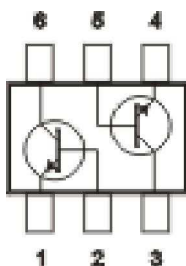
**SOT-563** Unit : inch(mm)

### FEATURES

- NPN epitaxial silicon, planar design
- Collector-emitter voltage  $V_{CE} = 45V$
- Collector current  $I_C = 100mA$
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (HalogenFree)

### MECHANICAL DATA

- Case: SOT-563, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.003 grams
- Marking: T7



### ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Collector - Emitter Voltage	$V_{CEO}$	45	V
Collector - Base Voltage	$V_{CBO}$	50	V
Emitter - Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	100	mA

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Max Power Dissipation (Note 1)	$P_{TOT}$	210	mW
Thermal Resistance , Junction to Ambient (Note 1)	$R_{\theta JA}$	590	$^{\circ}C/W$
Operating Junction Temperature and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	$^{\circ}C$

**Note**

1: Mounted on 1cm<sup>2</sup> minimum pad PCB.



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## ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	45	-	-	V
Collector - Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=10\mu A, V_{EB}=0$	50	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	50	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1.0\mu A, I_C=0$	6.0	-	-	V
Collector Cutoff Current	$I_{CEO}$	$V_{CB}=30V, I_E=0$	-	-	15	nA
DC Current Gain	$h_{FE}$	$I_C=2.0mA, V_{CE}=5.0V$	420	520	800	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5.0mA$	-	-	0.25 0.6	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5.0mA$	- -	0.7 0.9	- -	V
Base - Emitter Voltage	$V_{BE(ON)}$	$I_C=2.0mA, V_{CE}=5.0V$ $I_C=10mA, V_{CE}=5.0V$	580 -	650 -	700 770	mV
Output Capacitance	$C_{CB}$	$V_{CB}=10V, I_E=0, f=1.0MHz$	-	-	1.5	pF



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## RATING AND CHARACTERISTIC CURVES

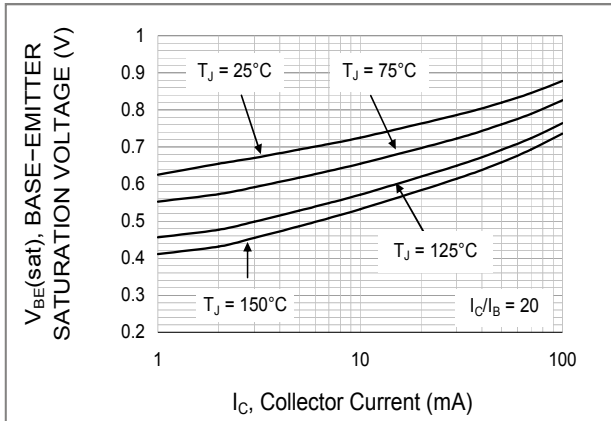


Fig.1 Base Emitter Saturation Voltage vs. Collector Current

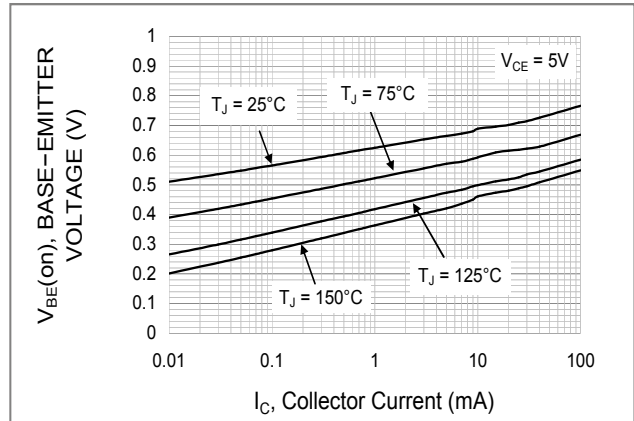


Fig.2 Base Emitter Voltage vs. Collector Current

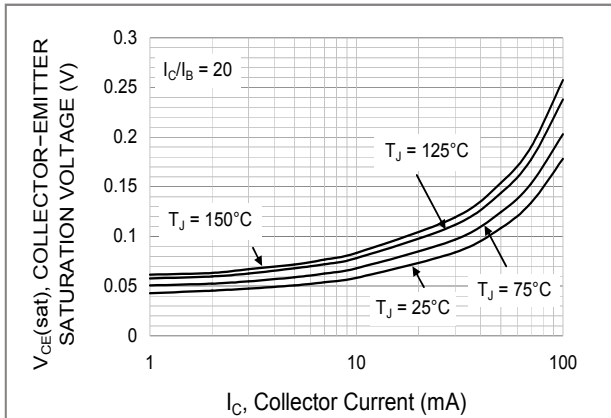


Fig.3 Collector Emitter Saturation Voltage vs. Collector Current

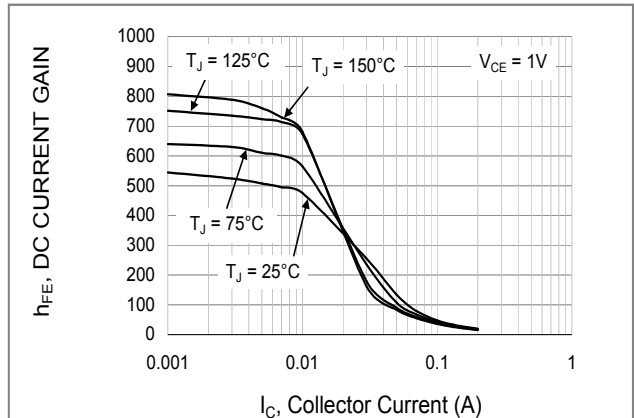


Fig.4 DC Current Gain vs. Collector Current

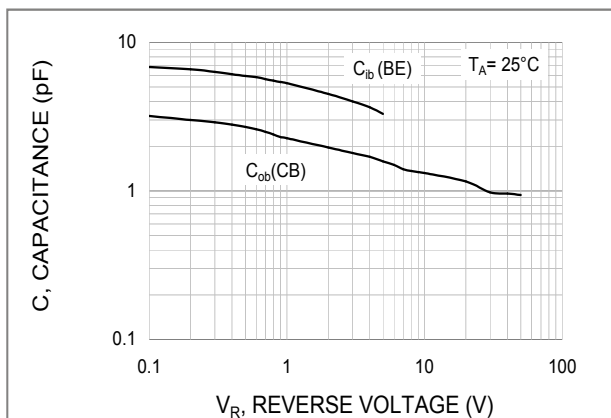
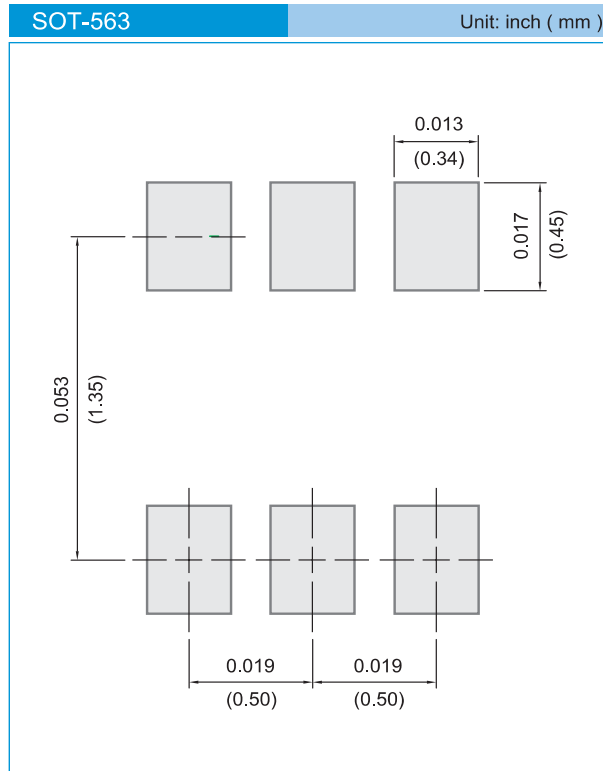


Fig.5 Typical Capacitance



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information

T/R - 4K per 7" plastic Reel

T/R - 10K per 13" plastic Reel



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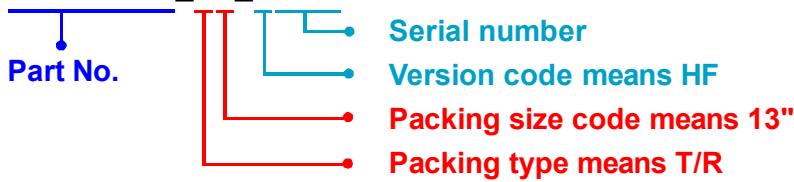
## Part No\_packing code\_Version

BC847CSTB6\_R1\_00001

BC847CSTB6\_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>			



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