



# BC857CS-AU

## GENERAL PURPOSE TRANSISTORS

**VOLTAGE** 45 Volts    **POWER** 150 mW

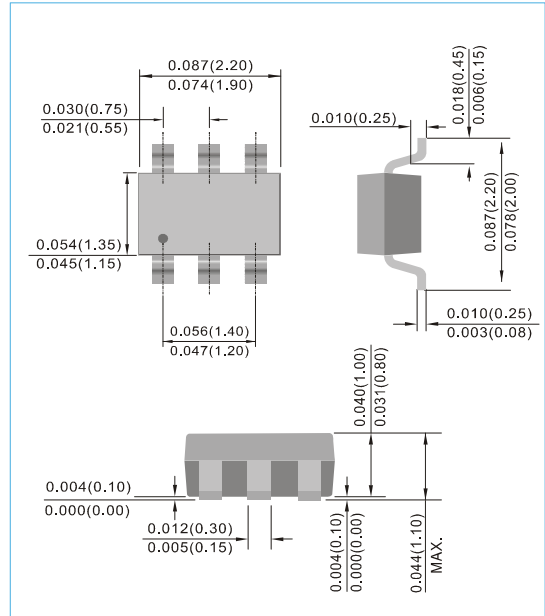
**SOT-363**    Unit : inch(mm)

### FEATURES

- General Purpose Amplifier Applications
- Collector Current IC = -100mA
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

Case : SOT-363  
 Terminals : Solderable per MIL-STD-750,Method 2026  
 Approx Weight : 0.00021 ounce, 0.006 gram  
 Marking : 57C



### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Collector-Emitter Voltage	V <sub>CEO</sub>	45	V
Collector-Base Voltage	V <sub>CBO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>C</sub>	100	mA
Max Power Dissipation (Note 1)	P <sub>TOT</sub>	225	mW
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

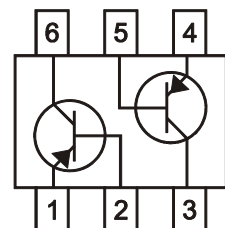


Fig.53(TOP VIEW)



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## THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}\text{C}/\text{W}$

Note 1 : Transistor mounted on FR-4 board 70 x 60 x 1mm

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

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 ( $I_C=10\mu\text{A}, I_B=0$ )	$V_{(BR)CBO}$	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 ( $V_{CE}=30\text{V}, I_E=0$ ) $T_J=150^{\circ}\text{C}$	$I_{CBO}$	-	-	15 4.0	nA $\mu\text{A}$
DC Current Gain ( $I_C=10\mu\text{A}, V_{CE}=5\text{V}$ ) ( $I_C=2.0\text{mA}, V_{CE}=5\text{V}$ )	$h_{FE}$	- 420	270 520	- 800	-
Collector-Emitter Saturation Voltage ( $I_C=10\text{mA}, I_B=0.5\text{mA}$ ) ( $I_C=100\text{mA}, I_B=5.0\text{mA}$ )	$V_{CE(SAT)}$	- -	- -	0.3 0.65	V
Base-Emitter Saturation Voltage ( $I_C=10\text{mA}, I_B=0.5\text{mA}$ ) ( $I_C=100\text{mA}, I_B=5.0\text{mA}$ )	$V_{BE(SAT)}$	- -	0.7 0.9	- -	V
Base-Emitter On Voltage ( $I_C=2.0\text{mA}, V_{CE}=5.0\text{V}$ ) ( $I_C=10\text{mA}, V_{CE}=5.0\text{V}$ )	$V_{BE(ON)}$	0.6 -	- -	0.75 0.82	V
Collector-Base Capacitance ( $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ )	$C_{CB}$	-	-	4.5	pF
Current-Gain-Bandwidth Product ( $I_C=10\text{mA}, V_{CE}=5.0\text{V}, f=100\text{MHz}$ )	$F_T$	-	200	-	MHz



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## ELECTRICAL CHARACTERISTICS CURVES

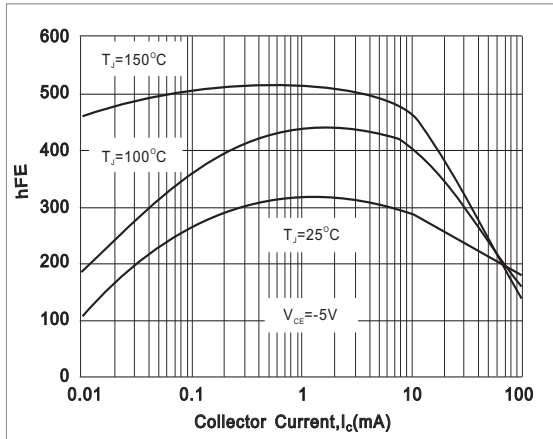


Fig.1-TYPICAL  $h_{FE}$  vs. Collector Current

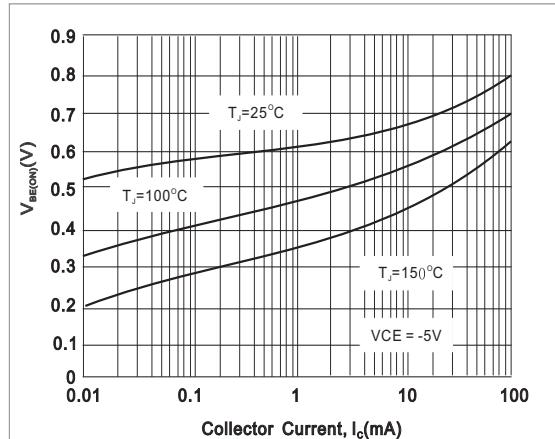


Fig.2-TYPICAL  $V_{BE(ON)}$  vs. Collector Current

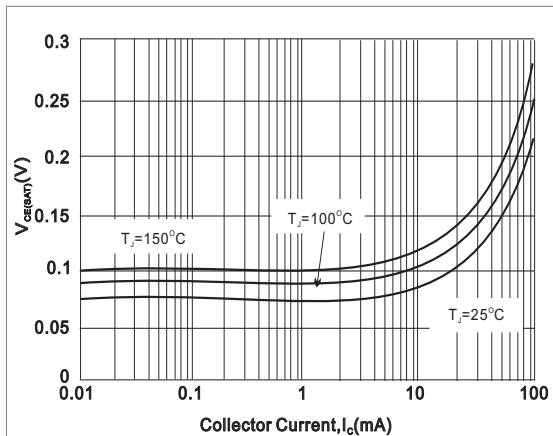


Fig.3-TYPICAL  $V_{CE(SAT)}$  vs. Collector Current

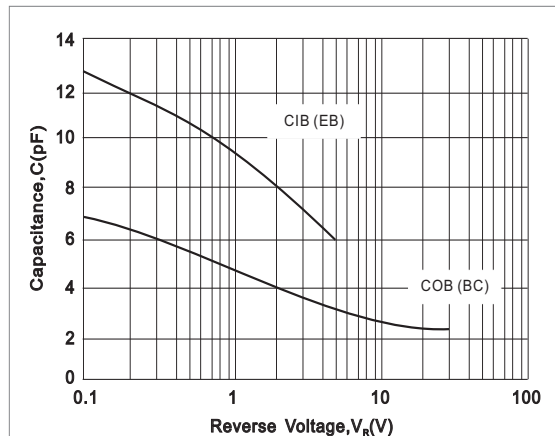


Fig.4-TYPICAL CAPACITANCES vs. REVERSE VOLTAGE

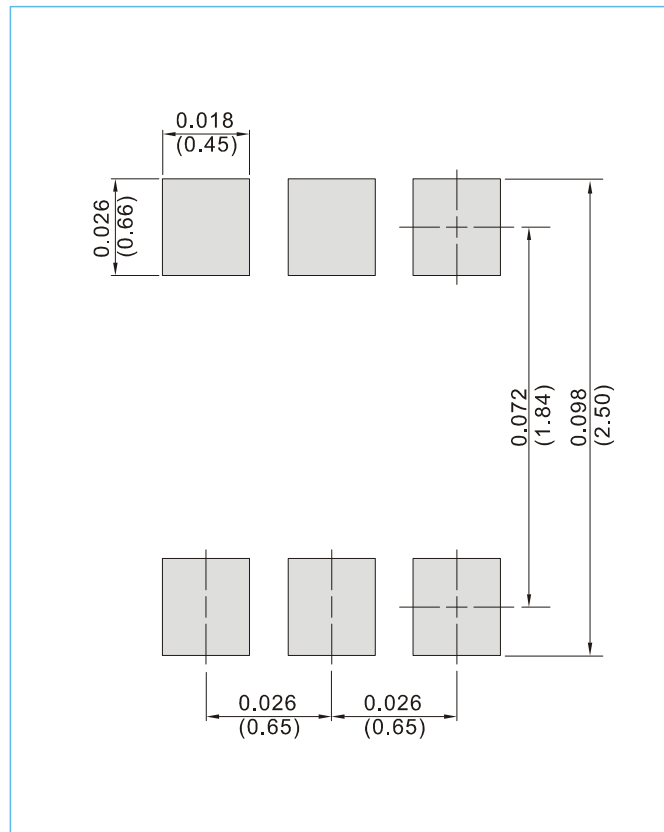


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## MOUNTING PAD LAYOUT

SOT-363

Unit : inch(mm)



## ORDER INFORMATION

- Packing information
  - T/R - 10K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel



# BC857CS-AU

## Part No\_packing code\_Version

BC857CS-AU\_R1\_000A1

BC857CS-AU\_R2\_000A1

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)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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