

# BC856, BC857, BC858 SERIES

## PNP GENERAL PURPOSE TRANSISTORS

**VOLTAGE** 30/45/65 Volt **POWER** 200 mWatt

**SOT-23**

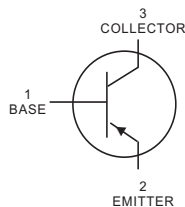
Unit:mm

### FEATURES

- For switching and AF amplifier applications
- Ideally suited for automatic insertion
- Lead free in compliance with EU RoHS

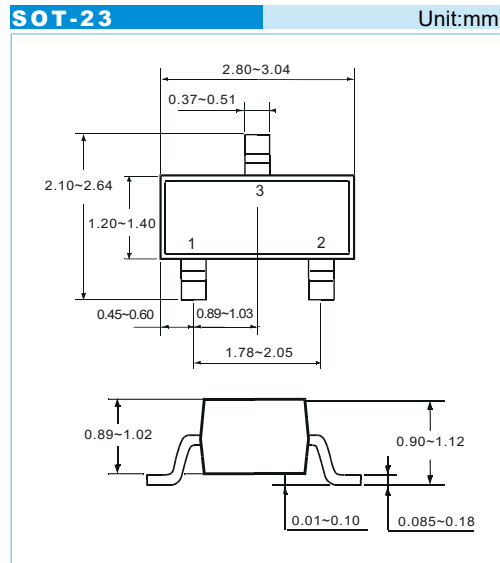
### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



### DEVICE MARKING

BC856A=3A; BC856B=3B;  
BC857A=3E; BC857B=3F; BC857C=3G;  
BC858A=3J; BC858B=3K; BC858C=3L



### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	BC856	-80
		BC857	-50
		BC858	-30
$V_{CEO}$	Collector-Emitter Voltage	BC856	-65
		BC857	-45
		BC858	-30
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current –Continuous	-0.1	A
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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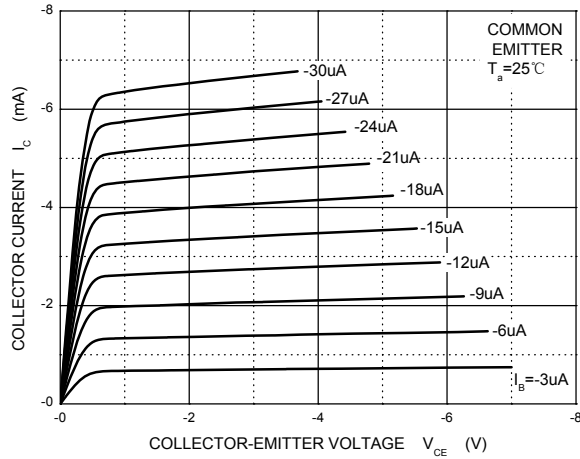
### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BC856	$I_C = -10\mu\text{A}, I_E = 0$	-80		V
	BC857		-50		
	BC858		-30		
Collector-emitter breakdown voltage	BC856	$I_C = -10\text{mA}, I_B = 0$	-65		V
	BC857		-45		
	BC858		-30		
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = -1\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	BC856	$V_{CB} = -70\text{V}, I_E = 0$			$\mu\text{A}$
	BC857		$V_{CB} = -45\text{V}, I_E = 0$	-0.1	
	BC858		$V_{CB} = -25\text{V}, I_E = 0$		
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	$\mu\text{A}$
DC current gain	BC856A,857A,858A	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	125	250	
	BC856B,857B,858B		220	475	
	BC857C,BC858C		420	800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -5\text{mA}$		-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100\text{mA}, I_B = -5\text{mA}$		-1.1	V
Transition frequency	$f_T$	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		4.5	pF

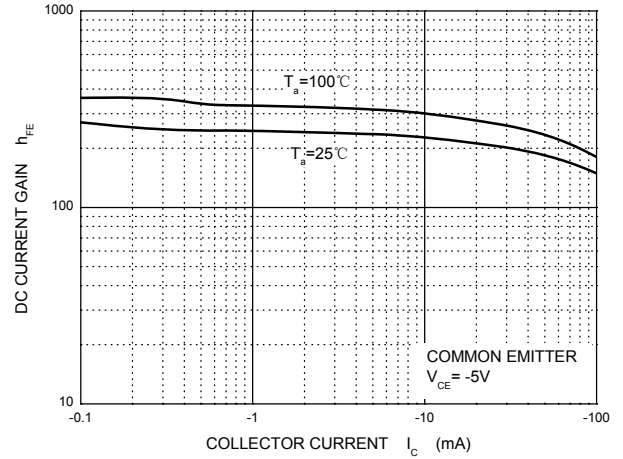
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## Typical Characteristics

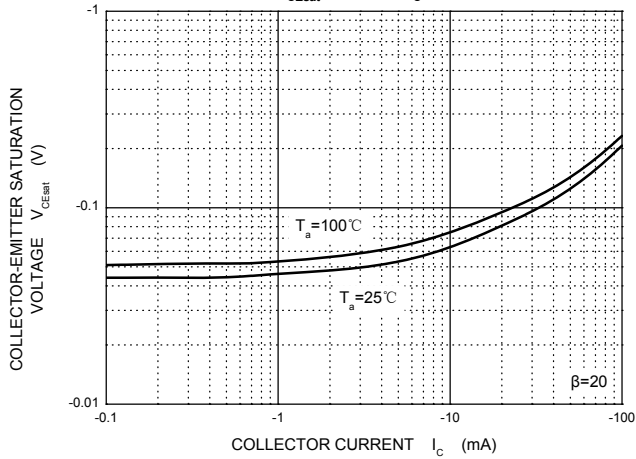
Static Characteristic



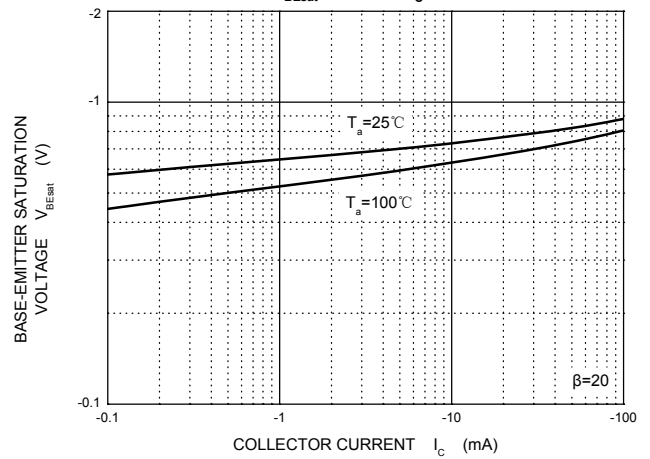
$h_{FE}$  —  $I_c$



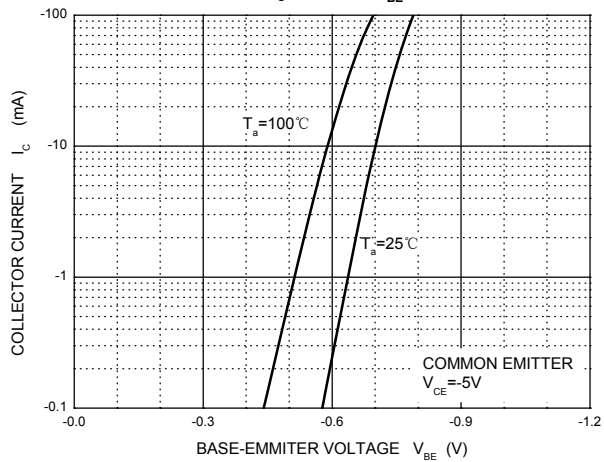
$V_{CEsat}$  —  $I_c$



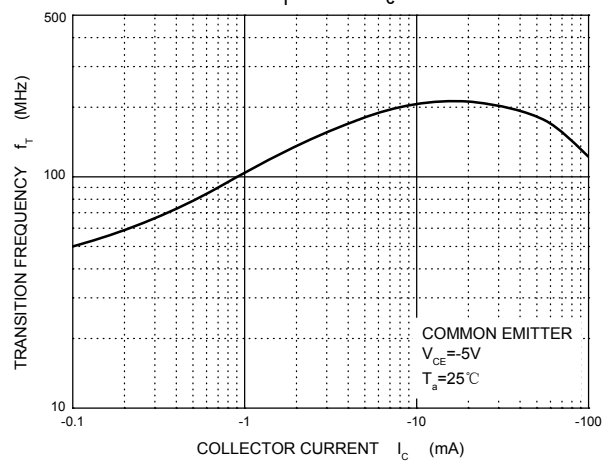
$V_{BEsat}$  —  $I_c$



$I_c$  —  $V_{BE}$

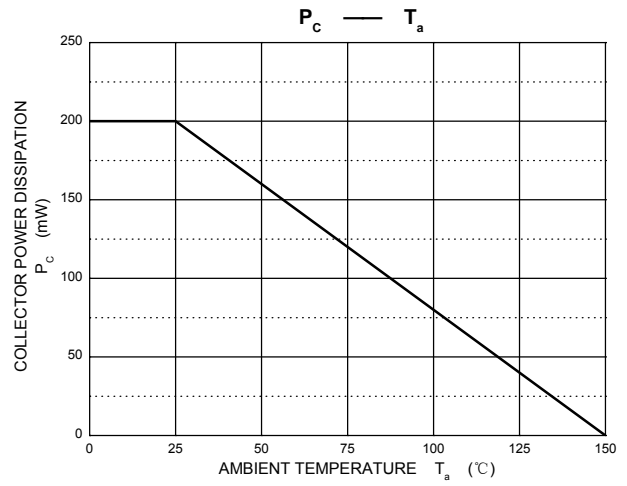
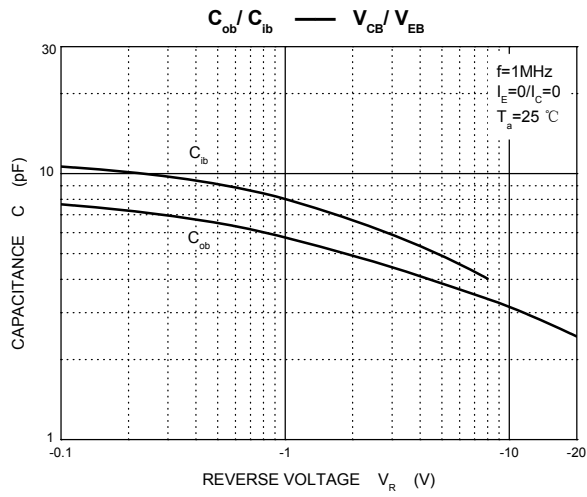


$f_T$  —  $I_c$



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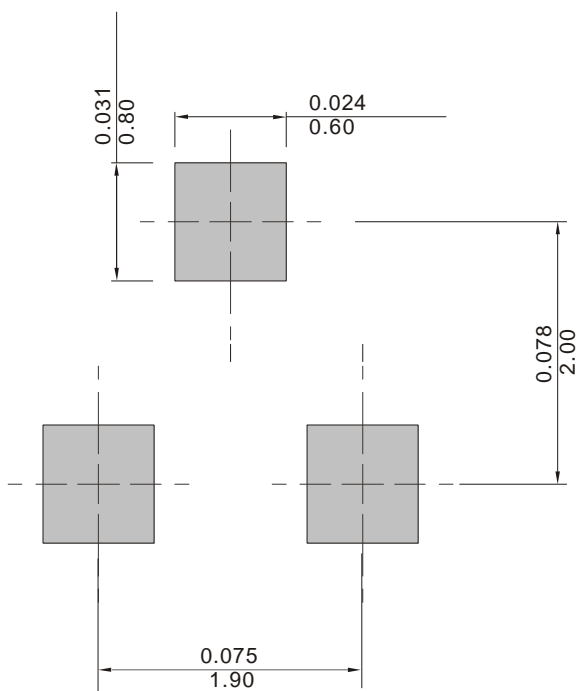


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## MOUNTING PAD LAYOUT

SOT-23

Unit:Inch(mm)



## ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
BC856,BC857,BC858 SERIES	SOT-23	7 Inch	3000