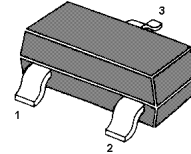


## BC846 ... BC850 NPN Silicon Epitaxial Transistor

for switching and amplifier applications

As complementary types the PNP transistors BC856...BC860 is recommended.



1.Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

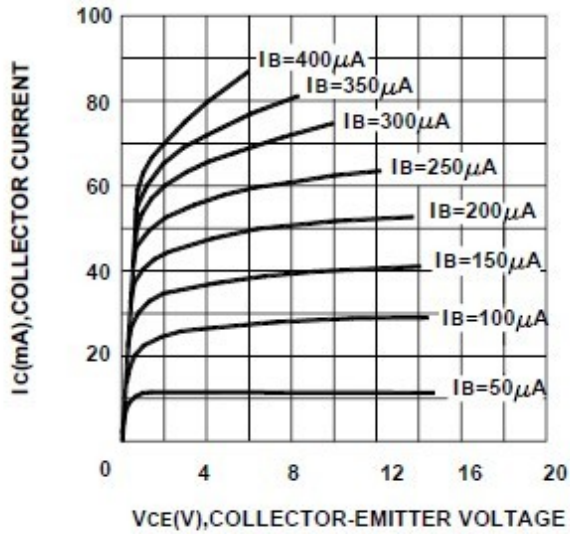
Parameter	Symbol	Value	Units	
Collector Base Voltage	BC846	$V_{CBO}$	80	V
	BC847, BC850	$V_{CBO}$	50	V
	BC848, BC849	$V_{CBO}$	30	V
Collector Emitter Voltage	BC846	$V_{CEO}$	65	V
	BC847, BC850	$V_{CEO}$	45	V
	BC848, BC849	$V_{CEO}$	30	V
Emitter Base Voltage	BC846, BC847	$V_{EBO}$	6	V
	BC848, BC849, BC850	$V_{EBO}$	5	V
Collector Current	$I_C$	100	mA	
Peak Collector Current	$I_{CM}$	200	mA	
Power Dissipation	$P_{tot}$	200	mW	
Junction Temperature	$T_J$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_S$	- 65 to + 150	$^\circ\text{C}$	

### Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

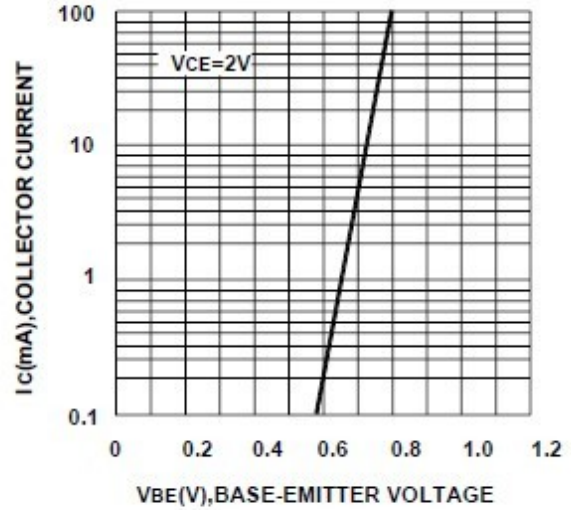
Parameter	Symbol	Min.	Typ.	Max.	Units	
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$	A	$h_{FE}$	110	-	220	-
	B	$h_{FE}$	200	-	450	-
	C	$h_{FE}$	420	-	800	-
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$ , $I_B = 5\text{ mA}$	$V_{CEsat}$	-	-	250	mV	
	$V_{CEsat}$	-	-	600	mV	
Base Emitter On Voltage at $I_C = 2\text{ mA}$ , $V_{CE} = 5\text{ V}$ at $I_C = 10\text{ mA}$ , $V_{CE} = 5\text{ V}$	$V_{BE(on)}$	580	-	700	mV	
	$V_{BE(on)}$	-	-	720	mV	
Collector Cutoff Current at $V_{CB} = 30\text{ V}$	$I_{CBO}$	-	-	15	nA	
Current Gain Bandwidth Product at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	300	-	MHz	
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	6	pF	
Input Capacitance at $V_{EB} = 0.5\text{ V}$ , $f = 1\text{ MHz}$	$C_{ib}$	-	9	-	pF	
Noise Figure at $I_C = 200\text{ }\mu\text{A}$ , $V_{CE} = 5\text{ V}$ , $R_G = 2\text{ K}\Omega$ , $f = 1\text{ KHz}$ at $I_C = 200\text{ }\mu\text{A}$ , $V_{CE} = 5\text{ V}$ , $R_G = 2\text{ K}\Omega$ , $f = 30 \sim 15\text{ KHz}$	BC846, BC847, BC848	NF	-	-	10	dB
	BC849, BC850	NF	-	-	4	dB
	BC849	NF	-	-	4	dB
	BC850	NF	-	-	3	dB



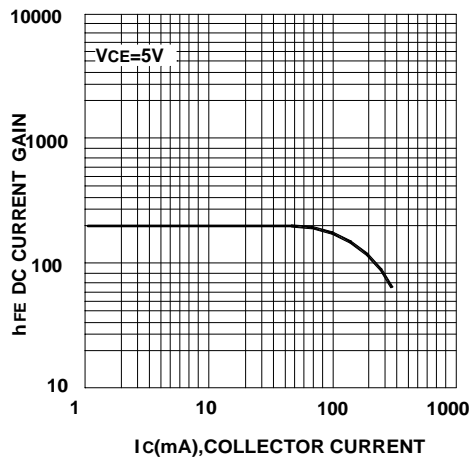
STATIC CHARACTERISTIC



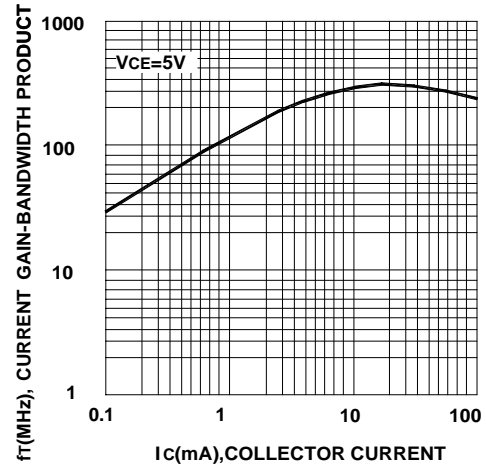
BASE-EMITTER ON VOLTAGE



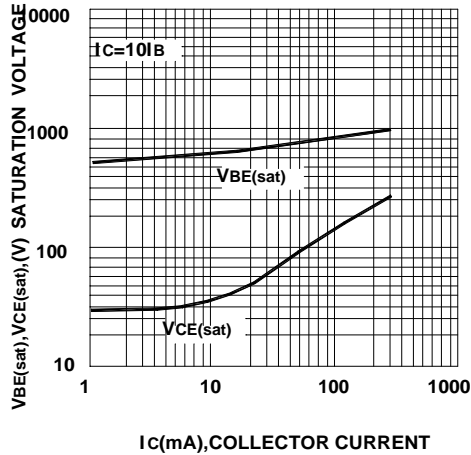
DC CURRENT GAIN



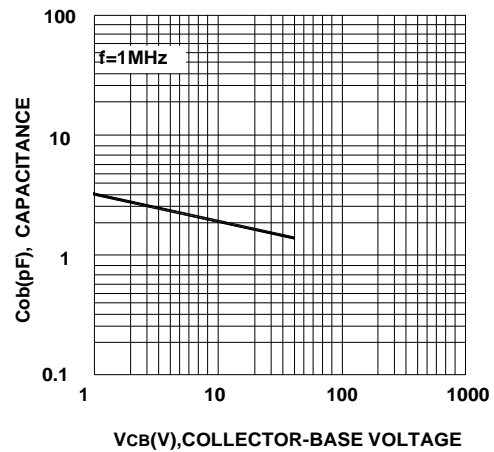
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE

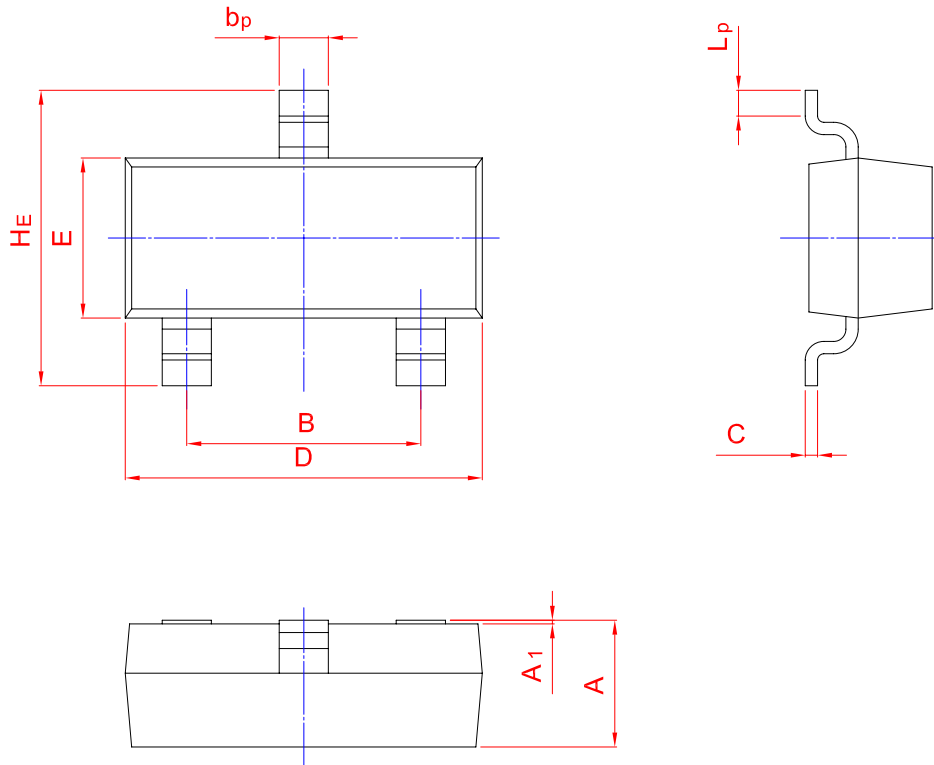
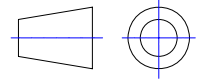




# PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Bipolar Transistors - BJT category](#):*

*Click to view products by [Hong Kong Chuangji manufacturer](#):*

Other Similar products are found below :

[BC559C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [IMX9T110](#) [2N4401-A](#) [2N4403](#) [2N6728](#)  
[2SA1419T-TD-H](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SC4618TLN](#) [CPH6501-](#)  
[TL-E](#) [MCH4021-TL-E](#) [Jantx2N5416](#) [US6T6TR](#) [BAX18/A52R](#) [BC556/112](#) [IMZ2AT108](#) [MMST8098T146](#) [UMX21NTR](#) [MCH6102-TL-E](#)  
[TTA1452B,S4X\(S](#) [2N3879](#) [NTE13](#) [NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [JANTX2N2920L](#) [JANTX2N3735](#) [JANSR2N2222AUB](#)  
[CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#)  
[MMDT3946FL3-7](#) [2N4240](#) [JANS2N3019](#) [MSB30KH-13](#) [2N2221AUB](#)