

BC846 Thru BC848

Rev-1.1

SuperTransistor – V_{CBO} 30~80V, I_c 100mA SOT-23 Plastic-Encapsulate NPN Transistors

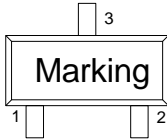
1. Features

- Complementary to BC856/ BC857/ BC858
- Power dissipation of 200mW
- Ideally suited for automatic insertion

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Pin configuration

Pin		Function		Outline				
1		Base						
2		Emitter						
3		Collector						
Part number	BC846A	BC847A	BC848A	BC846B	BC847B	BC848B	BC847C	BC848C
Marking	1A	1E	1J	1B	1F	1K	1G	1L

4. Specification

Absolute Maximum Rating & Thermal Characteristics

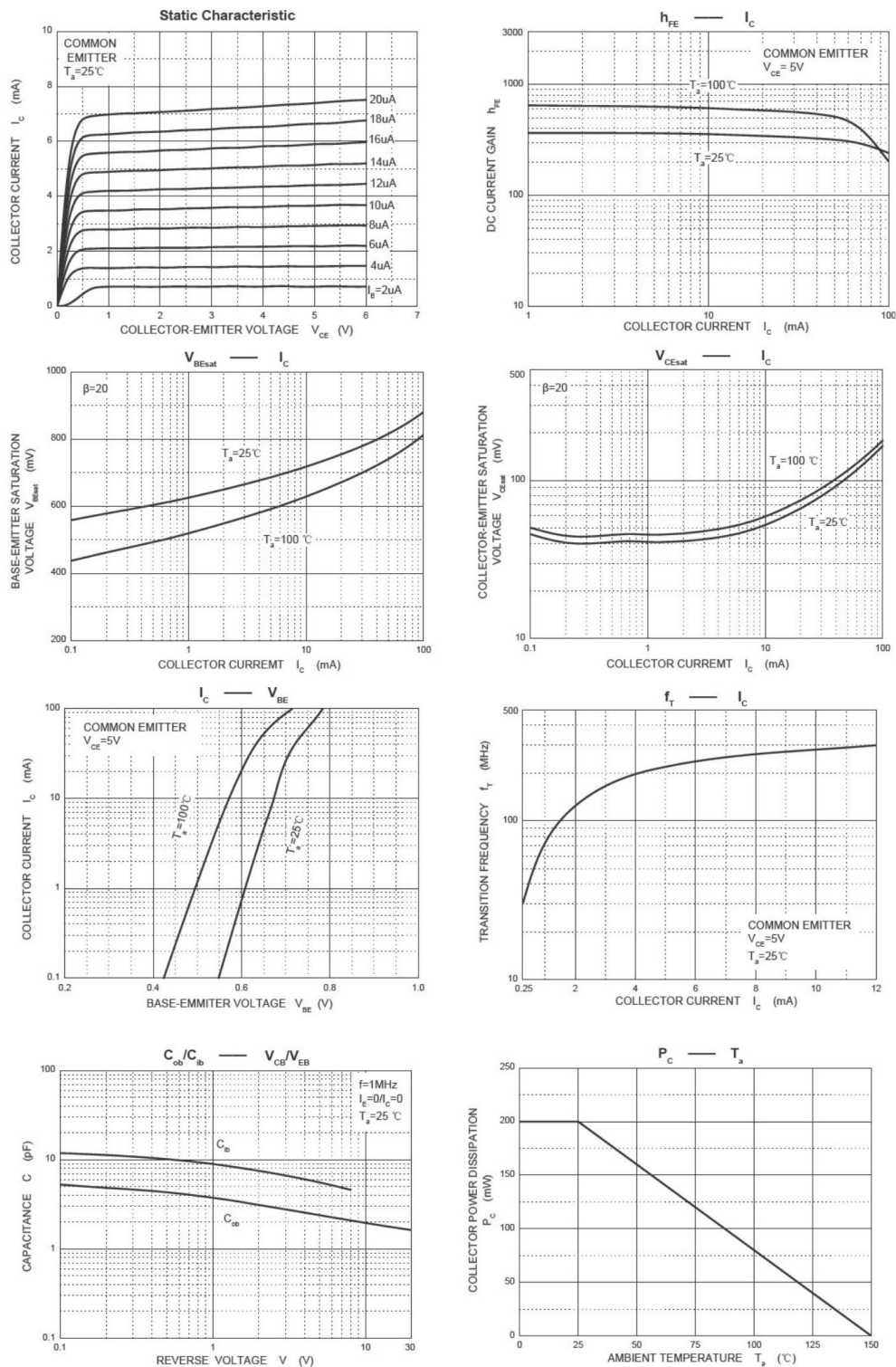
Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol		Value	Unit
Collector-Base Voltage	V_{CBO}	BC846	80	V
		BC847	50	
		BC848	30	
Collector-Emitter Voltage	V_{CEO}	BC846	65	V
		BC847	45	
		BC848	30	
Emitter-Base Voltage	V_{EBO}		6	V
Collector Current-Continuous	I_c		100	mA
Collector Power Dissipation	P_c		200	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{STG}		-55~150	°C
Thermal resistance from junction to ambient	$R_{\theta JA}$		625	°C/W

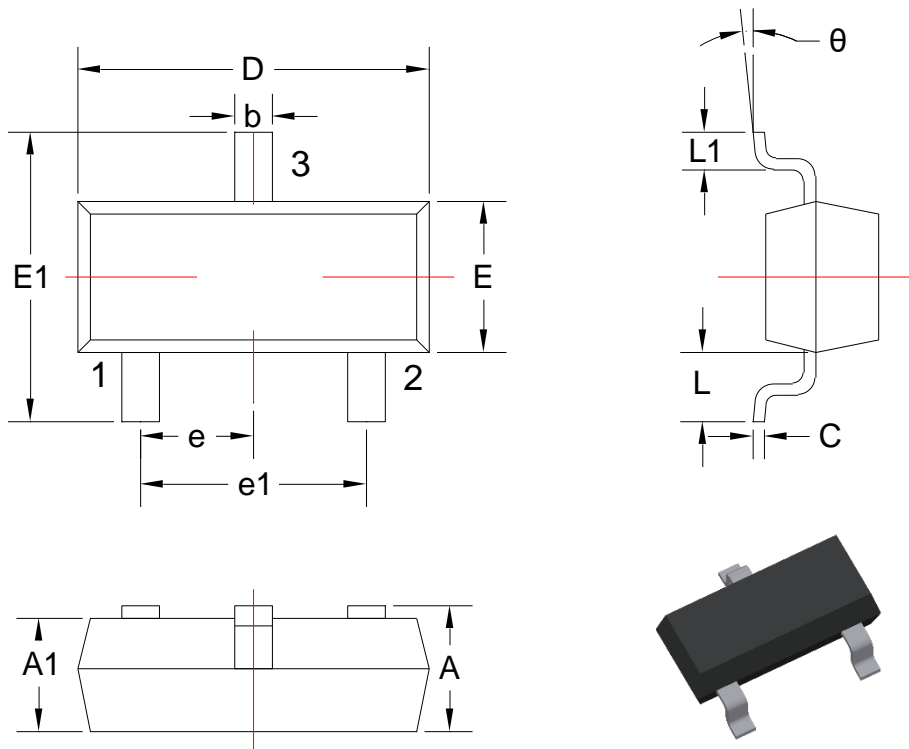
Electrical Characteristics (At TA = 25°C unless otherwise specified)

Parameters	Symbols	Test Condition	Limits				
			Min	Typ	Max	Unit	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	BC846	80			V
			BC847	50			
			BC848	30			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	BC846	65			V
			BC847	45			
			BC848	30			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$		6			V
Collector cut-off current	I_{CBO}	$V_{CB}=70V, I_E=0$	BC846			100	nA
		$V_{CB}=50V, I_E=0$	BC847				
		$V_{CB}=30V, I_E=0$	BC848				
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$				100	nA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=2mA$	BC846/7/8A	110		220	
			BC846/7/8B	200		450	
			BC847/8C	420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$				0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$				1.10	V
Collector output capacitance	C_{OB}	$V_{CB}=10V, f=1MHz$				4.5	pF
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA,$ $f=100MHz$		100			MHz

5. Typical Characteristic

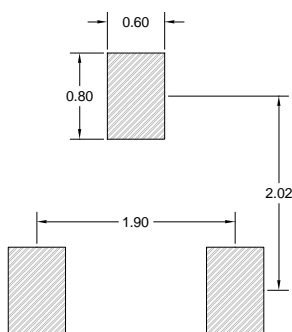


6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.00	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

DISCLAIMER

ELECSUPER PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with ElecSuper products. You are solely responsible for

- (1) selecting the appropriate ElecSuper products for your application;
- (2) designing, validating and testing your application;
- (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements.

These resources are subject to change without notice. ElecSuper grants you permission to use these resources only for development of an application that uses the ElecSuper products described in the resource. Other reproduction and display of these resources are prohibited. No license is granted to any other ElecSuper intellectual property right or to any third party intellectual property right. ElecSuper disclaims responsibility for, and you will fully indemnify ElecSuper and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources. ElecSuper's products are provided subject to ElecSuper's Terms of Sale or other applicable terms available either on www.elecsuper.com or provided in conjunction with such ElecSuper products. ElecSuper's provision of these resources does not expand or otherwise alter ElecSuper's applicable warranties or warranty disclaimers for ElecSuper products.

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 [ElecSuper manufacturer](#):

Other Similar products are found below :

[BC559C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [IMX9T110](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SC4618TLN](#) [CPH6501-TL-E](#) [US6T6TR](#) [BAX18/A52R](#) [BC556/112](#) [IMZ2AT108](#) [MMST8098T146](#) [MCH6102-TL-E](#) [BC846B-13-F](#) [2N3879](#) [30A02MH-TL-E](#) [NTE13](#) [NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [JANTX2N2920L](#) [JANSR2N2907AUB](#) [CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#) [MMDT3946FL3-7](#) [2N4240](#) [JANS2N3019](#) [MSB30KH-13](#) [2N2221AUB](#) [2SD1815T-TL-E](#) [2N6678](#) [2N2907Ae4](#) [JAN2N3507](#)