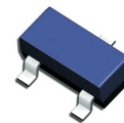


## BC846A-G Thru. BC848C-G (NPN)

RoHS Device

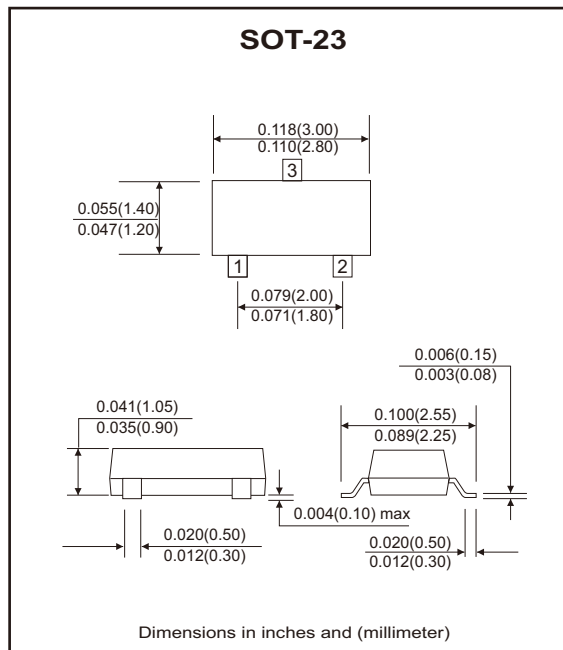


### Features

- Power dissipation  
PCM: 0.20W (@TA=25°C)
- Collector current  
ICM: 0.1A
- Collector-base voltage  
VCBO: BC846=80V  
BC847=50V  
BC848=30V
- Operating and storage junction temperature range: TJ, TSTG= -65 to +150°C

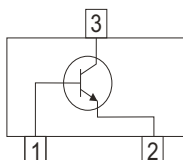
### Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: solderable per MIL-STD-750, method 2026.
- Weight: 0.008 grams (approx.).



### Circuit Diagram

- 1.BASE
- 2.EMITTER
- 3.COLLECTOR



### Maximum Ratings (at Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	UNIT	
Collector-base voltage	BC846-G BC847-G BC848-G	VCBO	80 50 30	V
Collector-emitter voltage	BC846-G BC847-G BC848-G	VCEO	65 45 30	V
Emitter-base voltage		VEBO	6	V
Collector current-continuous		IC	0.1	A
Collector power dissipation		PC	200	mW
Junction temperature		TJ	150	°C
Storage temperature range		TSTG	-65 to +150	°C

## Electrical Characteristics (BC846A-G Thru. BC848C-G, @TA= 25 °C unless otherwise specified)

Parameter	Symbol	Test Conditions	MIN	TYP	MAX	Unit
Collector-base breakdown voltage	BC846-G BC847-G BC848-G	V <sub>CB0</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	80 50 30		V
Collector-emitter breakdown voltage	BC846-G BC847-G BC848-G	V <sub>CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	65 45 30		V
Emitter-base break voltage		V <sub>EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	6		V
Collector cut-off current	BC846-G BC847-G BC848-G	I <sub>CBO</sub>	V <sub>CB</sub> = 70V, I <sub>E</sub> = 0 V <sub>CB</sub> = 50V, I <sub>E</sub> = 0 V <sub>CB</sub> = 30V, I <sub>E</sub> = 0		0.1	μA
Collector cut-off current	BC846-G BC847-G BC848-G	I <sub>CEO</sub>	V <sub>CB</sub> = 60V, I <sub>E</sub> = 0 V <sub>CB</sub> = 45V, I <sub>E</sub> = 0 V <sub>CB</sub> = 30V, I <sub>E</sub> = 0		0.1	μA
Emitter cut-off current		I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0		0.1	μA
DC current gain	BC846A,BC847A,BC848A BC846B,BC847B,BC848B BC847C,BC848C	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA	110 200 420	220 450 800	
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> = 5mA		0.5	V
Base-emitter saturation voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> = 5mA		1.1	V
Transition frequency		f <sub>T</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA f = 100MHz	100		MHz
Collector output capacitance		C <sub>ob</sub>	V <sub>CB</sub> = 10V, f = 1MHz		4.5	pF

## Electrical Characteristic Curves (BC846A-G Thru. BC848C-G)

Fig.1 - Static Characteristic

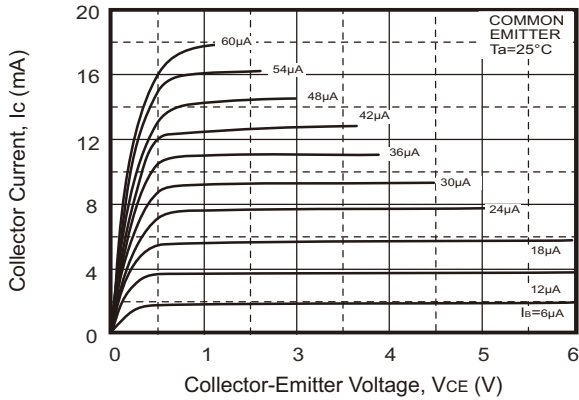


Fig.2 - hFE — Ic

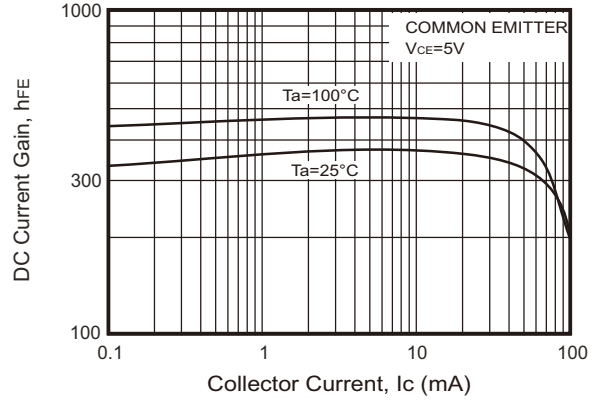


Fig.3 - VCEsat — Ic

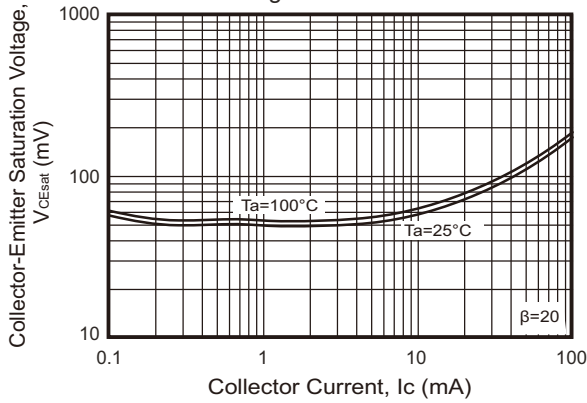


Fig.4 - VBEsat — Ic

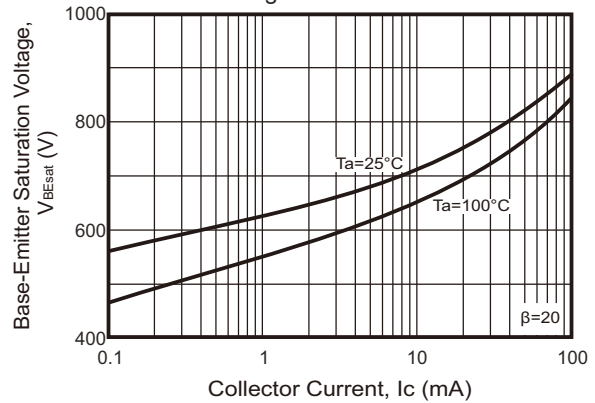


Fig.5 - Ic — VBE

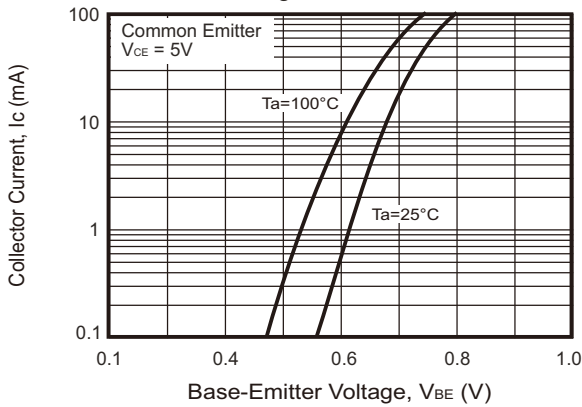


Fig.6 - Cob/Cib — VCB/VEB

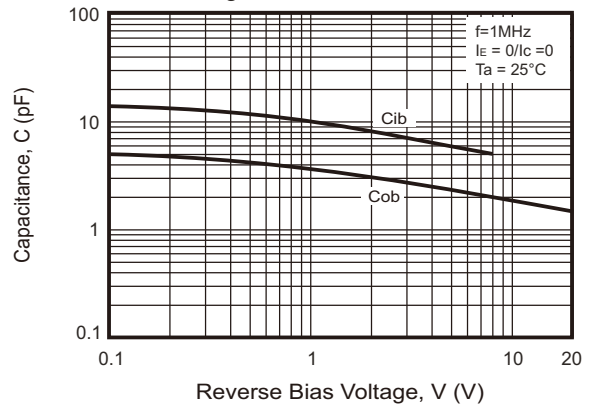


Fig.7 - fr — Ic

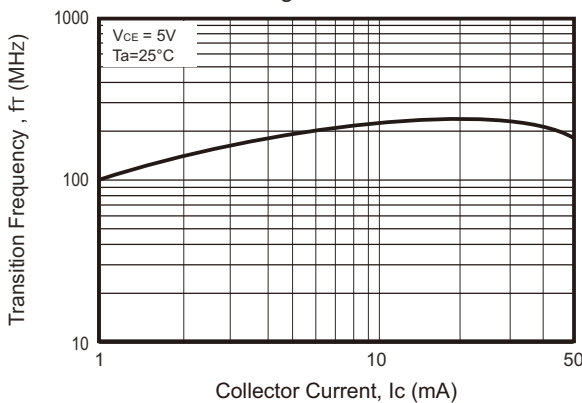
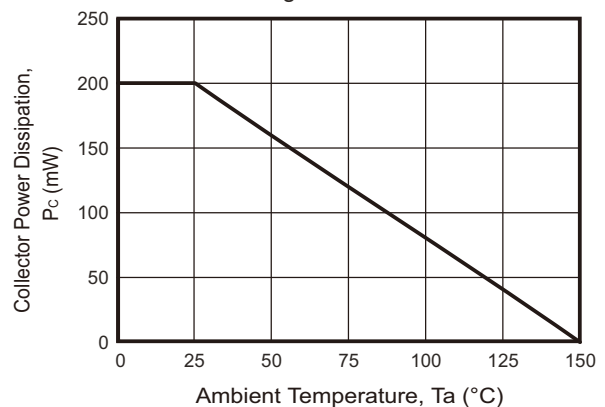
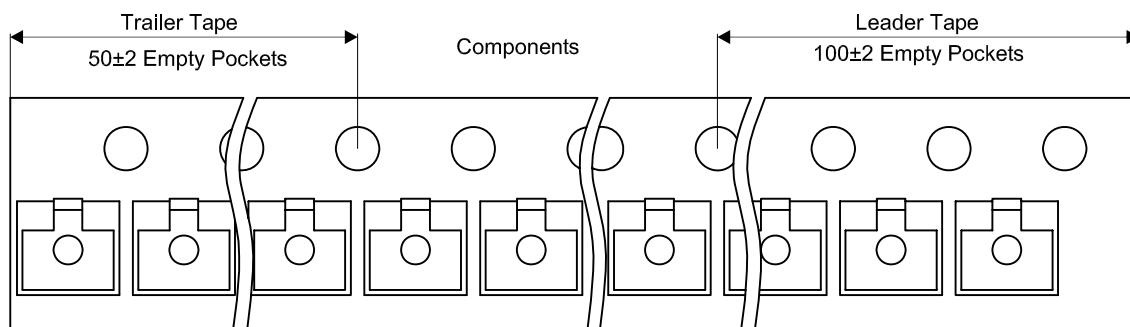
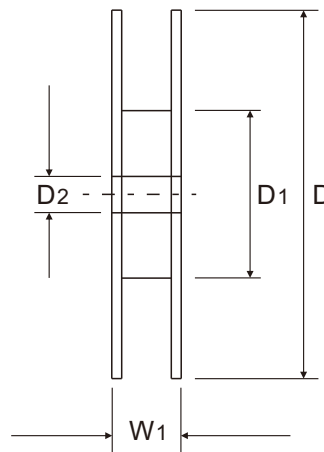
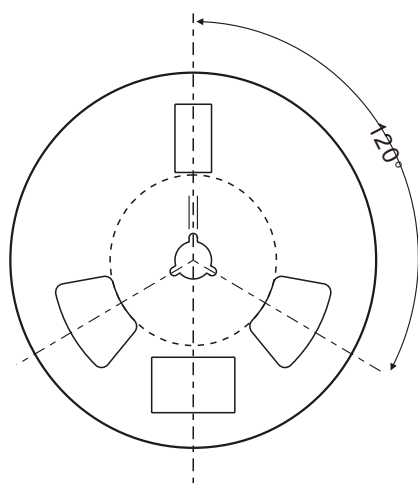
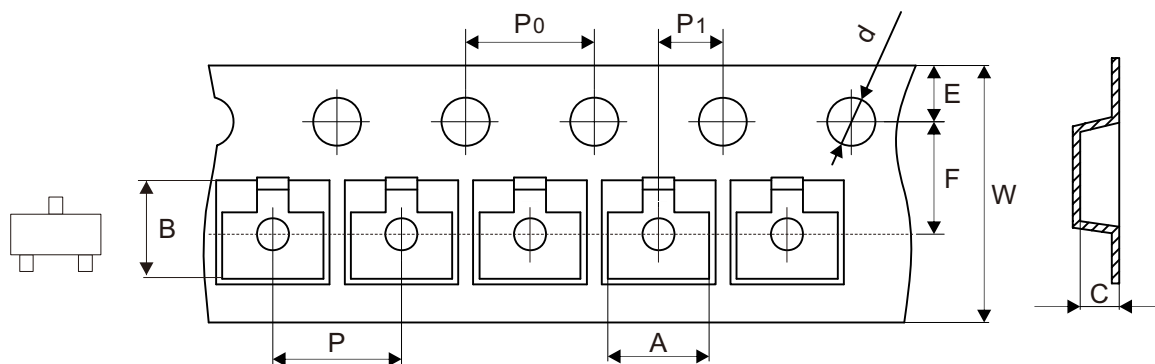


Fig.8 - Pc — Ta



## Reel Taping Specification

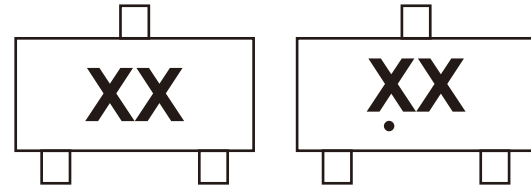


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 - 0.004	0.484 ± 0.039

## Marking Code

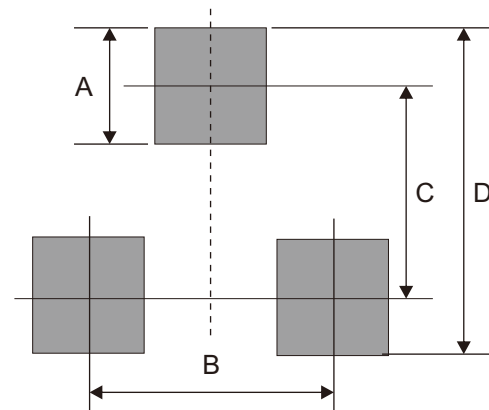
Part Number	Marking Code
BC846A-G	1A
BC847A-G	1E
BC848A-G	1J
BC846B-G	1B
BC847B-G	1F
BC848B-G	1K
BC847C-G	1G
BC848C-G	1L



Solid dot = Control code  
 xx = Product type marking code

## Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	1.90	0.075
C	2.02	0.080
D	2.82	0.111



Note: 1. The pad layout is for reference purposes only.

## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
SOT-23	3,000	7

## 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 [Comchip manufacturer](#):*

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NTE158](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE63](#) [C4460](#)  
[2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SD2150T100R](#) [SP000011176](#) [FMMTA92QTA](#) [2N2369ADCSM](#)  
[2N5769](#) [2SC2412KT146S](#) [2SC5490A-TL-H](#) [2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#)  
[US6T6TR](#) [NJL0281DG](#) [732314D](#) [CMXT3906 TR](#) [CPH3121-TL-E](#) [CPH6021-TL-H](#) [873787E](#) [IMZ2AT108](#) [UMX21NTR](#) [MCH6102-TL-E](#)  
[NJL0302DG](#) [2N3583](#) [2SA1434-TB-E](#) [2SC3143-4-TB-E](#) [2SD1621S-TD-E](#) [NTE103](#) [30A02MH-TL-E](#) [NSV40301MZ4T1G](#) [NTE101](#) [NTE13](#)  
[NTE15](#) [NTE16001](#)