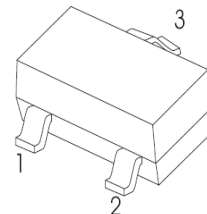


SOT-23 Plastic-Encapsulate Transistor

BC846A, B TRANSISTOR (NPN)
BC847A, B, C
BC848A, B, C

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOT-23	7'	330	3000	203×203×195	45000	438×438×220	180000

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage		V
		BC846	
		BC847	
		BC848	
V _{CEO}	Collector-Emitter Voltage		V
		BC846	
		BC847	
		BC848	
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current –Continuous	0.1	A
P _{C*}	Collector Power Dissipation	200	mW
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-65-150	°C

DEVICE MARKING

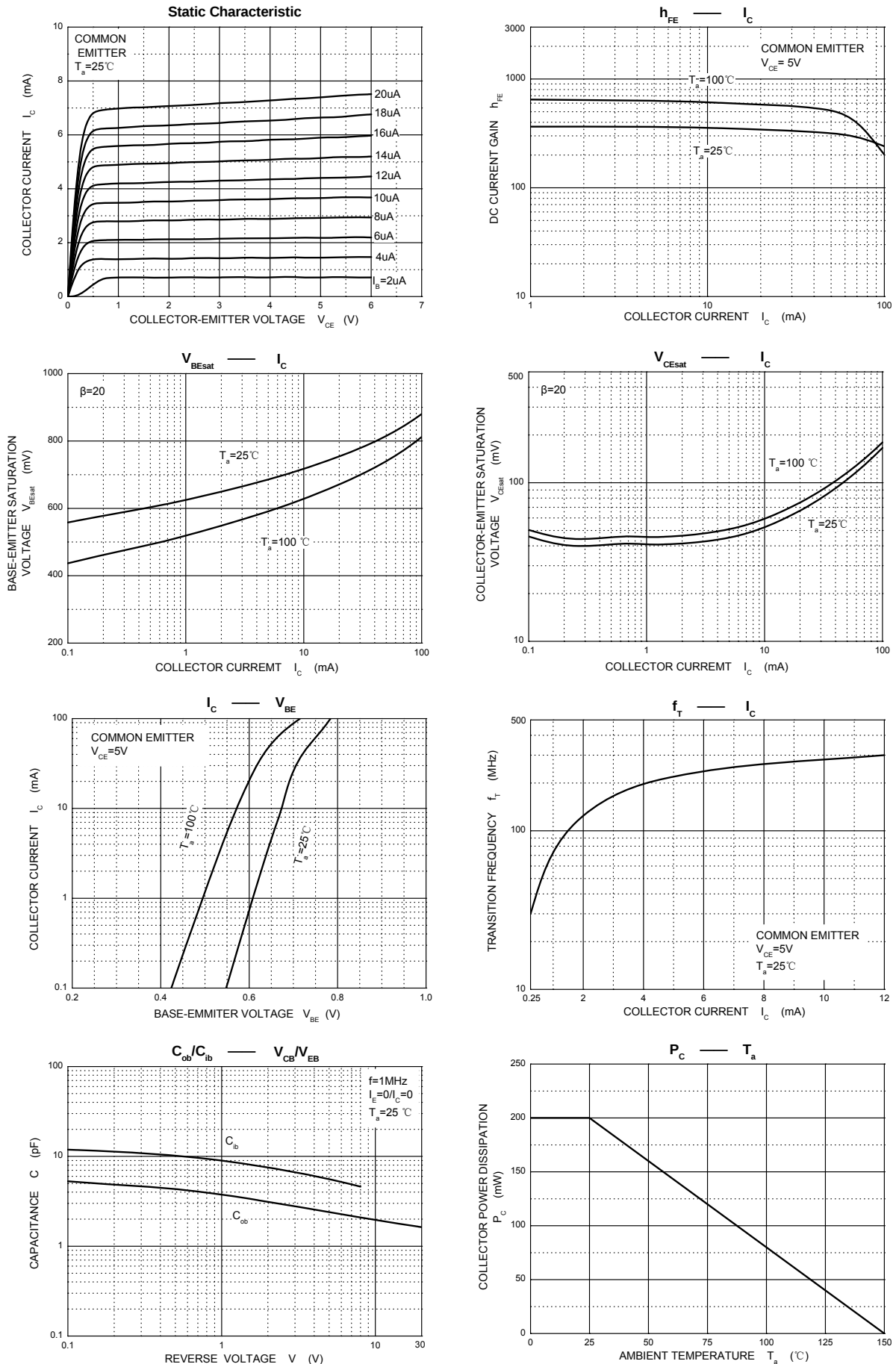
BC846A=1A; BC846B=1B;
 BC847A=1E; BC847B=1F; BC847C=1G;
 BC848A=1J; BC848B=1K; BC848C=1L

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846 BC847 BC848	V_{CBO}	$I_C = 10\mu A, I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage	BC846 BC847 BC848	V_{CEO}	$I_C = 10mA, I_B = 0$	65 45 30		V
Emitter-base breakdown voltage		V_{EBO}	$I_E = 10\mu A, I_C = 0$	6		V
Collector cut-off current	BC846 BC847 BC848	I_{CBO}	$V_{CB} = 70V, I_E = 0$ $V_{CB} = 50V, I_E = 0$ $V_{CB} = 30V, I_E = 0$		0.1	μA
Collector cut-off current	BC846 BC847 BC848	I_{CEO}	$V_{CE} = 60V, I_B = 0$ $V_{CE} = 45V, I_B = 0$ $V_{CE} = 30V, I_B = 0$		0.1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 5V, I_C = 0$		0.1	μA
DC current gain	BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	h_{FE}	$V_{CE} = 5V, I_C = 2mA$	110 200 420	220 450 800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$		0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$		1.1	V
Transition frequency		f_T	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100		MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10V, f = 1MHz$		4.5	pF

The above data are for reference only.

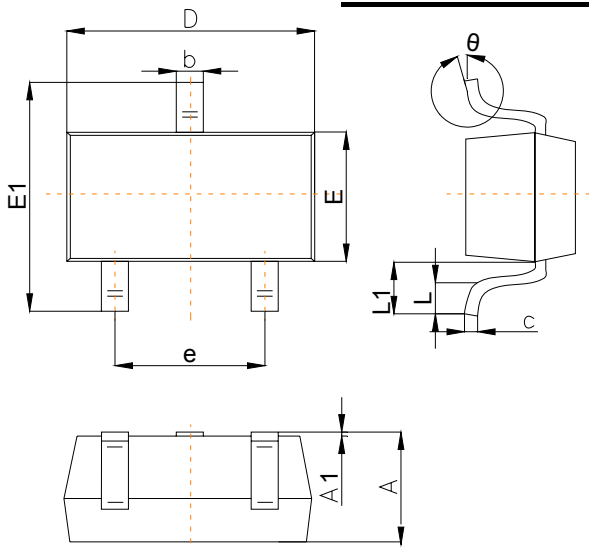
Typical Characteristics



The curve above is for reference only.

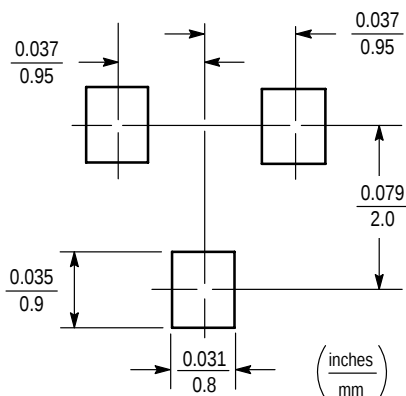
Outlitne Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.90		1.40
A1	0.00		0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.80	1.90	2.00
L	0.10		0.50
L1	0.4		0.55
θ	0°		10°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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