



BC846 BC847 BC848
NPN TRANSISTOR

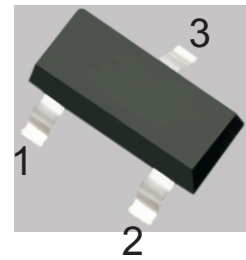
FEATURES

- Ideally suited for automatic insertion
- For switching and AF amplifier applications

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

Parameter		Symbol	Value	Unit
Collector–Base Voltage	BC846	V_{CBO}	80	V
	BC847		50	
	BC848		30	
Collector–Emitter Voltage	BC846	V_{CEO}	65	V
	BC847		45	
	BC848		30	
Emitter–Base Voltage		V_{EBO}	6	V
Collector Current — Continuous		I_C	0.1	A
Collector Power Dissipation		P_C	200	mW
Thermal Resistance From Junction To Ambient		R_{thJA}	625	°C/W
Junction Temperature		T_J	150	°C
Storage Temperature		T_{stg}	-55~+150	°C

SOT-23



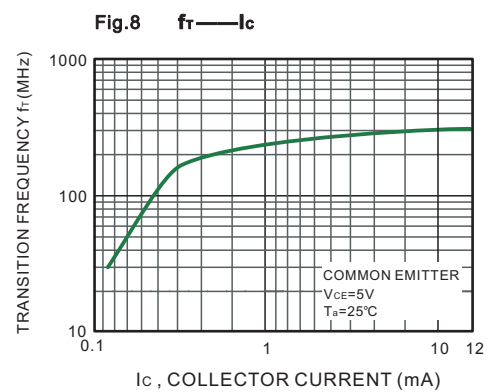
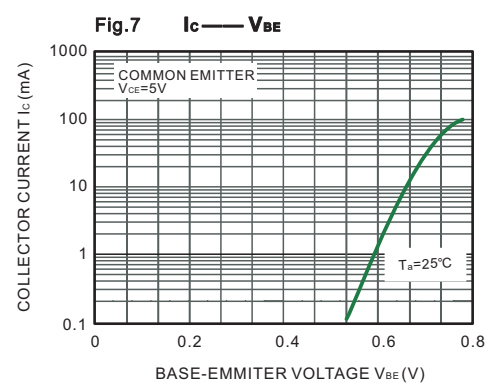
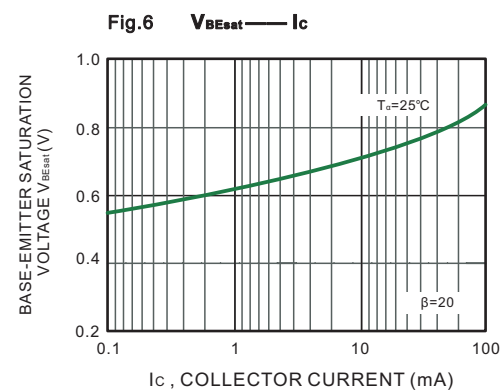
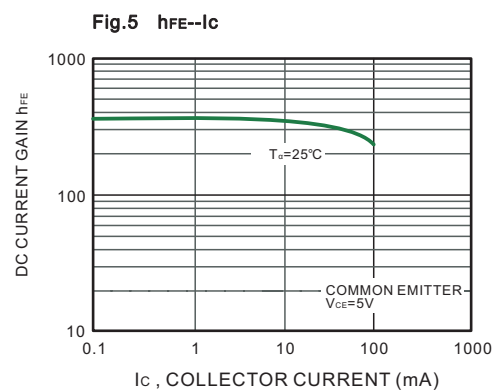
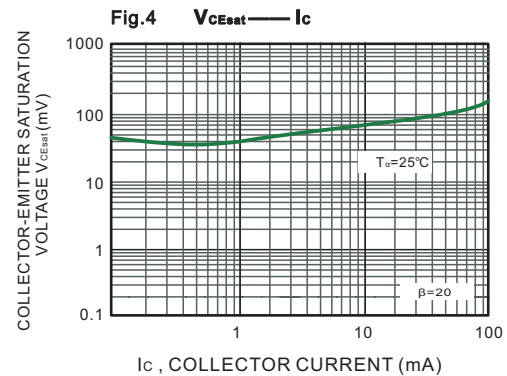
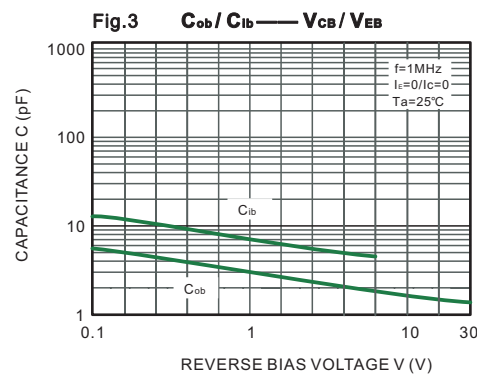
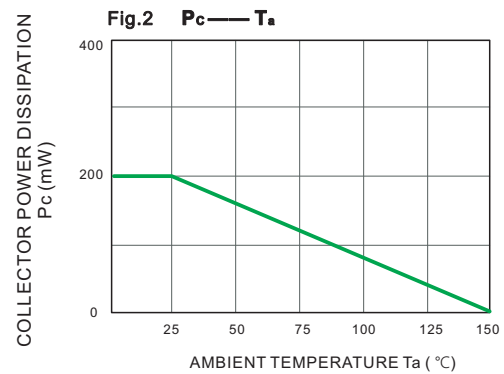
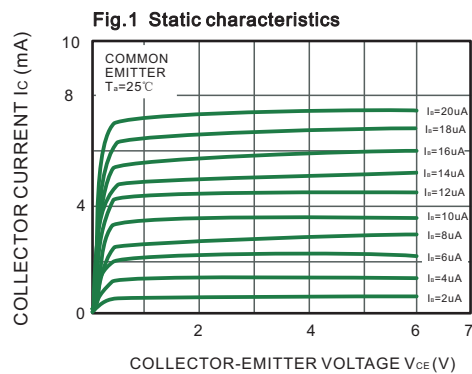
1.BASE
2.EMITTER
3.COLLECTOR

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846	V_{CBO}	$I_C = 10\mu A, I_E = 0$	80			V
	BC847			50			
	BC848			30			
Collector-emitter breakdown voltage	BC846	V_{CEO}	$I_C = 10mA, I_B = 0$	65			V
	BC847			45			
	BC848			30			
Emitter-base breakdown voltage		V_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current	BC846	I_{CBO}	$V_{CB} = 70V, I_E = 0$			0.1	μA
	BC847		$V_{CB} = 50V, I_E = 0$				
	BC848		$V_{CB} = 30V, I_E = 0$				
Collector cut-off current	BC846	I_{CEO}	$V_{CE} = 60V, I_B = 0$			0.1	μA
	BC847		$V_{CE} = 45V, I_B = 0$				
	BC848		$V_{CE} = 30V, I_B = 0$				
Emitter cut-off current		I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
DC current gain	BC846A,847A,848A	h_{FE}	$V_{CE} = 5V, I_C = 2mA$	110		220	
	BC846B,847B,848B			200		450	
	BC847C,BC848C			420		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

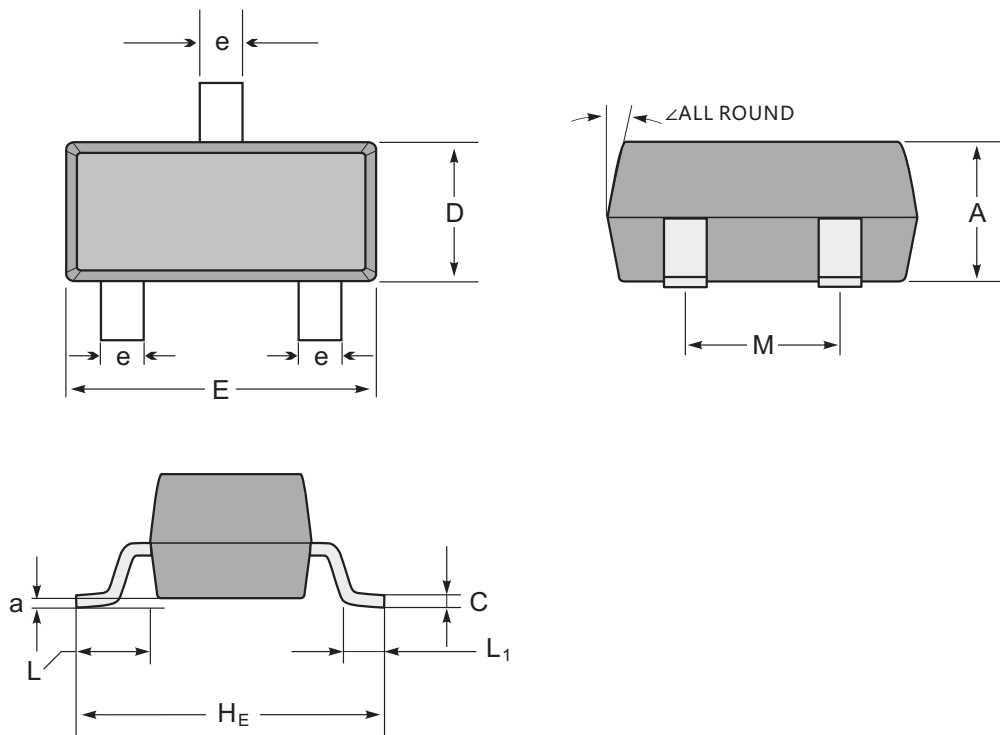


TYPICAL CHARACTERISTICS





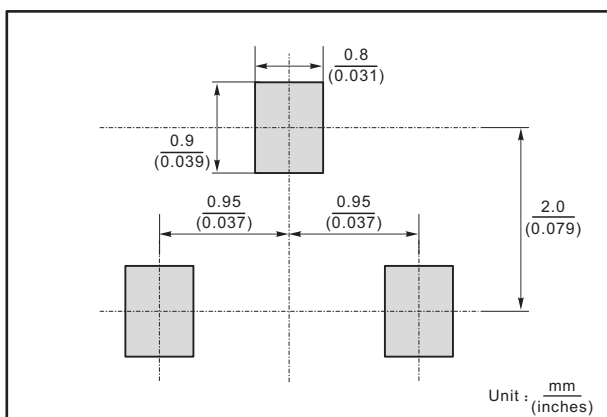
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	HE	e	M	L	L ₁	a	∠
mm	max	1.1	0.20	1.4	3.0	2.6	0.6	1.95	0.55 (ref)	0.36 (ref)	0.15	12°
	min	0.9	0.08	1.2	2.8	2.2	0.35	1.7			0.0	
mil	max	43	7.9	55	118	102	24	77	22 (ref)	14 (ref)	6	
	min	35	3.1	47	110	87	13	67			0.0	

The recommended mounting pad size



Marking

Type number	Marking code
BC846A	1A
BC846B	1B
BC847A	1E
BC847B	1F
BC847C	1G
BC848A	1J
BC848B	1K
BC848C	1L