UMW BC84xB

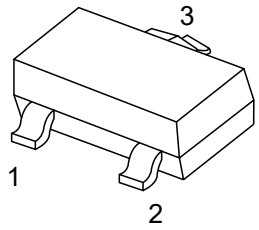
1.Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications
- BC846A, B TRANSISTOR (NPN)
- BC847A, B, C
- BC848A, B, C

2.Pinning Information

Pin	Symbol	Description
1	B	BASE
2	E	EMITTER
3	C	COLLECTOR

SOT-23



3.Absolute Maximum Ratings T_A= 25°C

Parameter		Symbol	Value	Units
Collector-Base Voltage	BC846	V_{CBO}	80	V
	BC847		50	V
	BC848		30	V
Collector-Emitter Voltage	BC846	V_{CEO}	65	V
	BC847		45	V
	BC848		30	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current -Continuous		I_C	0.1	A
Collector Power Dissipation		P_{C*}	200	mW
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-65 to 150	°C

4.Electrical Characteristics T_A= 25°C

Parameter		Symbol	Conditions	Min	Typ	Max	Units
Collector-base breakdown voltage	BC846	V_{CBO}	I_C=10μA, I_E=0	80			V
	BC847			50			V
	BC848			30			V
Collector-emitter breakdown voltage	BC846	V_{CEO}	I_C=10mA, I_B=0	65			V
	BC847			45			V
	BC848			30			V
Emitter-base breakdown voltage		V_{EBO}	I_E=10μA, 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 capacitance		C_{ob}	V_{CB}=10V, f=1MHz			4.5	pF

5.1 Typical Characteristic

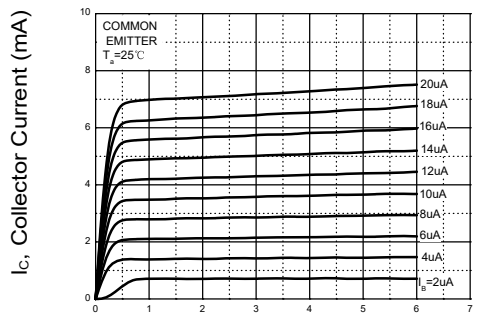


Figure 1: Static Characteristic

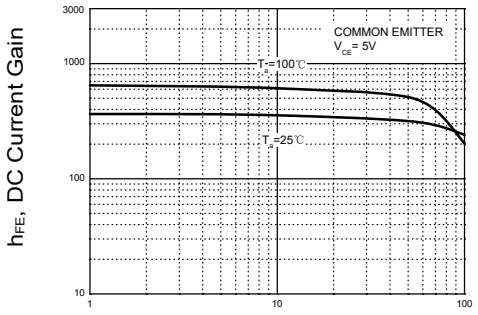


Figure 2: h_{FE} —— I_C

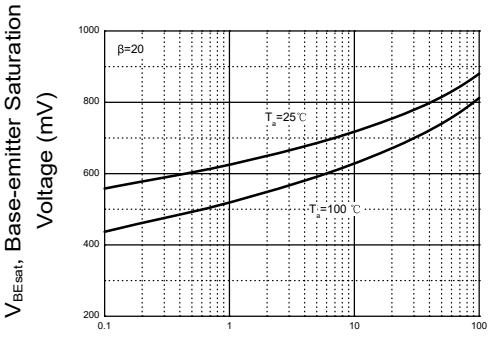


Figure 3: V_{BEsat} —— I_C

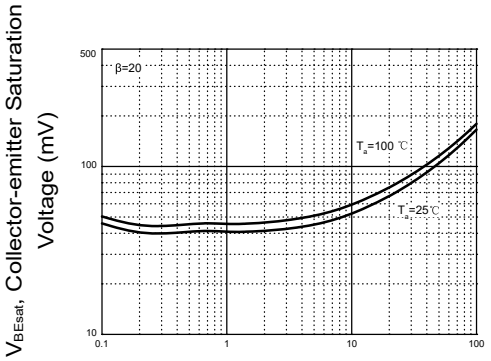


Figure 4: V_{CEsat} —— I_C

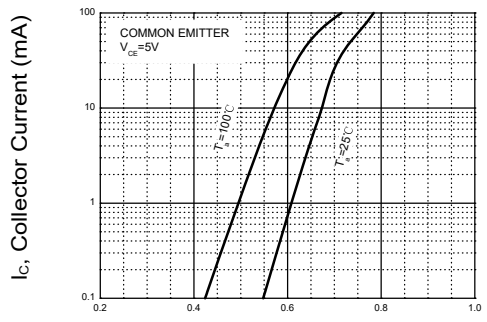


Figure 5: I_C —— V_{BE}

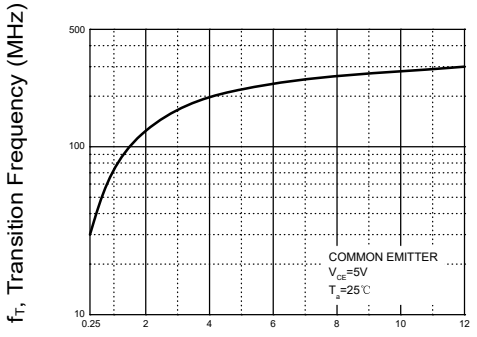


Figure 6: f_T —— I_C

5.2 Typical Characteristic

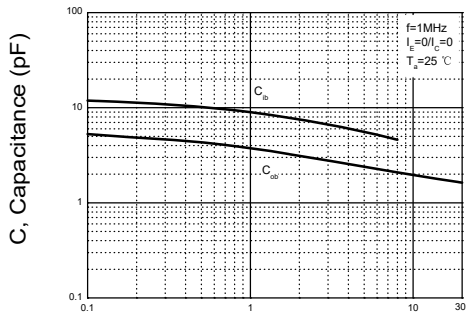


Figure 7: C_{ob}/C_{ib} —— V_{CB}/V_{EB}

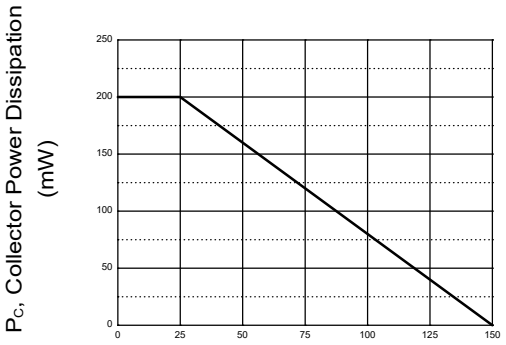
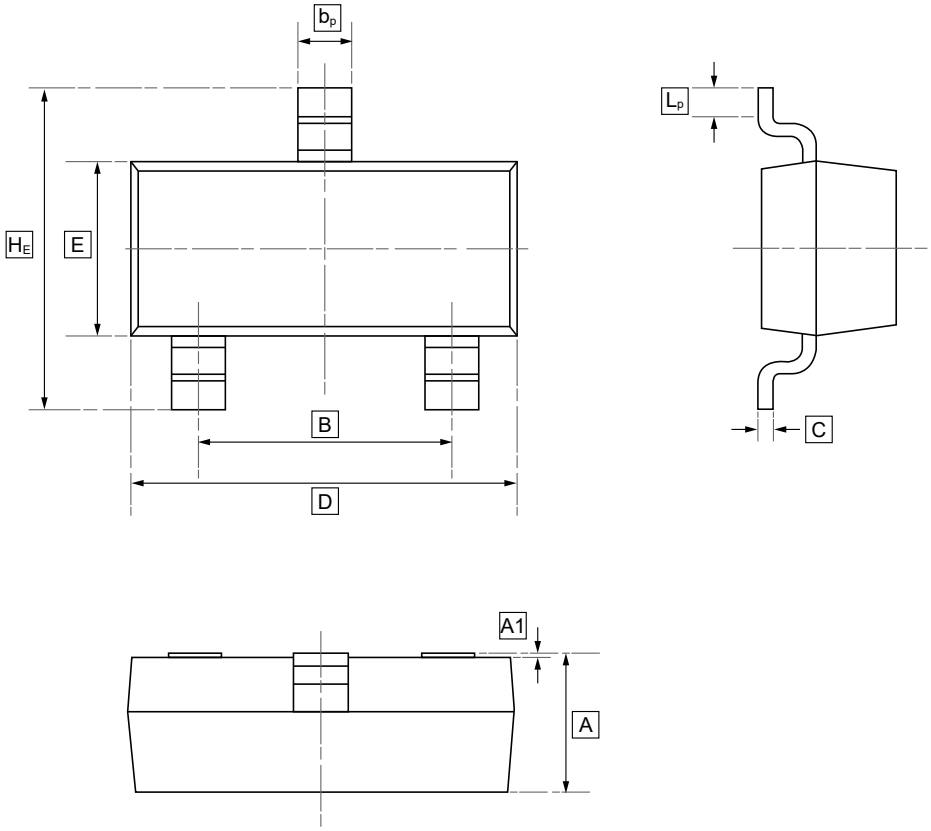


Figure 8: P_C-T_a

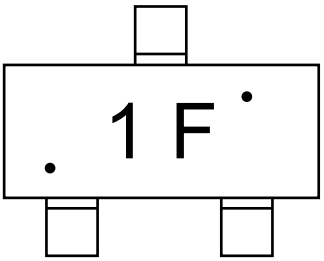
5.SOT-23 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b_p	C	D	E	H_E	A1	L_p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50

6.Ordering information



Order Code	Marking	Package	Base QTY	Delivery Mode
UMW BC846B	1B	SOT-23	3000	Tape and reel
UMW BC847B	1F	SOT-23	3000	Tape and reel
UMW BC847C	1G	SOT-23	3000	Tape and reel

7.Disclaimer

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