UMW BC847BW

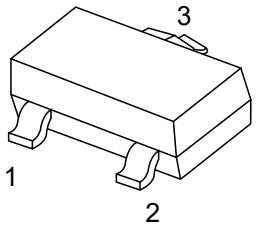
1.Features

- TRANSISTOR (NPN)
- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

2.Pinning Information

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

SOT-323



3.Absolute Maximum Ratings T_A= 25°C

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current –Continuous	I_C	0.1	A
Collector Power Dissipation	P_C	150	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	833	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

4.Electrical Characteristics (T_A= 25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Collector-base breakdown voltage	V_{CBO}	I_C=10μA, I_E=0	50			V
Collector-emitter breakdown voltage	V_{CEO}	I_C=10mA, I_B=0	45			V
Emitter-base breakdown voltage	V_{EBO}	I_E=1μA, I_C=0	6			V
Collector Cutoff Current	I_{CBO}	V_{CB}=30V			15	nA
DC current gain	h_{FE}	V_{CE}=5V, I_C=10μA		150		
		V_{CE}=5V, I_C=2mA	200		450	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=0.5mA			0.25	V
		I_C=100mA, I_B=5mA			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B=0.5mA		0.7		V
		I_C=100mA, I_B=5mA		0.9		V
Base-emitter voltage	$V_{BE(on)}$	V_{CE}= 5V, I_C=2mA	580	660	700	mV
		V_{CE}= 5V, I_C=10mA			770	mV
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
Noise figure	NF	f=1KHz, R_S=2KΩ			10	dB

5.1 Typical Characteristic

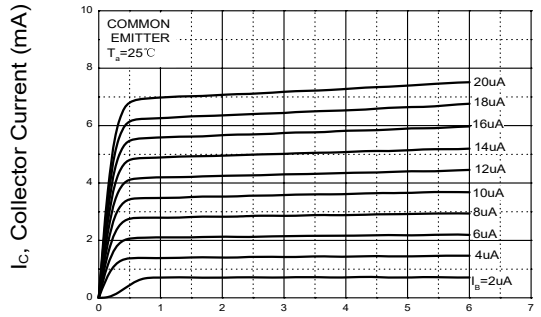


Figure 1: Static Characteristic

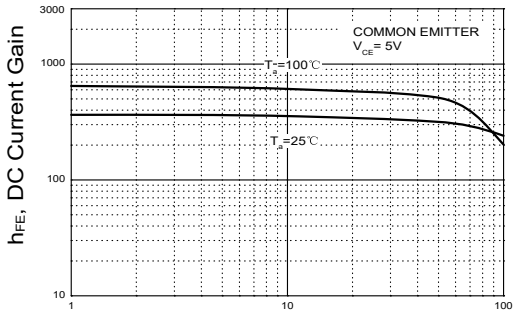


Figure 2: h_{FE} —— I_C

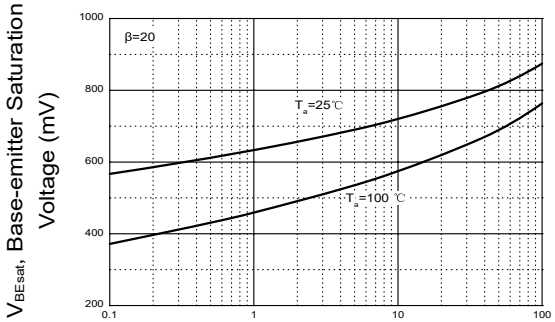


Figure 3: V_{BEsat} —— I_C

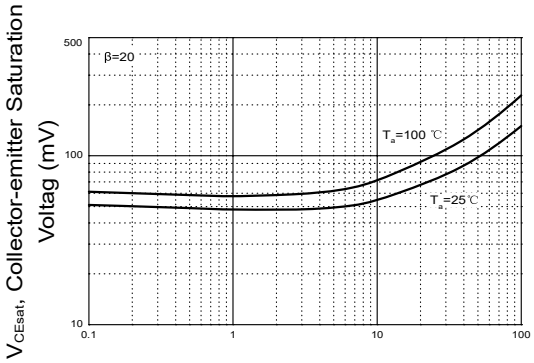


Figure 4: V_{CEsat} —— I_C

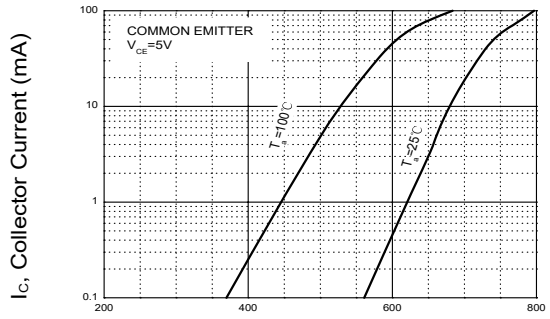


Figure 5: I_C —— V_{BE}

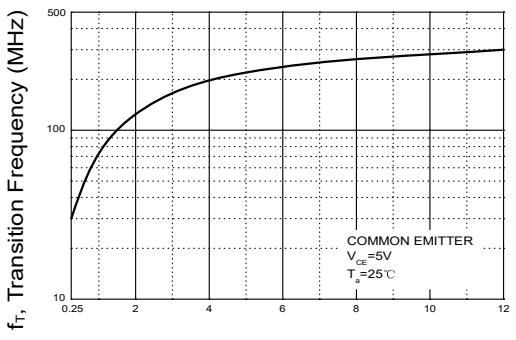


Figure 6: f_T —— I_C

5.2 Typical Characteristic

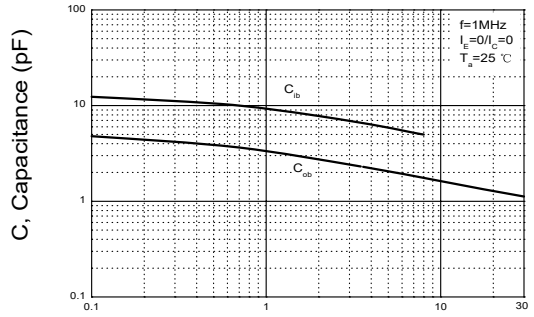


Figure 7: C_{ob}/C_{ib} —— V_{CB}/V_{EB}

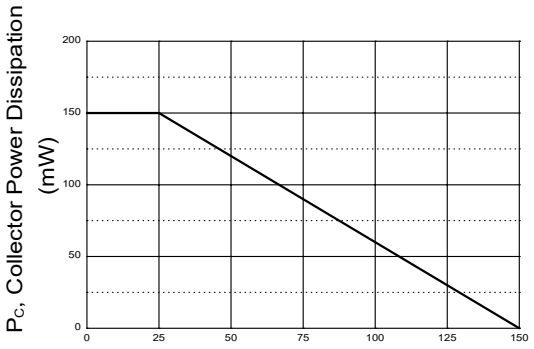
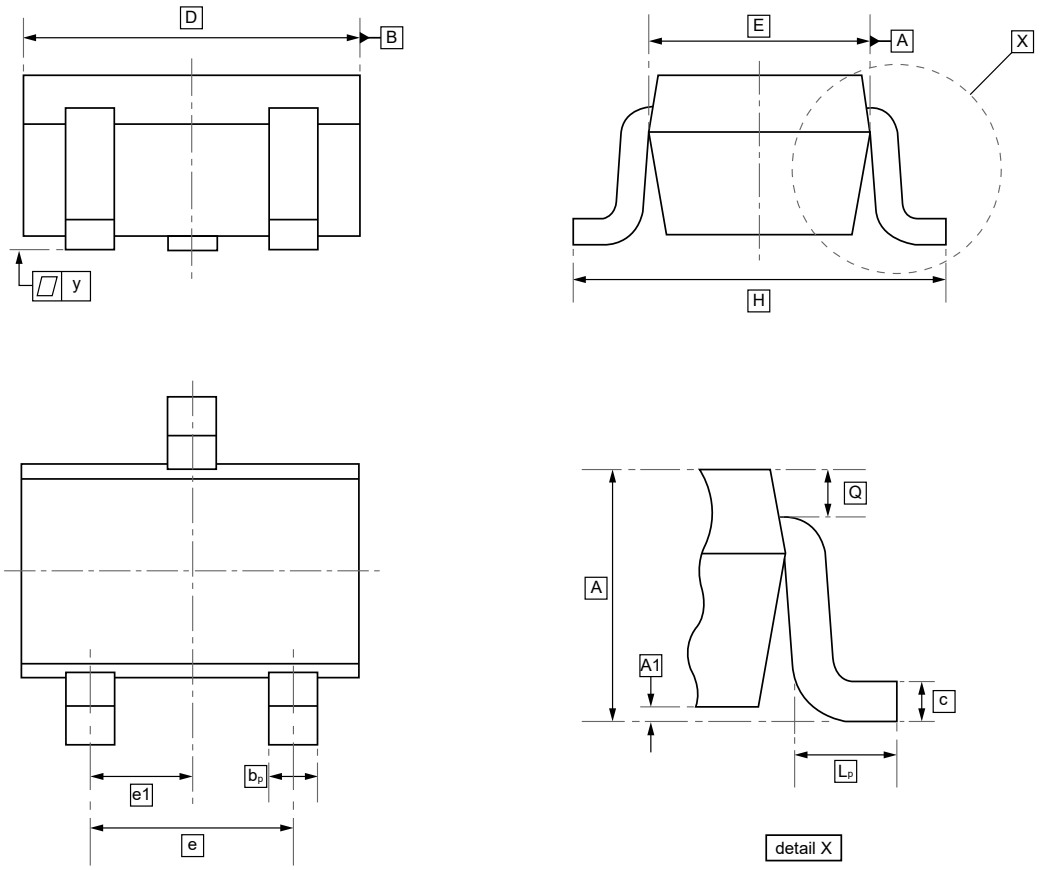


Figure 8: P_C —— T_A

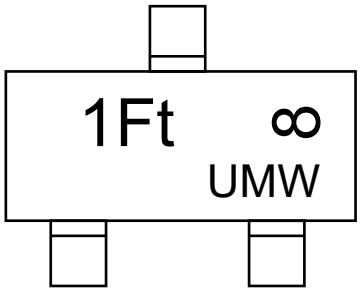
6.SOT-323 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	b_p	c	D	E	e	e1	H	L_p	Q
Min	0.8	0.1	0.3	0.10	1.8	1.15	1.3	0.65	2.0	0.15	0.13
Max	1.1		0.4	0.25	2.3	1.35			2.55	0.45	0.23

7.Ordering Information



Order Code	Package	Base QTY	Delivery Mode
UMW BC847BW	SOT-323	3000	Tape and reel

8.Disclaimer

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