UMW BC817-40

SOT-23 Plastic-Encapsulate Transistors

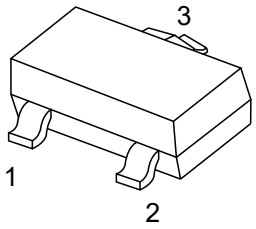
1.Features

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BC807 (PNP)
- BC817 TRANSISTOR (NPN)

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	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	0.5	A
Collector Power Dissipation	P_C	0.3	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

4.Electrical Characteristics T_A= 25°C

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	5			V
Collector cut-off current	I_{CBO}	V_{CB}=45V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=100mA	100		600	
	$h_{FE(2)}$	V_{CE}=1V, I_C=500mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA			0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA			1.2	V
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=500mA			1.2	V
Collecter capactiance	C_{ob}	V_{CB}=10V, f=1MHz		10		pF
Transition frequency	f_T	V_{CE}=5V, I_C=10mA, f=100MHz	100			MHz

5.Classification of $h_{FE(1)}$

Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B	6C

6.1Typical Characterisitics

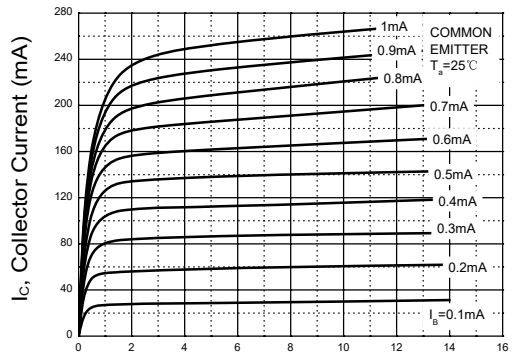


Figure 1: Static Characteristic

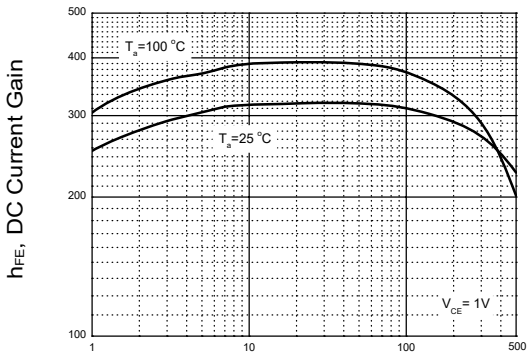


Figure 2: h_{FE} —— I_C

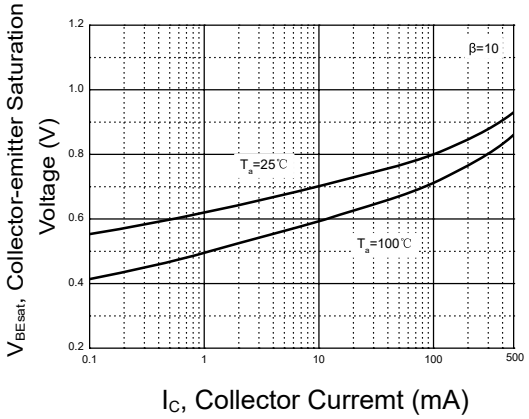


Figure 3: V_{BEsat} —— I_C

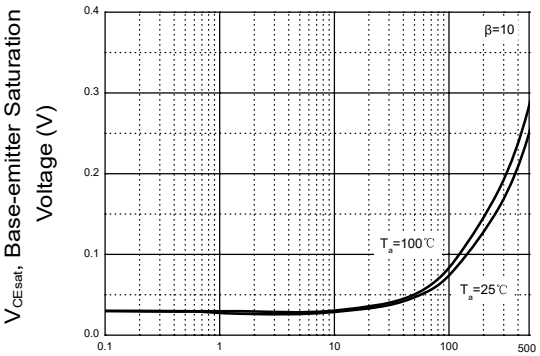


Figure 4: V_{CEsat} —— I_C

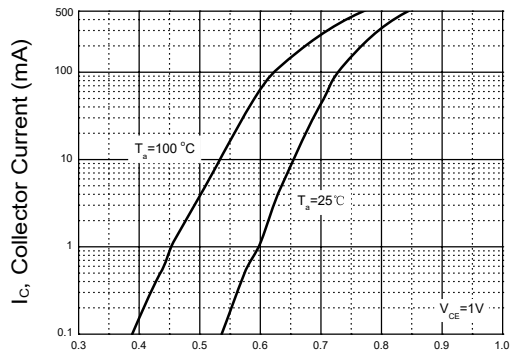


Figure 5: I_C —— V_{BE}

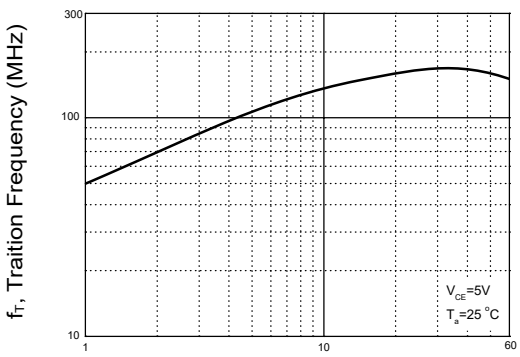


Figure 6: f_T —— I_C

6.2Typical Characterisitics

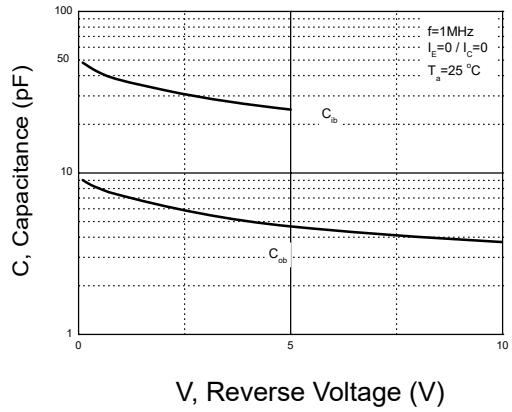


Figure 7: C_{ob}/C_{ib} —— V_{CB}/V_{EB}

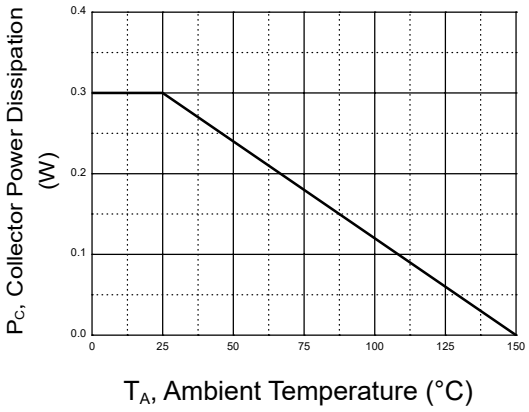
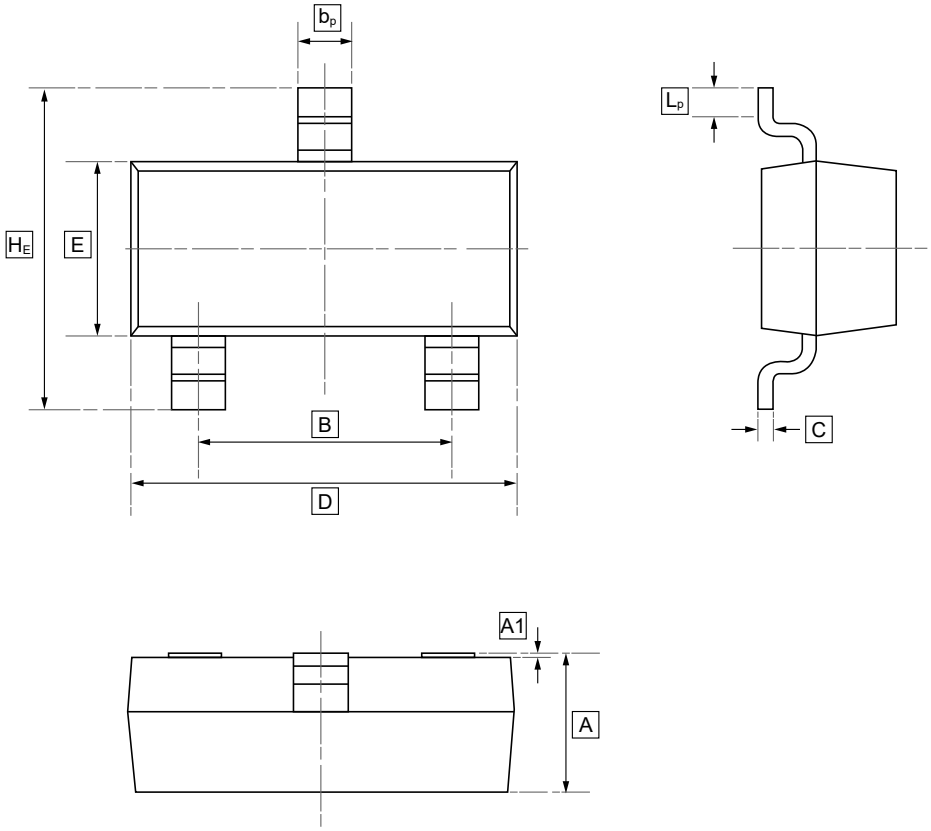


Figure 8: P_C —— T_A

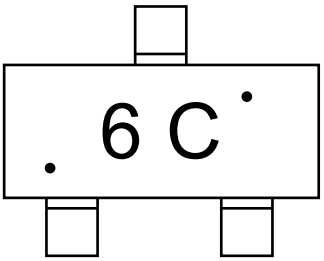
7.SOT-23 Package Outline Dimensions



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

8.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW BC817-40	SOT-23	3000	Tape and reel

9.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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