

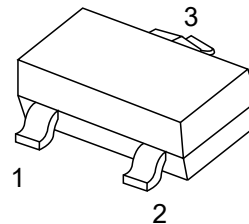
1.Features

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

2.Pinning Information

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

SOT-323



3.Absolute Maximum Ratings $T_A = 25^{\circ}\text{C}$

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	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

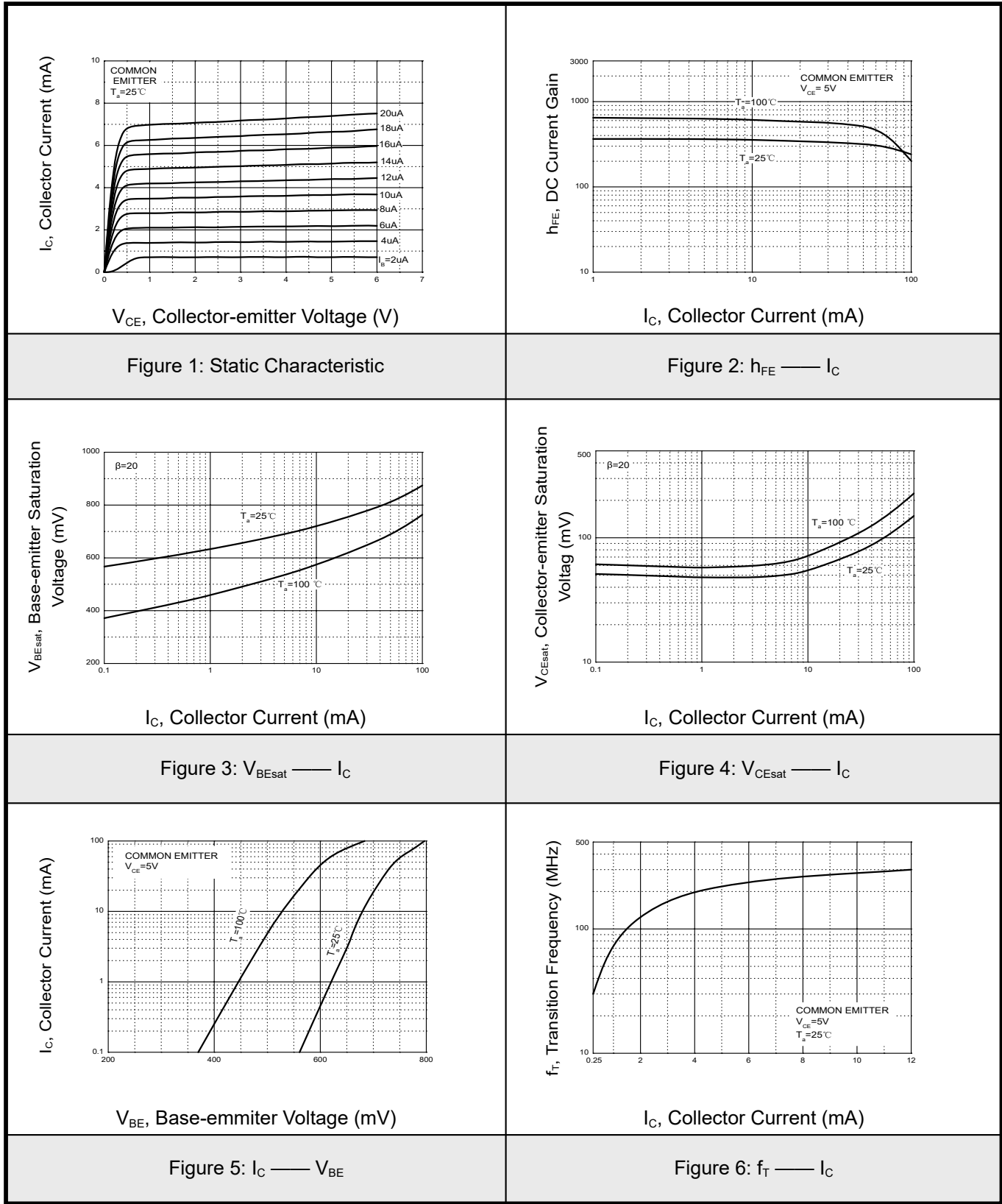


4. Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Collector-base breakdown voltage	V_{CBO}	$I_C = 10\mu\text{A}$, $I_E = 0$	50			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 10\text{mA}$, $I_B = 0$	45			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 1\mu\text{A}$, $I_C = 0$	6			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}$			15	nA
DC current gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 10\mu\text{A}$		150		
		$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	200		450	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 0.5\text{mA}$			0.25	V
		$I_C = 100\text{mA}$, $I_B = 5\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 0.5\text{mA}$		0.7		V
		$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.9		V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	580	660	700	mV
		$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$			770	mV
Transition frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$			4.5	pF
Noise figure	NF	$f = 1\text{KHz}$, $R_S = 2\text{K}\Omega$			10	dB

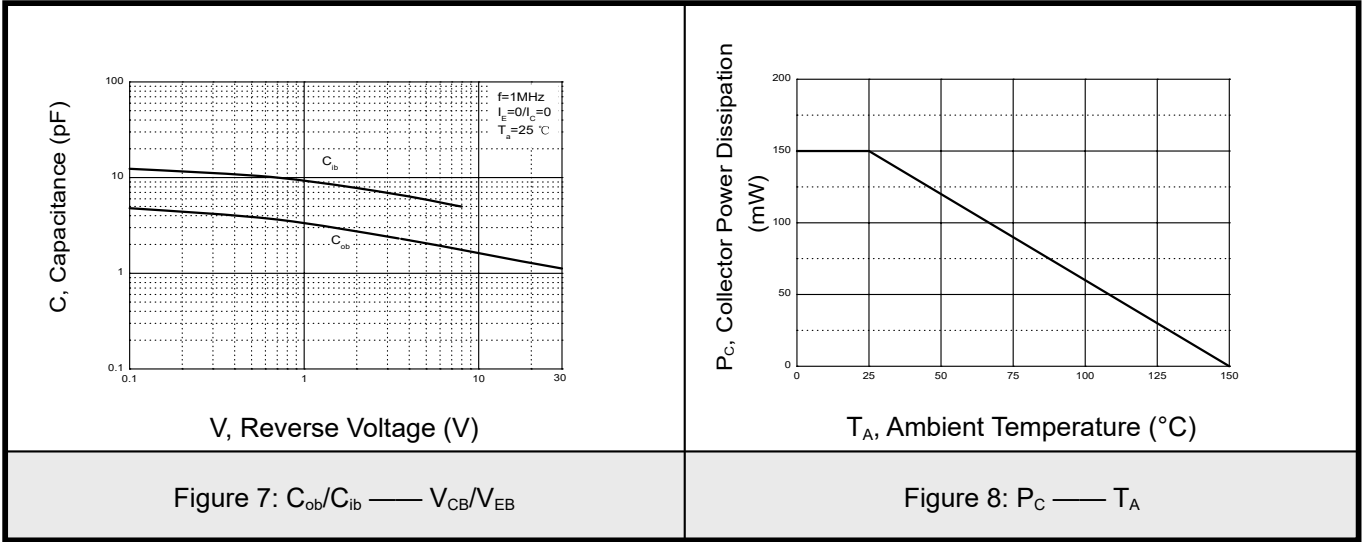


5.1 Typical Characteristic



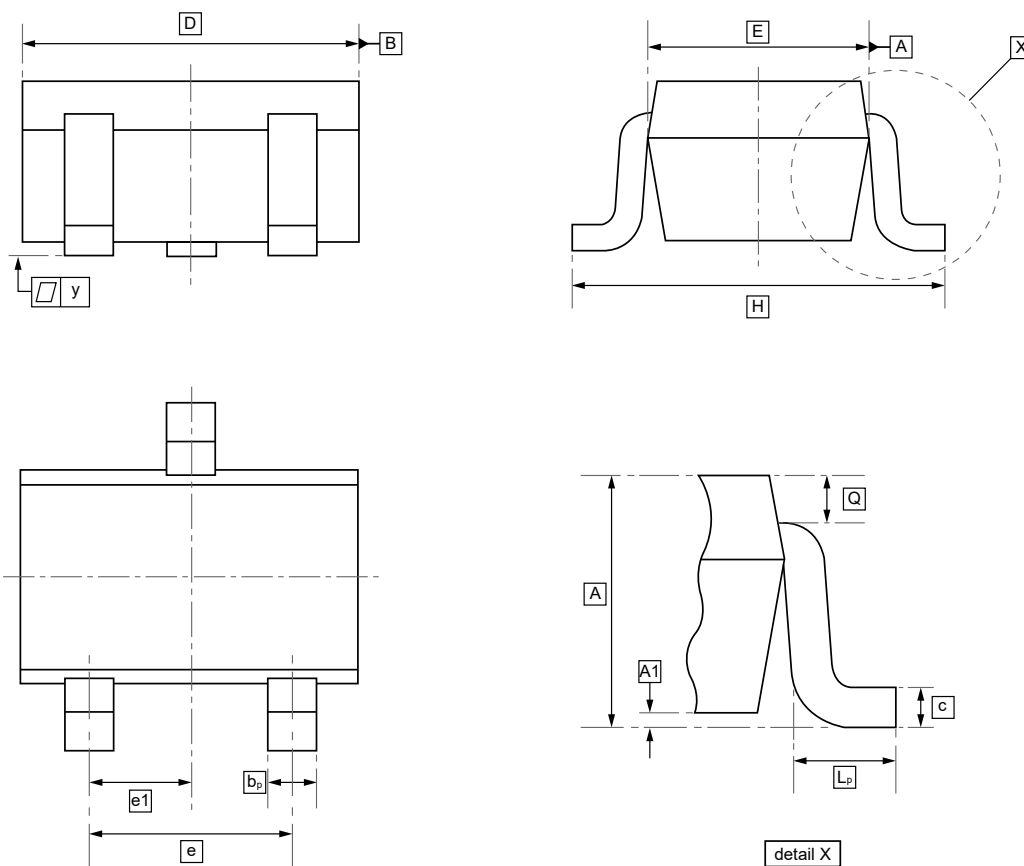


5.2 Typical Characteristic





6.SOT-323 Package Outline Dimensions

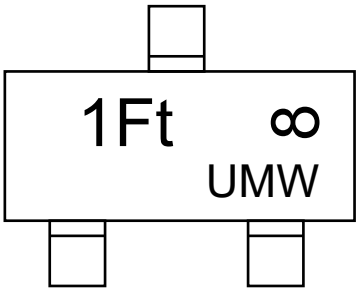


DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	bp	c	D	E	e	e1	H	Lp	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	2.2	1.35			2.2	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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