

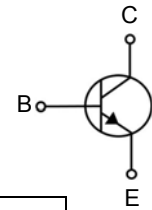


## Features

- Collector Current Capability  $I_C=0.2A$
- Collector Emitter Voltage  $V_{CEO}=40V$



SOT-323



## Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
AC847BWQ-7	SOT-323	1F	3000

## Maximum Ratings ( $T_a=25^{\circ}C$ unless otherwise noted)

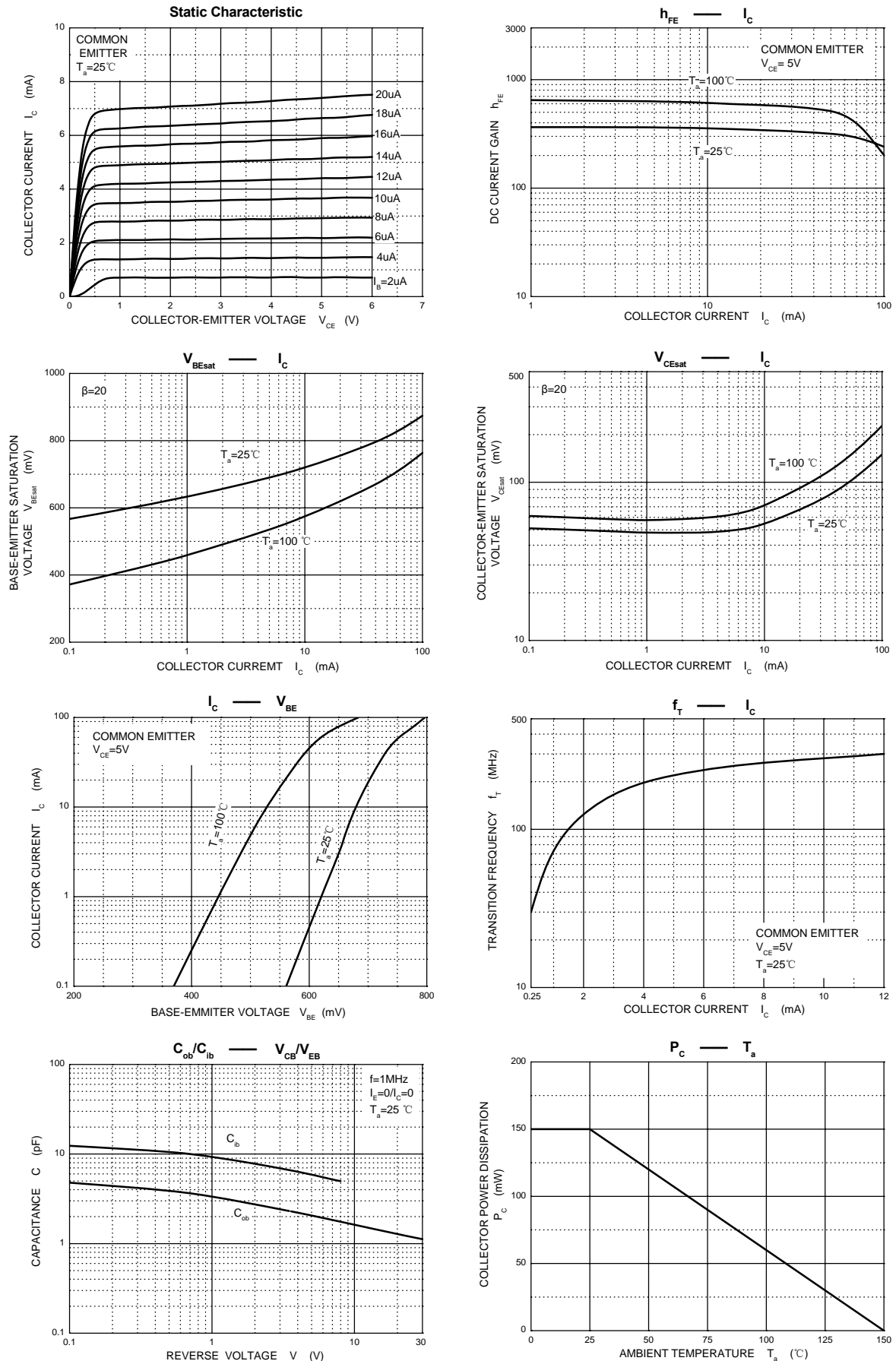
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current –Continuous	0.1	A
$P_C$	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	833	$^{\circ}C/W$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

## Electrical Characteristics ( $T_a=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_C=10\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C=10mA, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=1\mu A, I_C=0$	6			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=30V$			15	nA
DC current gain	$h_{FE}$	$V_{CE}=5V, I_C=10\mu A$ $V_{CE}=5V, I_C=2mA$	200	150	450	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$			0.25 0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5mA$		0.7 0.9		V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=5V, I_C=2mA$ $V_{CE}=5V, I_C=10mA$	580	660	700 770	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	$V_{CE}=5V, I_C=0.2mA$ , $f=1KHz, R_S=2K\Omega$ $BW=200Hz$			10	dB

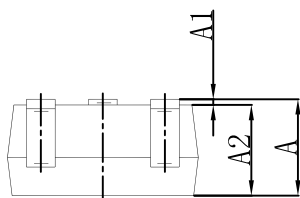
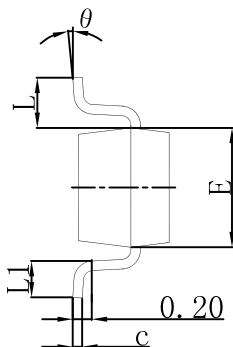
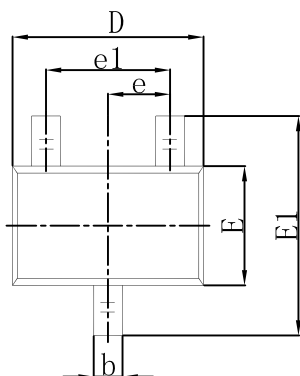


## Typical Characteristics



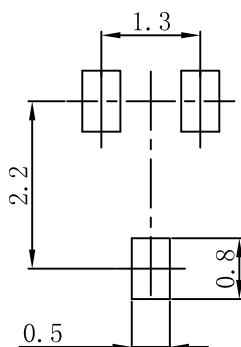


## SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

## SOT-323 Suggested Pad Layout



Note:  
1. Controlling dimension: in millimeters.  
2. General tolerance:  $\pm 0.05$  mm.  
3. The pad layout is for reference purposes only.



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