

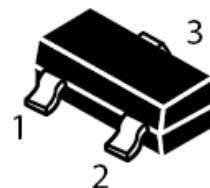
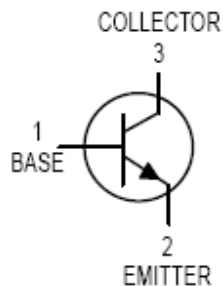
NPN General Purpose Transistor

FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

MECHANICAL DATA

- Case: SOT-323 Plastic
- Case material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead Free in RoHS 2002/95/EC Compliant



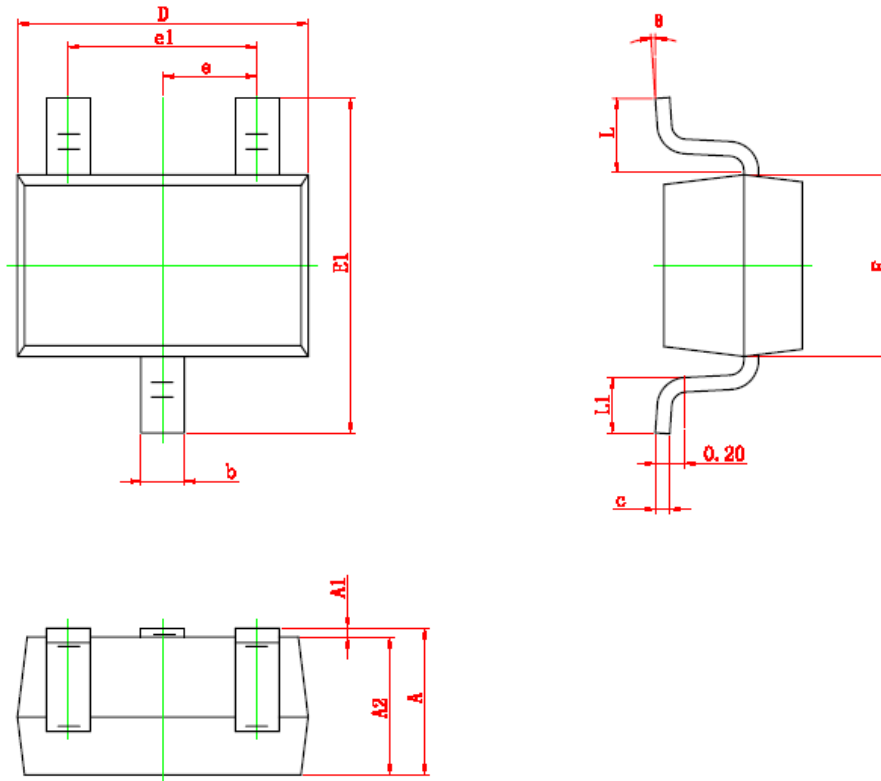
Maximum Ratings @ T_A = 25°C

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	30	V
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current -Continuous	I _C	100	mA
Collector Power Dissipation	P _C	150	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{STG}	-55~+150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	I _C =10μA, I _E =0	V _{CBO}	30			V
Collector-emitter breakdown voltage	I _C =10mA, I _B =0	V _{CEO}	30			V
Emitter-base breakdown voltage	I _E =1μA, I _C =0	V _{EBO}	5			V
Collector-base cut-off current	V _{CB} =30V	I _{CBO}			15	nA
DC current gain	V _{CE} =5V, I _C =10uA	AW BW CW		90 150 270		
	V _{CE} =5V, I _C =2mA	AW BW CW	110 200 420		220 450 800	
Collector-emitter saturation voltage	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5mA	V _{CE(sat)}			0.25 0.6	V
Base-emitter saturation voltage	I _C =10mA, I _B =0.5mA I _C =100mA, I _B =5mA	V _{BE(sat)}		0.7 0.9		V
Base-emitter voltage	I _C =2mA, V _{CE} =5V I _C =10mA, V _{CE} =5V	V _{BE}	580	660	700 770	mV
Transition frequency	V _{CE} =5V, I _C =10mA, f=100MHz	f _T	100			MHz
Collector output capacitance	V _{CB} =10V, f=1MHz	C _{ob}			4.5	pF
Noise figure	V _{CE} =5V, I _C =0.2mA, f=1KHz, R _S =2KΩ Bandwidth=200Hz	BW CW			10 4	dB

SOT-323 Outline Dimension



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
θ	0°	8°	0°	8°

Device Marking :

Device P/N	Classification of h_{FE}	Marking code
BC848AW	110-220	1J
BC848BW	200-450	1K
BC848CW	420-800	1L

Electrical characteristic curves

Fig.1 DC Current Gain

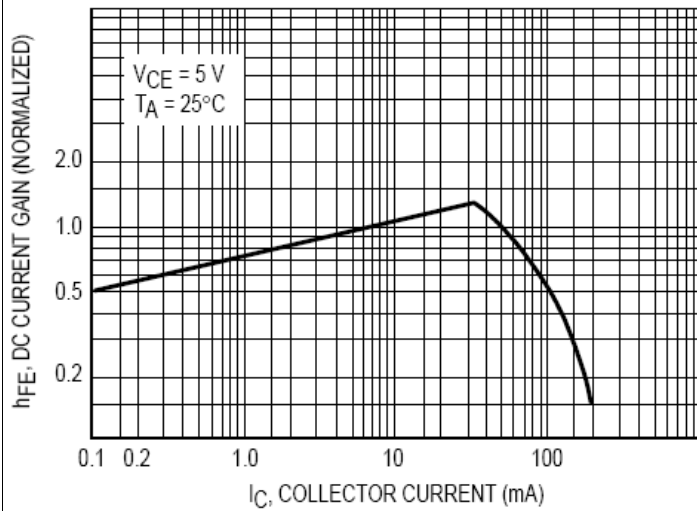


Fig.2 "Saturation" and "On" Voltages

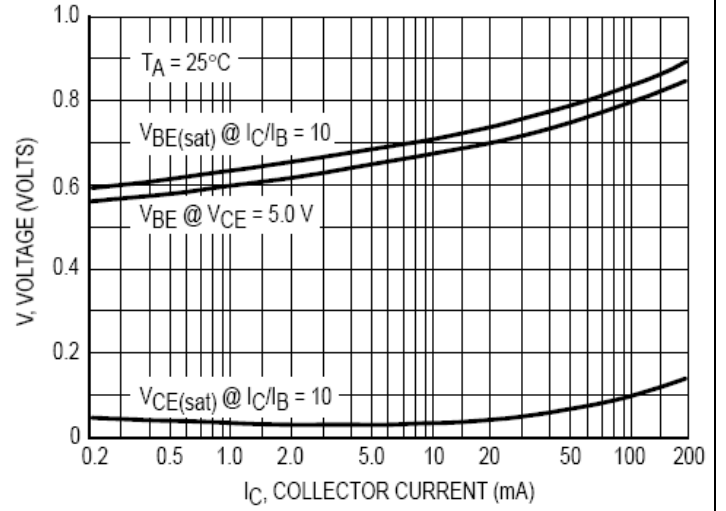


Fig.3 Collector Saturation Region

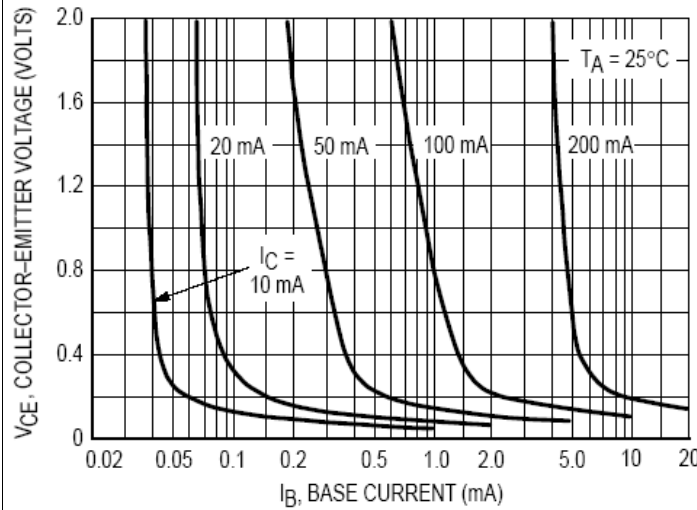


Fig.4 Base-Emitter Temperature Coefficient

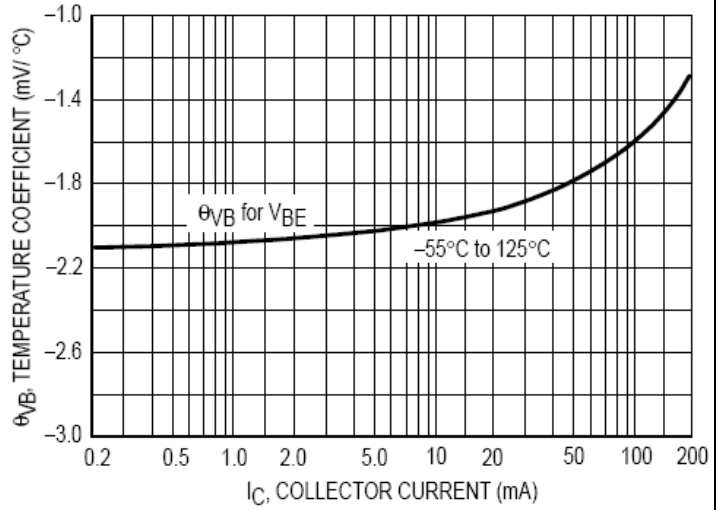


Fig.5 Capacitances

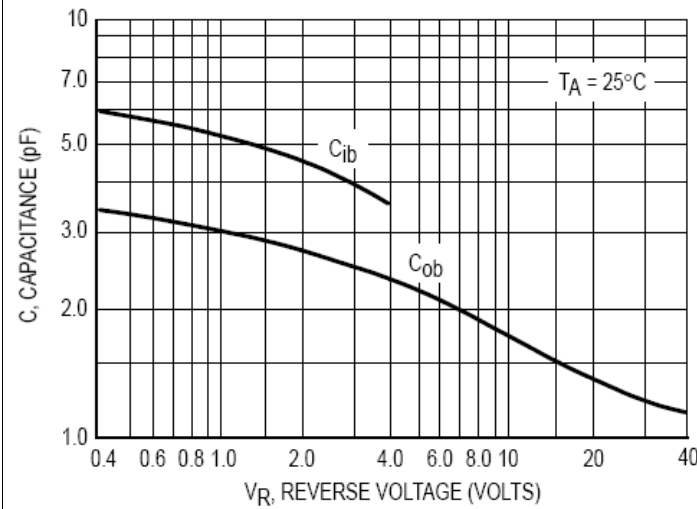
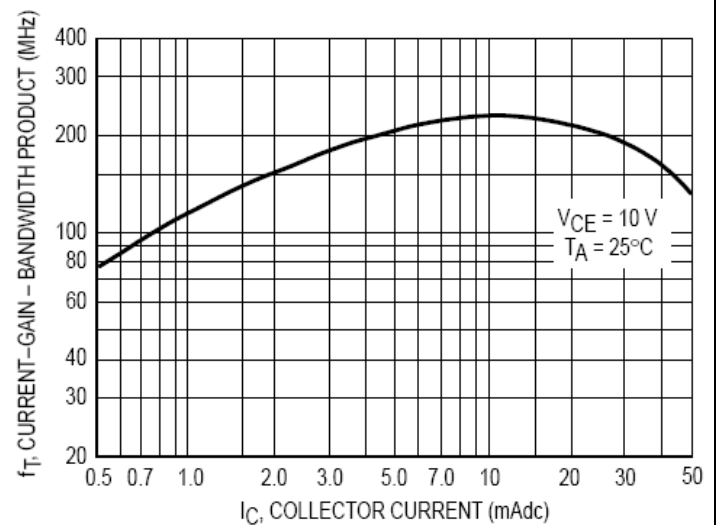


Fig.6 Current-Gain - Bandwidth Product



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