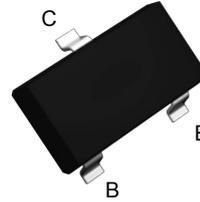


Features

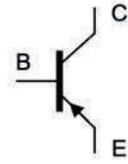
- Complementary to BC848x series
- Power dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications

Mechanical Data

- Small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any



SOT-23



Schematic Diagram

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current-Continuous	I_C	-100	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbols	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-30	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-30	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	-6	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-25\text{V}, I_E=0$	-	-100	nA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=-25\text{V}, I_B=0$	-	-100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$	-	-100	nA
DC Current Gain	BC858A	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	125	250	-
	BC858B		220	475	
	BC858C		420	800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100\text{mA}, I_B=-5\text{mA}$	-	-0.50	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-100\text{mA}, I_B=-5\text{mA}$	-	-1.10	V
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

Typical Characteristic Curves

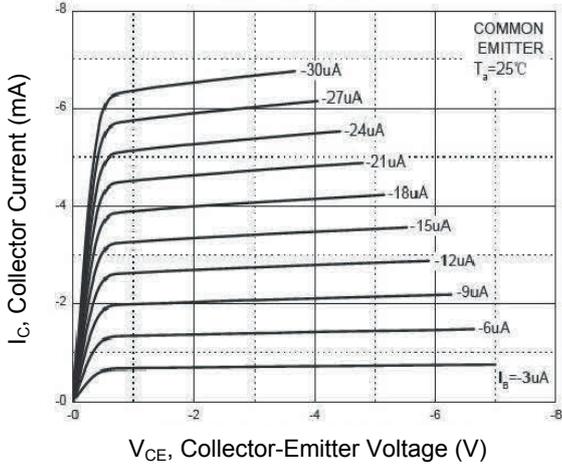


Figure 1. Static Characteristics

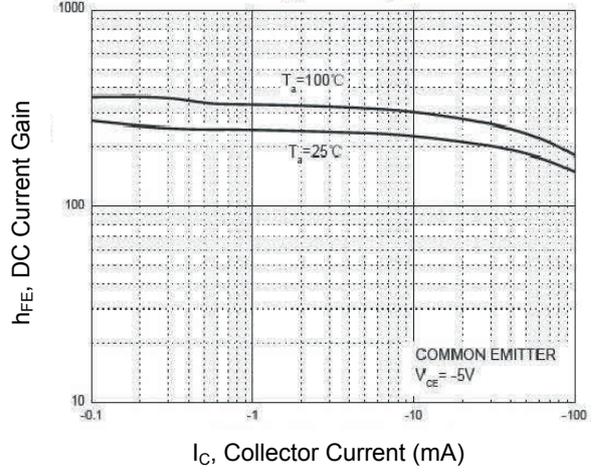


Figure 2. DC Current Gain vs. Collector Current

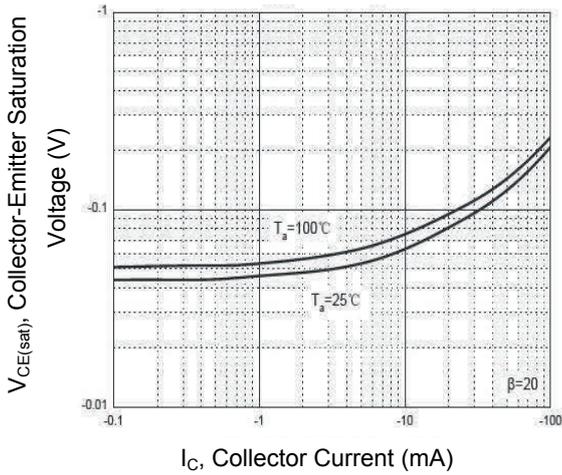


Figure 3. Collector-Emitter Saturation Voltage vs. Collector Current

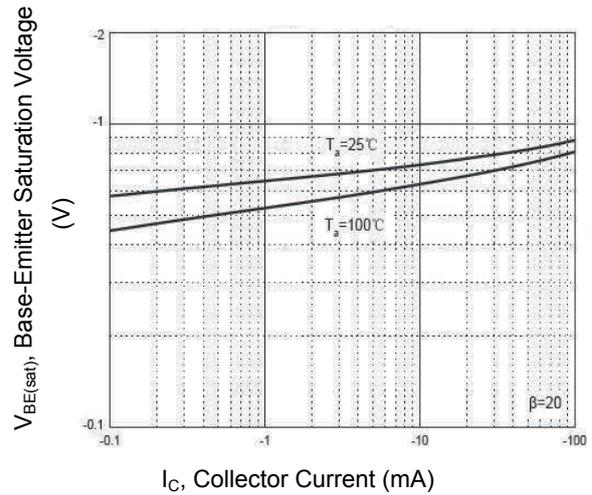


Figure 4. Base-Emitter Saturation Voltage vs. Collector Current

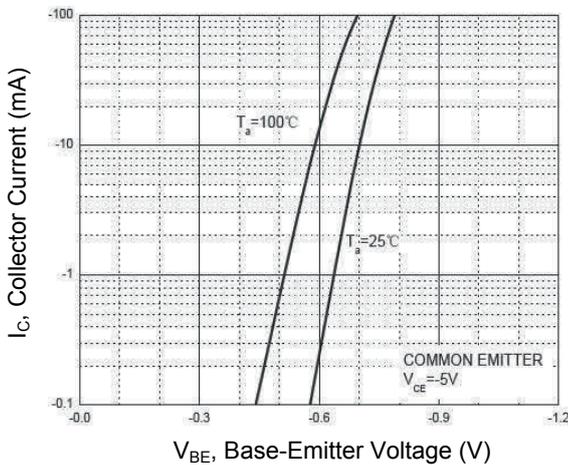


Figure 5. Collector Current vs. Base-Emitter Voltage

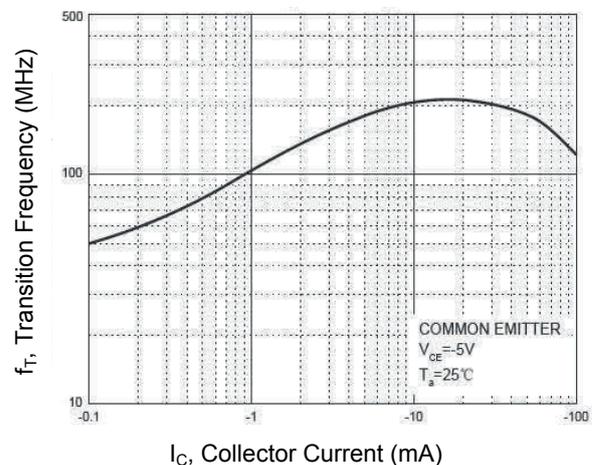


Figure 6. Transition Frequency vs. Collector Current

Typical Characteristic Curves

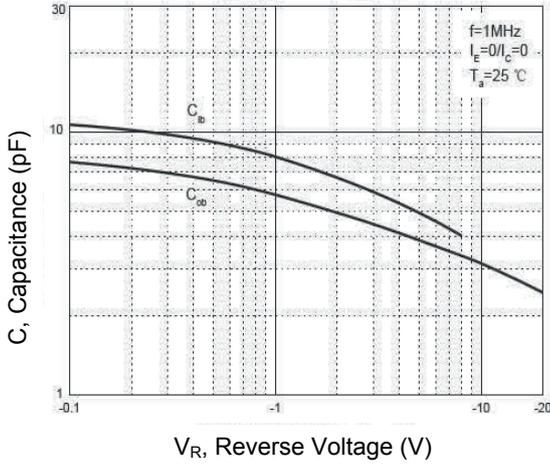


Figure 7. Capacitance Characteristics

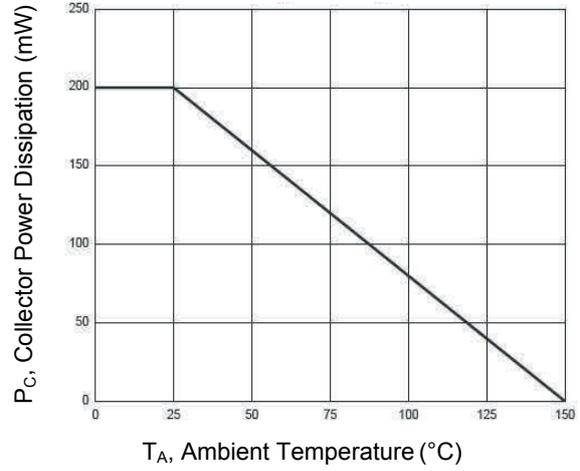
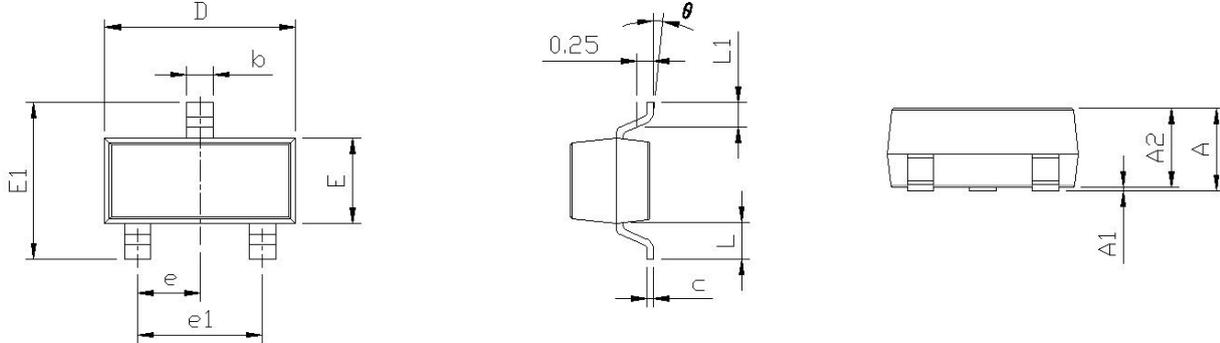


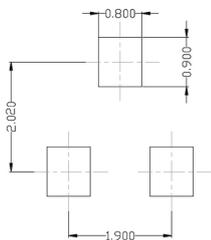
Figure 8. Power Dissipation vs. Ambient Temperature

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.510	0.012	0.020
c	0.080	0.180	0.003	0.007
D	2.800	3.040	0.110	0.120
E	1.200	1.400	0.047	0.055
E1	2.100	2.640	0.083	0.104
e	0.890	1.030	0.035	0.041
e1	1.780	2.050	0.070	0.081
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:

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

Order Information

Device	Package	Marking	Carrier	Quantity
BC858A	SOT-23	3J	Tape & Reel	3,000pcs / Reel
BC858B	SOT-23	3K	Tape & Reel	3,000pcs / Reel
BC858C	SOT-23	3L	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com