

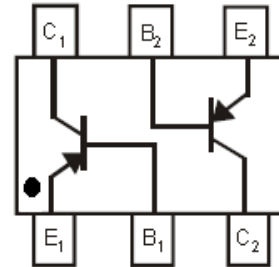


Features

- Epitaxial die construction
- Complementary NPN Type Available (BC847A/B/CV)
- Ultra-small surface mount package

Mechanical Data

- Case: SOT-563
- Molding compound: UL flammability classification rating 94V-0
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-563

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current (Continuous)	I _C	-100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (Collector) ^(Note 1)	P _C	150	mW
Thermal Resistance (Junction-to-Ambient) ^(Note 1)	R _{θJA}	833	°C/W
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C



BC857AV BC857BV BC857CV

Dual Bipolar Transistor(PNP+PNP)



Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage (Note 2)	V _{(BR)CBO}	I _C = 10μA, I _B = 0	-50	-	-	V
Collector-Emitter Breakdown Voltage (Note 2)	V _{(BR)CEO}	I _C = 10mA, I _B = 0	-45	-	-	V
Emitter-Base Breakdown Voltage (Note 2)	V _{(BR)EBO}	I _E = 1μA, I _C = 0	-5	-	-	V
Collector Cut-off Current (Note 2)	I _{CBO}	V _{CB} = -30V, I _E = 0	-	-	-15	nA
DC Current Gain (Note 2)	h _{FE}	V _{CE} = -5V, I _C = -2mA	125	-	250	-
		BC857AV	220	-	475	-
		BC857CV	420	-	800	-
Collector-Emitter Saturation Voltage (Note 2)	V _{CE(sat)}	I _C = -10mA, I _B = -0.5mA	-	-	-0.1	V
		I _C = -100mA, I _B = -5mA	-	-	-0.4	V
Base-Emitter Saturation Voltage (Note 2)	V _{BE(sat)}	I _C = -10mA, I _B = -0.5mA	-	-0.7	-	V
		I _C = -100mA, I _B = -5mA	-	-0.9	-	V
Base-Emitter Voltage (Note 2)	V _{BE(ON)}	V _{CE} = -5V, I _C = -2mA	-0.6	-	-0.75	V
		V _{CE} = -5V, I _C = -10mA	-	-	-0.82	V
Transition Frequency	f _t	V _{CE} = -5V, I _C = -10mA f = 100MHz	100	-	-	-
Collector-BASE Capacitance	C _{CB}	V _{CB} = -10V, I _E = 0 f = 1MHz	-	-	4.5	pF

Note:

1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.
2. Short duration pulse test used to minimize self-heating effect.



Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

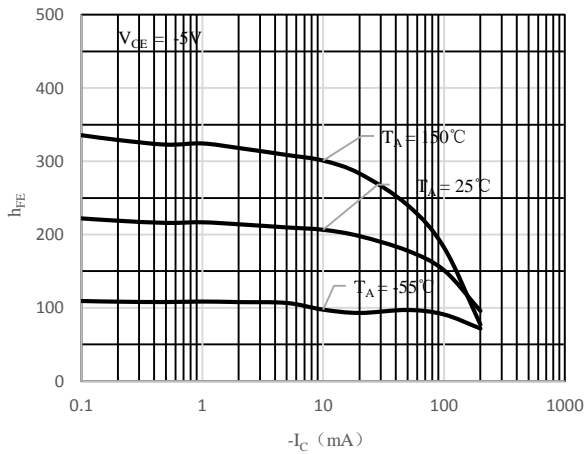


Fig 1 h_{FE} vs. I_c (BC857AV)

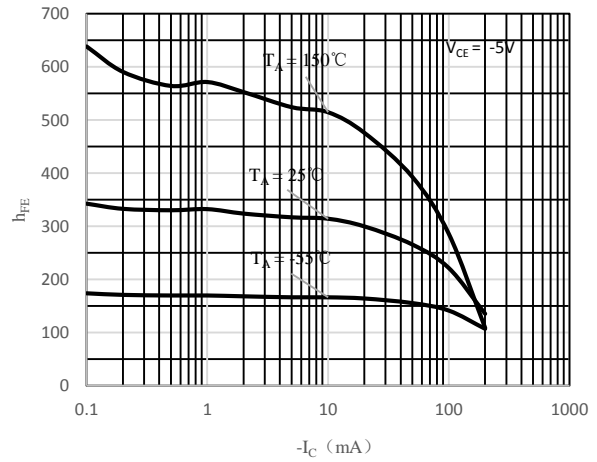


Fig 2 h_{FE} vs. I_c (BC857BV)

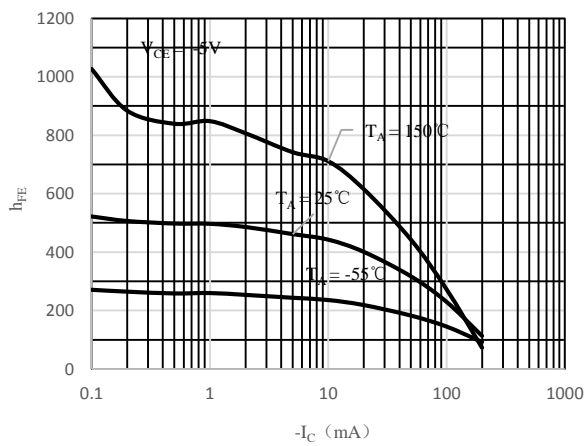


Fig 3 h_{FE} vs. I_c (BC857CV)

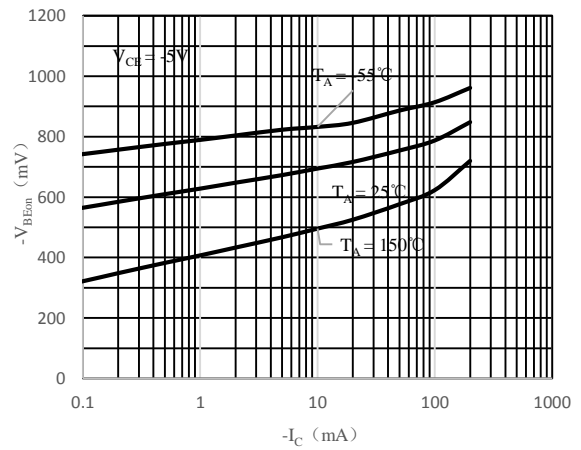


Fig 4 $V_{BE(ON)}$ vs. I_c

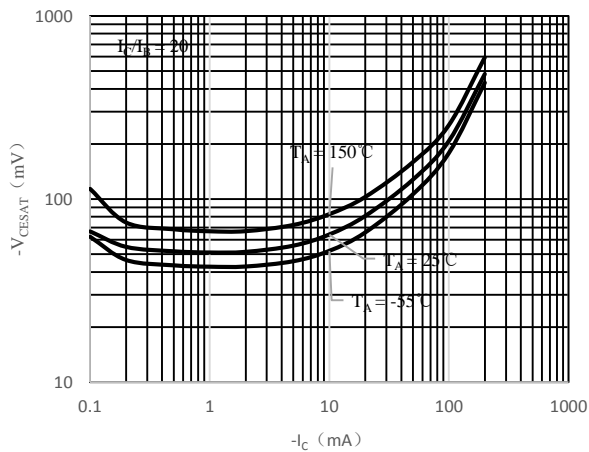


Fig 5 $V_{CE(sat)}$ vs. I_c

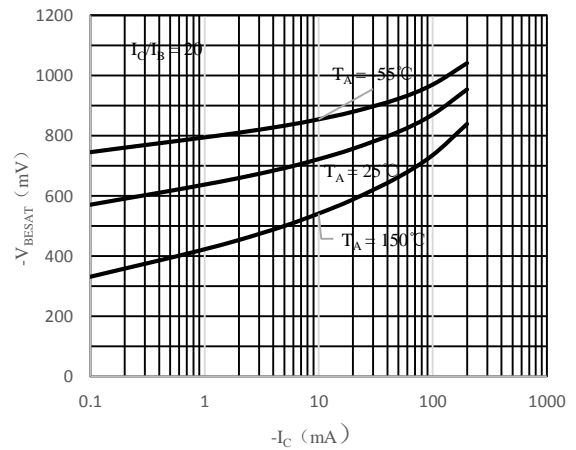
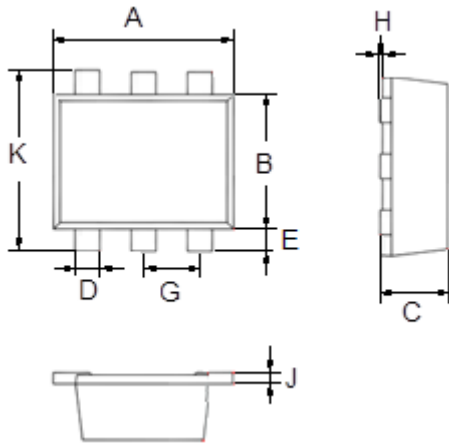


Fig 6 $V_{BE(sat)}$ vs. I_c



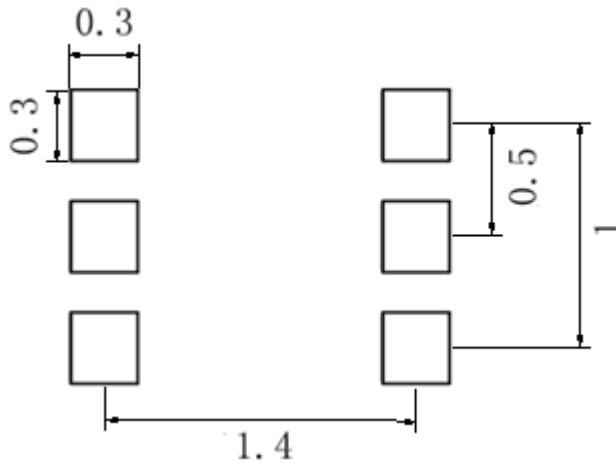
Package Outline Dimensions (Unit: mm)



SOT-563		
Dimension	Min.	Max.
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700

Package Outline Dimensions (Unit: mm)

SOT-563



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC857AV	SOT-563	3000pcs / Tape & Reel	3E
BC857BV	SOT-563	3000pcs / Tape & Reel	K5V
BC857CV	SOT-563	3000pcs / Tape & Reel	3G