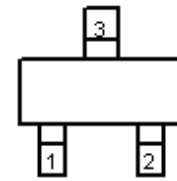


## Features

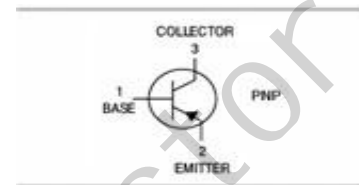
- Epitaxial planar die construction
- Complimentary to BC817
- High collector current
- High current gain
- Low collector-emitter saturation voltage



**SOT-23**

## Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



## Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BC807-16	SOT-23	3000 pcs / Tape & Reel	5A
BC807-25	SOT-23	3000 pcs / Tape & Reel	5B
BC807-40	SOT-23	3000 pcs / Tape & Reel	5C

## Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	-45	V
Emitter-Base Breakdown Voltage	V <sub>EBO</sub>	-5	V
Continuous Collector Current	I <sub>C</sub>	-0.5	A

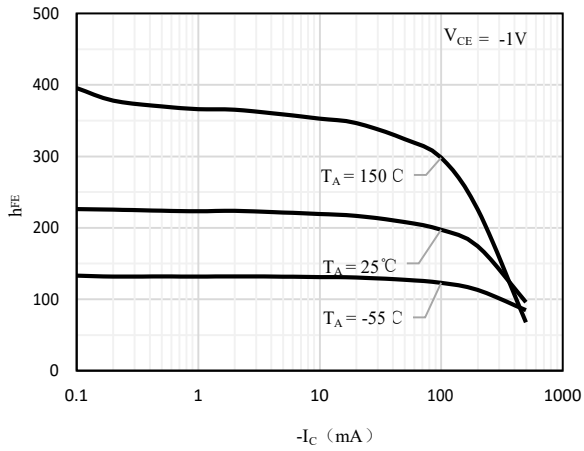
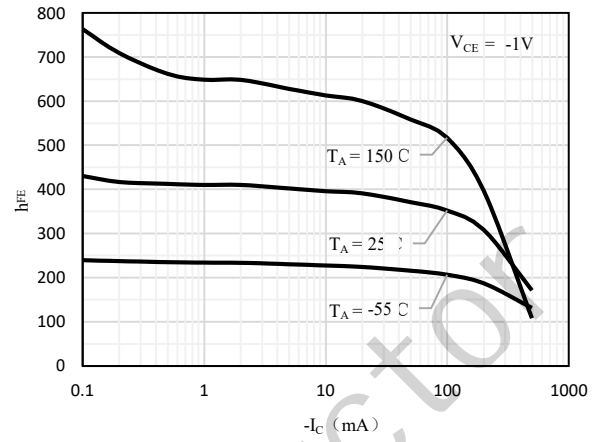
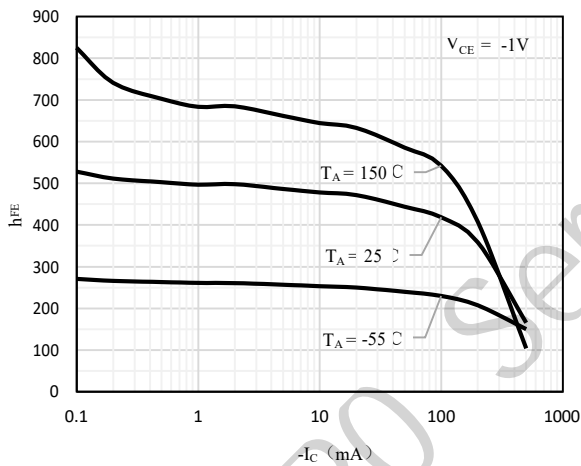
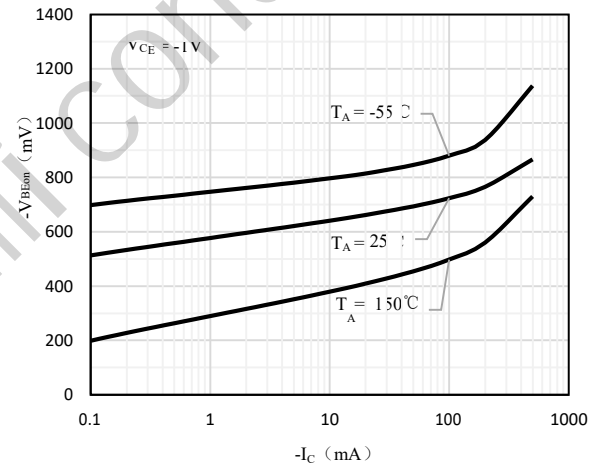
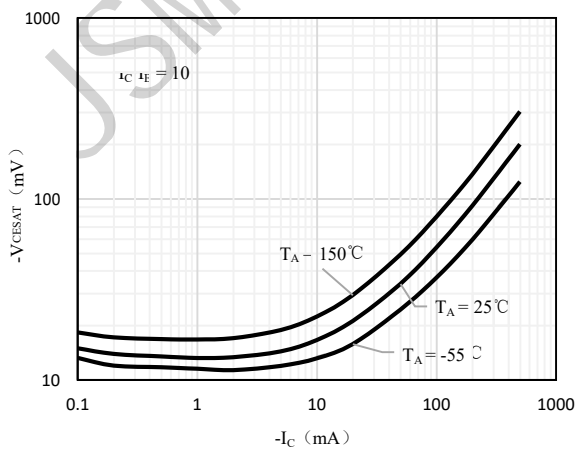
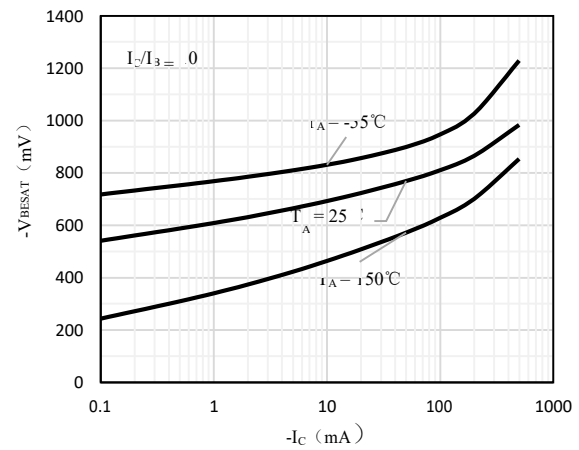
## Thermal Characteristics

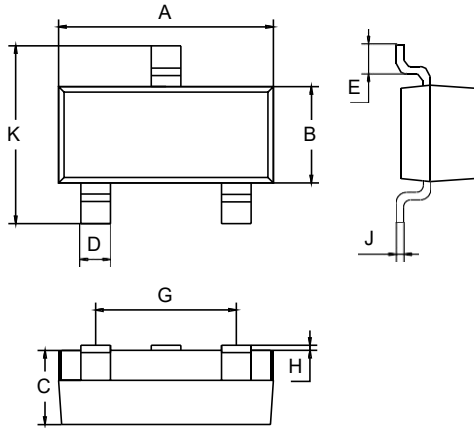
Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	300	mW
Thermal Resistance Junction-to-Air *1	R <sub>θJA</sub>	395	°C/W
Thermal Resistance Junction-to-Case *1	R <sub>θJC</sub>	218	°C/W
Thermal Resistance Junction-to-Lead *1	R <sub>θJL</sub>	191	°C/W
Operating junction Temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 15mm \* 15mm \* 1mm FR4-epoxy P.C.B

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

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-50	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-45	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = -25\text{V}, I_E = 0$	-	-	-100	nA
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-100	nA
DC Current Gain	BC807-16	$h_{FE}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	197	250	-
	BC807-25			160	352	400	-
	BC807-40			250	418	600	-
	BC807-16		$V_{CE} = -1\text{V}, I_C = -300\text{mA}$	60	-	-	-
	BC807-25			100	-	-	-
	BC807-40			170	-	-	-
	BC807-40			$V_{CE} = -1\text{V}, I_C = -500\text{mA}$	40	-	-
Collector-emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-0.7	V
Base-emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-1.2	V
Transition Frequency		$f_T$	$I_C = -10\text{mA}, V_{CE} = -5\text{V}$	-	200	-	MHz
Collector Output Capacitance		$C_{OBO}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	10	pF

**Ratings and Characteristics Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

**Fig 1  $h_{FE}$  vs.  $I_C$  (BC807-16)**

**Fig 2  $h_{FE}$  vs.  $I_C$  (BC807-25)**

**Fig 3  $h_{FE}$  vs.  $I_C$  (BC807-40)**

**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-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

**Package Outline Dimensions** (Unit: mm)

## SOT-23

