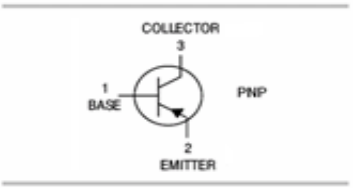
PNP Silicon Epitaxial Planar Transistor

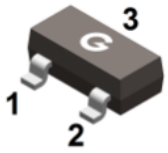
BC807-16/-25/-40

Features

HF

- 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_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-50	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-45	V
Emitter-Base Breakdown Voltage	V_{EBO}	-5	V
Collector Current (Continuous)	I_C	-0.5	A
Collector Current (Peak)	I_{CM}	-1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	300	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	395	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	218	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	191	°C/W
Operating junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-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°C unless otherwise specified)

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

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

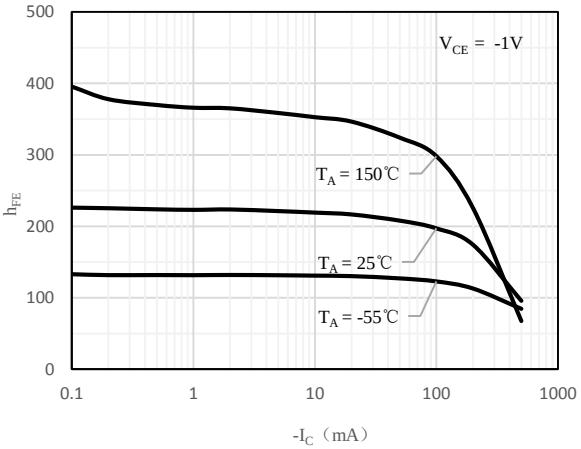


Fig 1 h_{FE} vs. I_C (BC807-16)

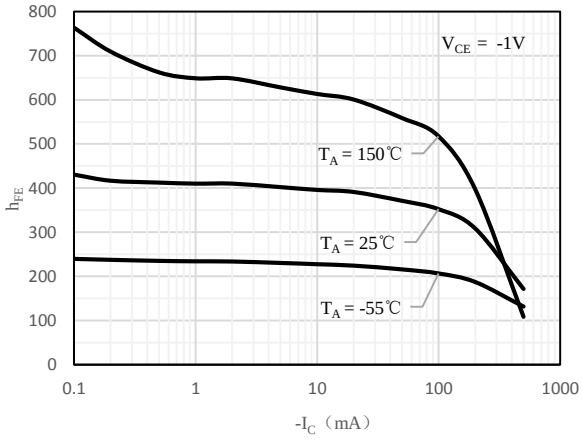


Fig 2 h_{FE} vs. I_C (BC807-25)

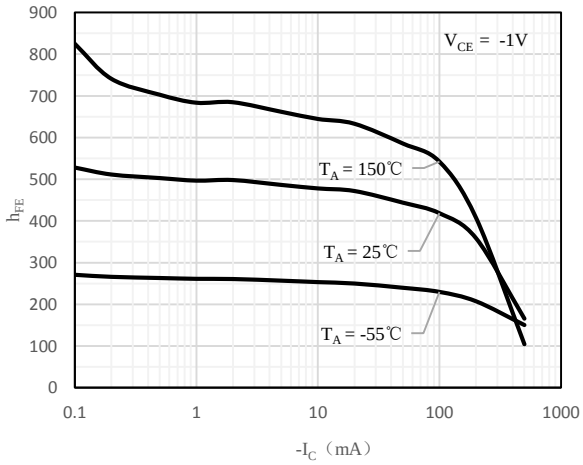


Fig 3 h_{FE} vs. I_C (BC807-40)

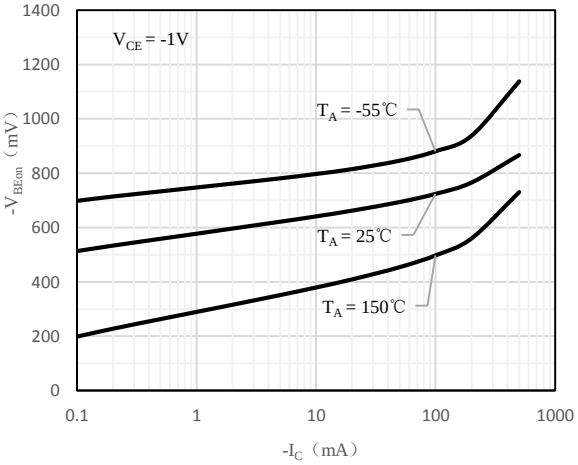


Fig 4 $V_{BE(ON)}$ vs. I_C

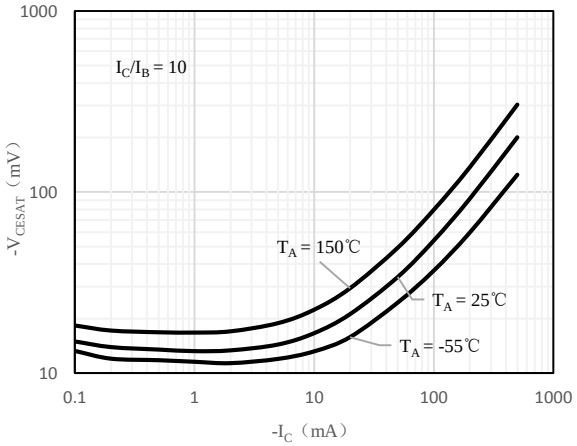


Fig 2 $V_{CE(sat)}$ vs. I_C

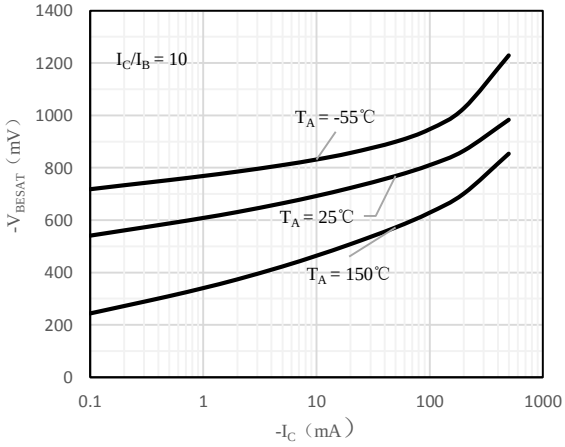
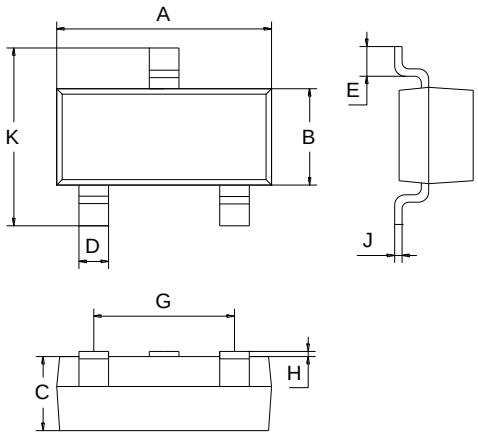


Fig 3 $V_{BE(sat)}$ vs. I_C

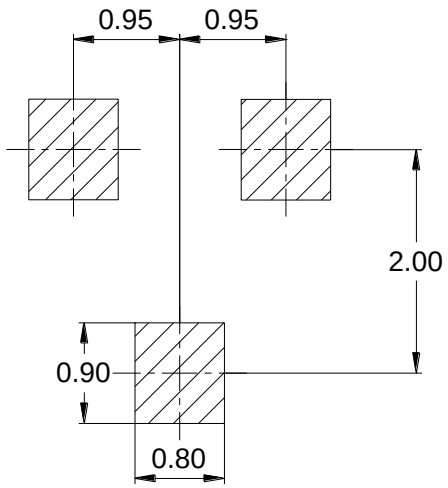
Package Outline Dimensions (Unit: mm)



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



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