

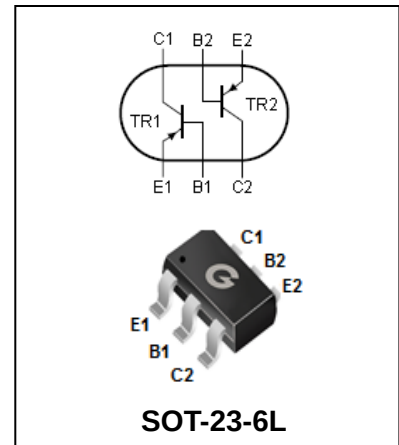
PNP General Purpose Amplifier

BC807-16/25/40-6L

FEATURES

- High collector current & current gain
- Low collector-emitter saturation voltage
- Complementary NPN product available - BC817-6L

HF



APPLICATIONS

- General purpose in desktop & handheld systems
- Ideal for medium-power signal amplification and switching

ORDERING INFORMATION

Part Number	Marking	Package
BC807-16-6L	5A	SOT-23-6L
BC807-25-6L	5B	SOT-23-6L
BC807-40-6L	5C	SOT-23-6L

MAXIMUM RATING (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current (Continuous)	I _C	-500	mA
Collector Current (Peak)	I _{CM}	1	A
Power Dissipation (Per transistor) *1	P _D	370	mW
Power Dissipation (Per device) *1	P _D	600	mW
Thermal Resistance (Junction-to-Ambient) *2	R _{θJA}	208	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Notes:

- 1、 Device mounted on an FR4 Printed-Circuit Board (PCB); single-sided copper; tin plated; mounting pad for collector 1 cm²
- 2、 Device mounted on an FR4 PCB; single-sided copper; tin-plated; mounting pad for collector 1 cm²

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ELECTRICAL CHARACTERISTICS (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-50	-	-	V	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-45	-	-	V	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5	-	-	V	
Collector Cut-off Current	I_{CBO}	$V_{CB} = -25V, I_E = 0$	-	-	-0.1	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -4V, I_C=0$	-	-	-0.1	μA	
DC Current Gain	BC807-16-6L BC807-25-6L BC807-40-6L	h_{FE} $V_{CE} = -1V, I_C = -100mA$	100 160 250	-	250 400 600	-	
DC Current Gain	BC807-16-6L BC807-25-6L BC807-40-6L		$V_{CE} = -1V, I_C = -300mA$		60 100 170		- - -
DC Current Gain	BC807-40-6L		$V_{CE} = -1V, I_C = -500mA$		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	$V_{CE} = -5V, I_C = -10mA$ $f = 100MHz$	-	200	-	MHz	
Collector-Base Capacitance	C_{CB}	$V_{CB} = -10V, f = 1MHz$	-	-	10	pF	

CLASSIFICATION OF h_{FE}

Rank	BC807-16-6L	BC807-25-6L	BC807-40-6L
Range	100 ~ 250	160 ~ 400	250 ~ 600
Marking	5A	5B	5C

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TYPICAL CHARACTERISTICS (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

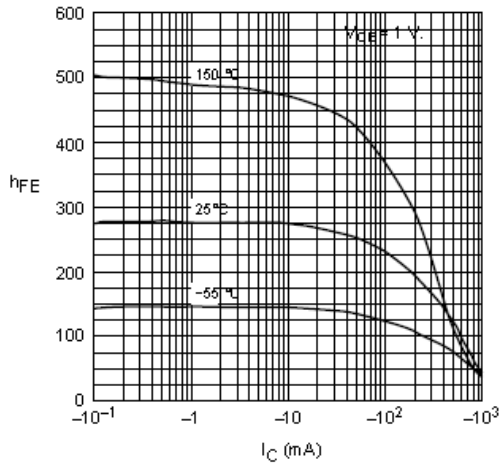


Fig.1 DC current gain as a function of collector current; typical values.

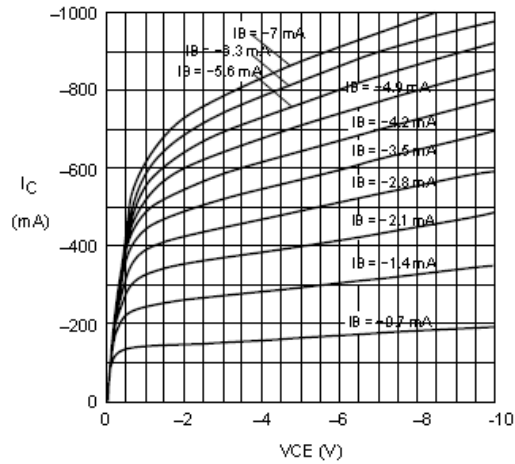


Fig.2 Collector current as a function of collector-emitter voltage; typical values.

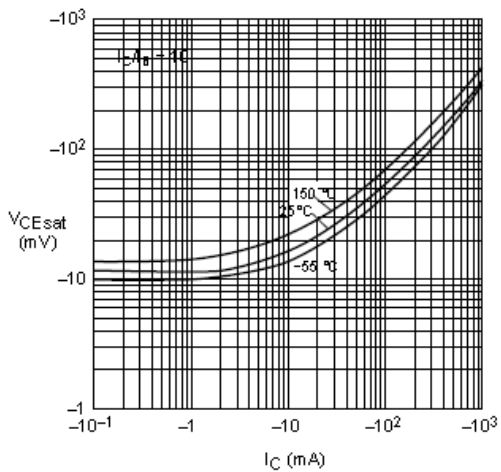


Fig.3 Collector-emitter saturation voltage as a function of collector current; typical values.

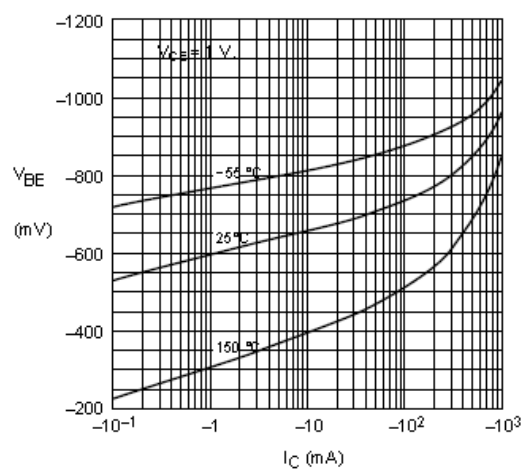


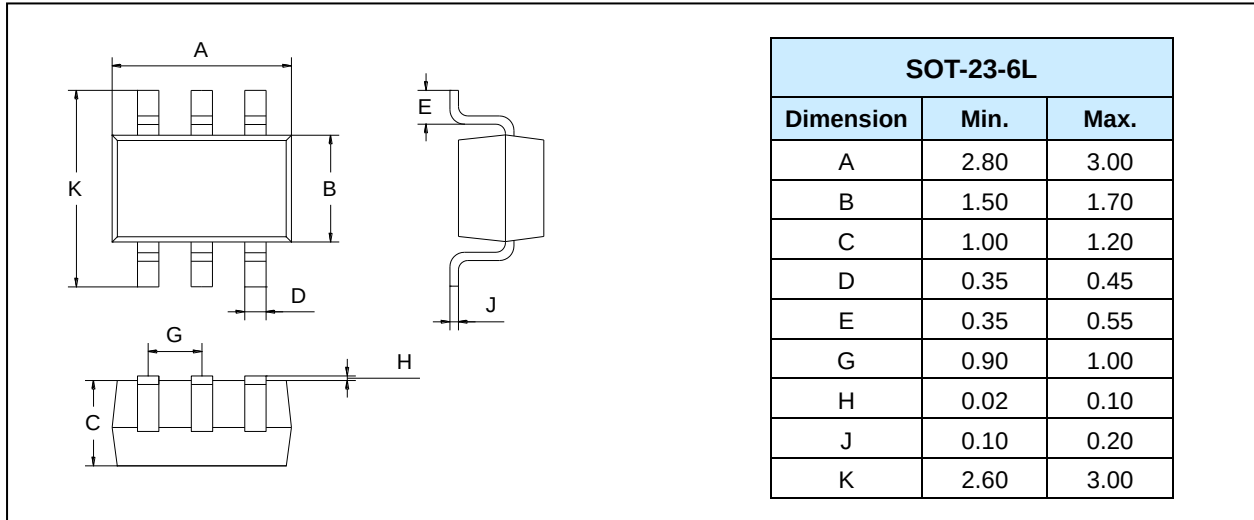
Fig.4 Base-emitter voltage as a function of collector current; typical values.

PNP General Purpose Amplifier

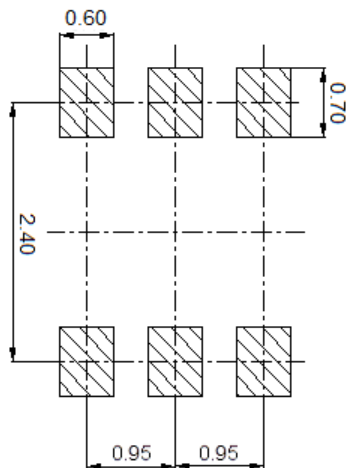
BC807-16/25/40-6L

PACKAGE OUTLINE (Unit: mm)

Plastic surface mounted package



MOUNTING PAD LAYOUT (Unit: mm)



PACKAGE INFORMATION

Part Number	Package	Shipping
BC807-16/25/40-6L	SOT-23-6L	3000pcs / Tape & Reel

PNP General Purpose Amplifier

BC807-16/25/40-6L

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CHANGE RECORD

Revision	Date	Modification
P	2021-09-25	The First Edition