

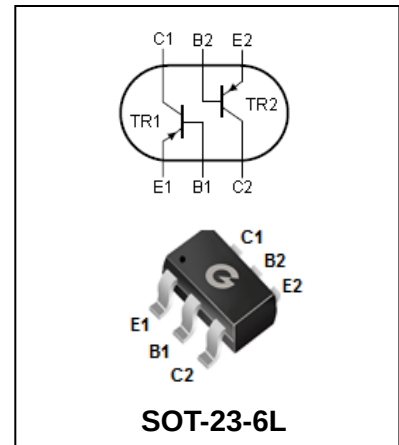
PNP General Purpose Amplifier

TBC807-16/25/40-6L

FEATURES

- High collector current & current gain
- Low collector-emitter saturation voltage
- Complementary NPN product available - TBC817-6L
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF



APPLICATIONS

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

ORDERING INFORMATION

Part Number	Marking	Package
TBC807-16-6L	5A	SOT-23-6L
TBC807-25-6L	5B	SOT-23-6L
TBC807-40-6L	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

PNP General Purpose Amplifier

TBC807-16/25/40-6L

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}	$V_{CB} = -25\text{V}, I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	TBC807-16-6L TBC807-25-6L TBC807-40-6L	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	-	250	-
DC Current Gain	TBC807-16-6L TBC807-25-6L TBC807-40-6L		160	-	400	-
DC Current Gain	TBC807-16-6L TBC807-25-6L TBC807-40-6L		250	-	600	-
DC Current Gain	TBC807-40-6L	$V_{CE} = -1\text{V}, I_C = -300\text{mA}$	60	-	-	-
DC Current Gain	TBC807-40-6L	$V_{CE} = -1\text{V}, I_C = -300\text{mA}$	100	-	-	-
DC Current Gain	TBC807-40-6L	$V_{CE} = -1\text{V}, I_C = -300\text{mA}$	170	-	-	-
DC Current Gain	TBC807-40-6L	$V_{CE} = -1\text{V}, I_C = -500\text{mA}$	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	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	-	200	-	MHz
Collector-Base Capacitance	C_{CB}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	-	-	10	pF

CLASSIFICATION OF H_{FE}

Rank	TBC807-16-6L	TBC807-25-6L	TBC807-40-6L
Range	100 ~ 250	160 ~ 400	250 ~ 600
Marking	5A	5B	5C

PNP General Purpose Amplifier

TBC807-16/25/40-6L

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

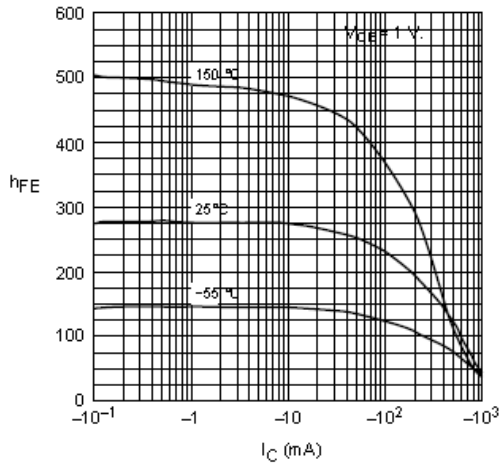


Fig.1 DC current gain as a function of collector current; typical values.

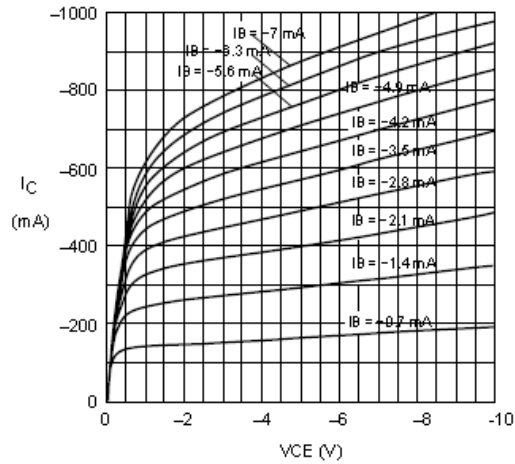


Fig.2 Collector current as a function of collector-emitter voltage; typical values.

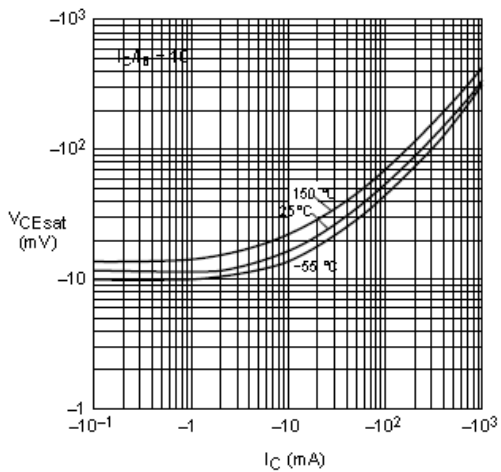


Fig.3 Collector-emitter saturation voltage as a function of collector current; typical values.

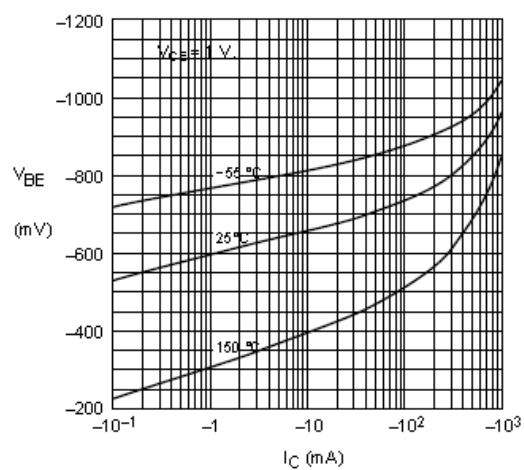


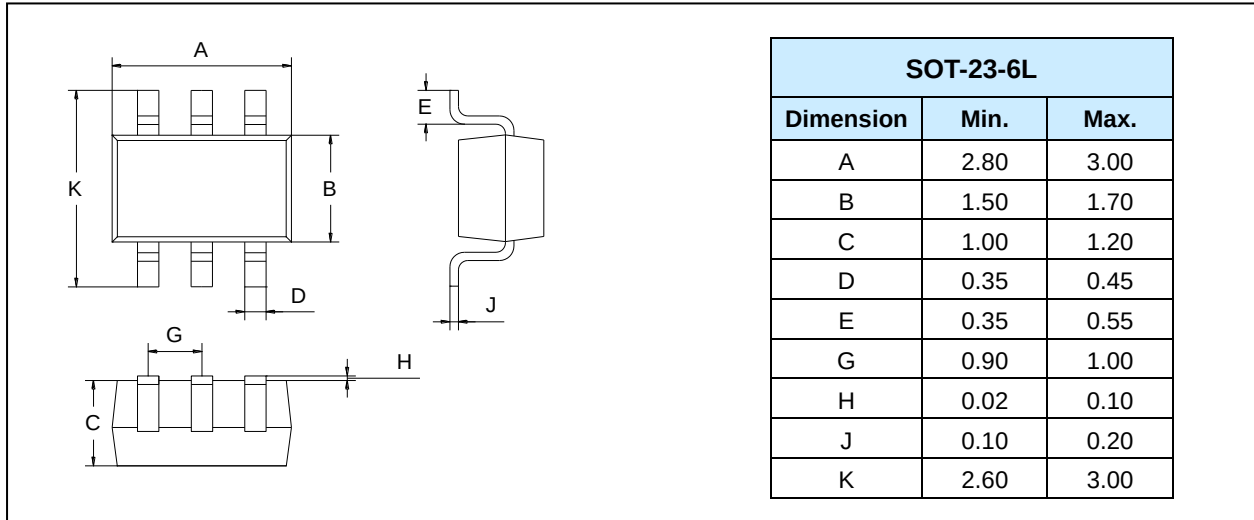
Fig.4 Base-emitter voltage as a function of collector current; typical values.

PNP General Purpose Amplifier

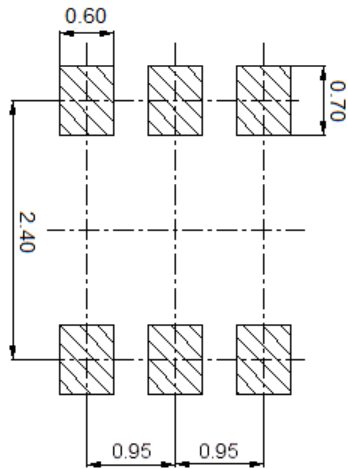
TBC807-16/25/40-6L

PACKAGE OUTLINE (Unit: mm)

Plastic surface mounted package



MOUNTING PAD LAYOUT (Unit: mm)



PACKAGE INFORMATION

Part Number	Package	Shipping
TBC807-16/25/40-6L	SOT-23-6L	3000pcs / Tape & Reel

PNP General Purpose Amplifier

TBC807-16/25/40-6L

IMPORTANT NOTICE

Changzhou Galaxy Century Microelectronics (GME) reserves the right to make changes without further notice to any product information (copyrighted) herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.

PNP General Purpose Amplifier

TBC807-16/25/40-6L

CHANGE RECORD

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