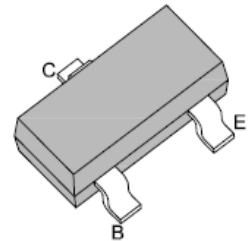


SMD General Purpose Transistor (PNP)

Features

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- RoHS compliance



Mechanical Data

Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-750, Method 2026
Weight:	0.008 gram

SOT-23



Marking Information

	BC807-16	BC807-25	BC807-40
Marking Code	7A	7B	7C

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
V_{CEO}	Collector-Emitter Voltage	-45	V	
V_{CBO}	Collector-Base Voltage	-50	V	
V_{EBO}	Emitter-Base Voltage	-5.0	V	
I_c	Collector Current	-500	mA	
P_D	Total Device Power Dissipation	330	mW	Note 1
R_{θJA}	Thermal Resistance, Junction to Ambient	375	°C /W	Note 1
R_{θJL}	Thermal Resistance, Junction to Lead	220	°C /W	
T_J, T_{STG}	Junction and Storage, Temperature Range	-55 to +150	°C	

Note: 1. Transistor mounted on FR-5 board minimum pad mounting conditions.

SMD General Purpose Transistor (PNP)

BC807-16/BC807-25/BC807-40

Electrical Characteristics ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Off Characteristics

Symbol	Description	Min.	Max.	Unit	Conditions
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	-45	-	V	$I_C=-10mA$, $I_B=0$
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	-50	-	V	$I_C=-10\mu A$, $V_{EB}=0$
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	-5.0	-	V	$I_E=-1\mu A$, $I_C=0$
I_{EBO}	Emitter-Base Cut-off Current	-	-100	nA	$V_{EB}=-5V$
I_{CBO}	Collector Cut-off Current	-	-100	nA	$V_{CB}=-20V$, $I_E=0$, $T_J=25^{\circ}C$
		-	-5	μA	$V_{CB}=-20V$, $I_E=0$, $T_J=150^{\circ}C$

On Characteristics

Symbol	Description		Min.	Max.	Unit	Conditions
hFE	D.C. Current Gain	BC807-16	100	250	-	VCE=-1V, IC=-100mA
			40	-		VCE=-1V, IC=-500mA
		BC807-25	160	400		VCE=-1V, IC=-100mA
			40	-		VCE=-1V, IC=-500mA
		BC807-40	250	600		VCE=-1V, IC=-100mA
			40	-		VCE=-1V, IC=-500mA
VCE(sat)	Collector-Emitter Saturation Voltage		-	-0.7	V	IC=-500mA, IB=-50mA
VBE(on)	Base-Emitter On Voltage		-	-1.2	V	IC=-500mA, VCE=-1V

Small-signal Characteristics

Symbol	Description	Min.	Typ.	Unit	Conditions
f_T	Current Gain-Bandwidth Product	100	-	MHz	$V_{CE}=-5V$, $I_C=-10mA$, $f=100MHz$
C_{OBO}	Output Capacitance	-	7.0	pF	$V_{CB}=-10V$, $I_E=0$, $f=1MHz$

SMD General Purpose Transistor (PNP)

BC807-16/BC807-25/BC807-40

Typical Characteristics Curves

Fig.1- BC807-16 Typical hFE vs. Ic

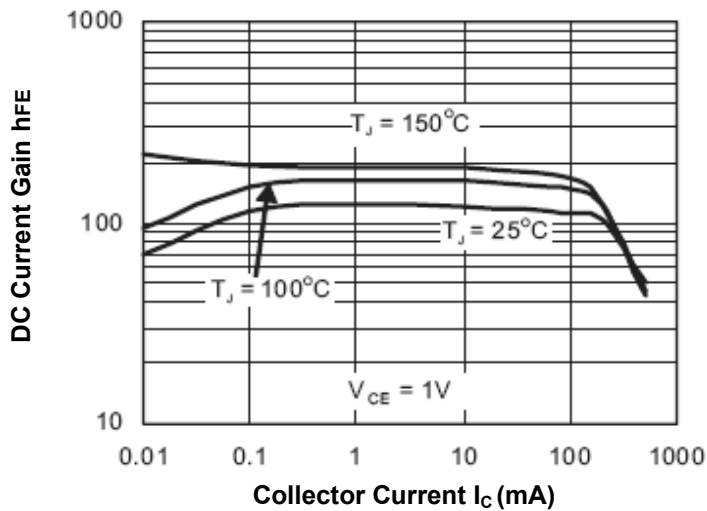


Fig.2- BC807-25 Typical hFE vs. Ic

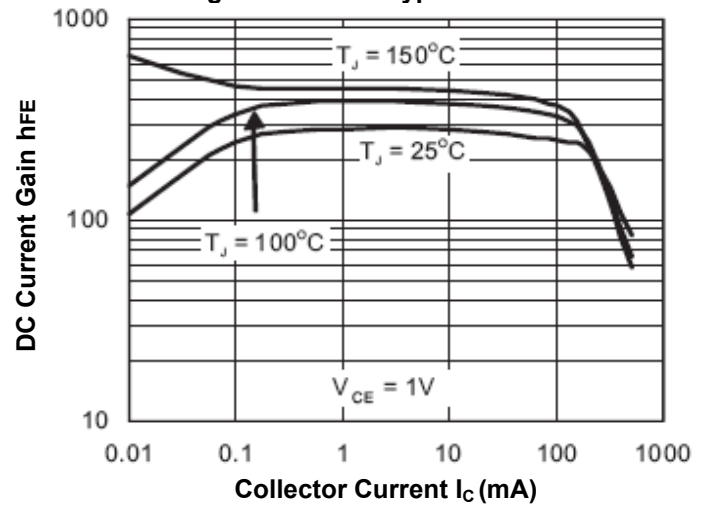


Fig.3- BC807-40 Typical hFE vs. Ic

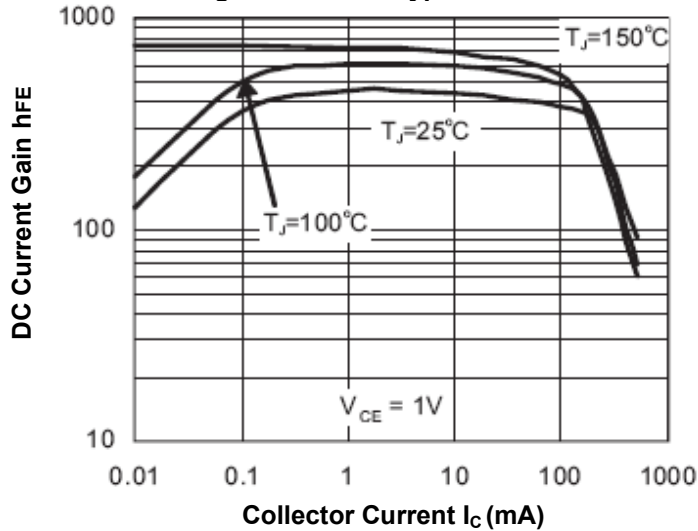
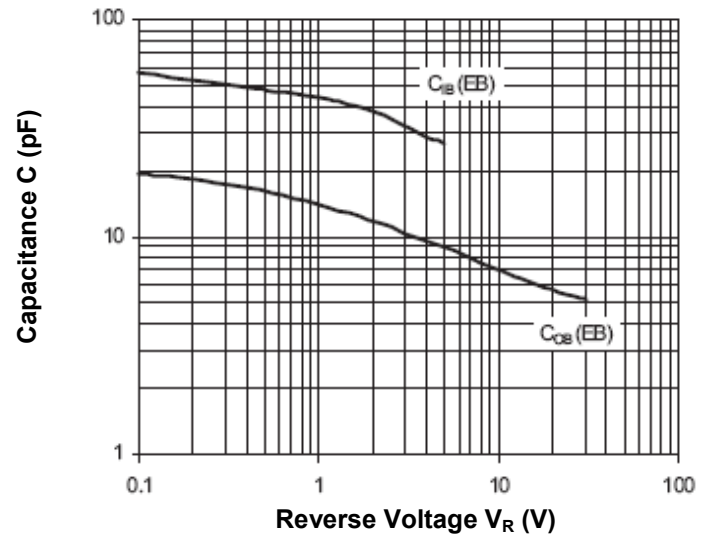


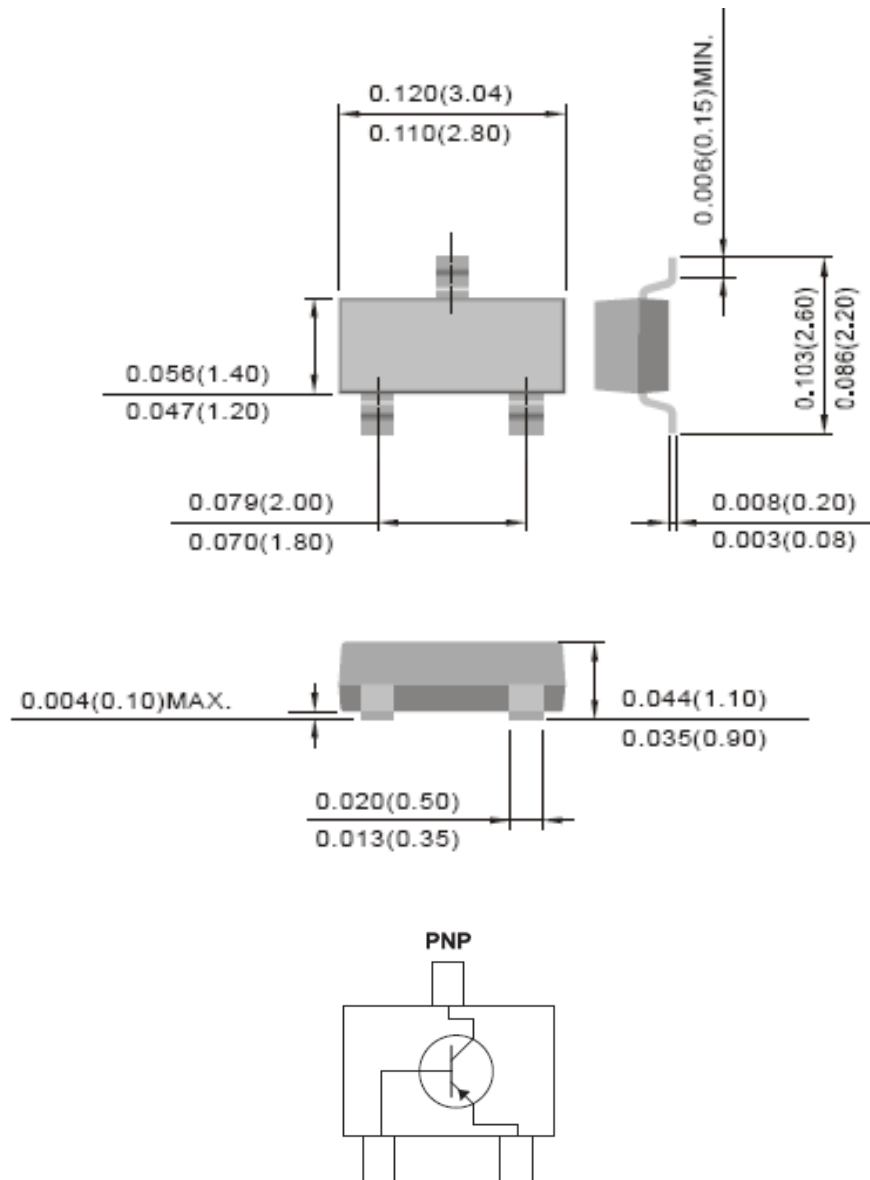
Fig.4- Typical Capacitance



SMD General Purpose Transistor (PNP)

BC807-16/BC807-25/BC807-40

Dimensions in inch (mm)

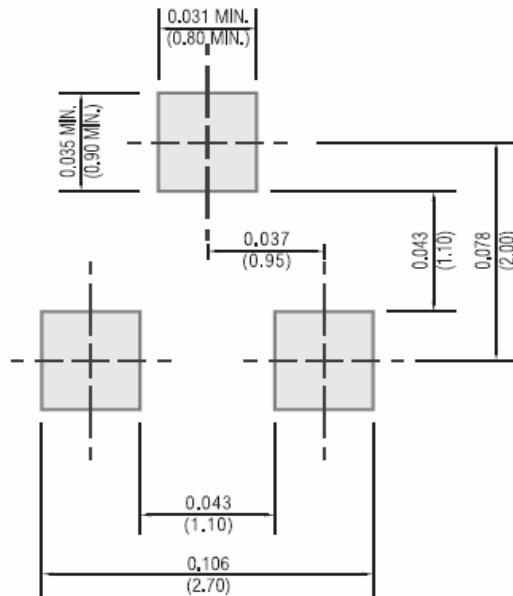


SOT-23

SMD General Purpose Transistor (PNP)

BC807-16/BC807-25/BC807-40

Mounting Pad Layout in inch (mm)



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