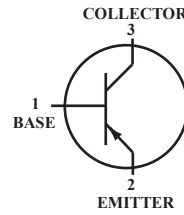


## General Purpose Transistor PNP Silicon



MARKING DIAGRAM



### Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Collector-Base Voltage	$V_{CB0}$	-50	V
Emitter-Base Voltage	$V_{EB0}$	-5.0	V
Collector Current-Continuous	$I_C$	500	mAdc

### Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board <sup>(1)</sup> (Note 1.) $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (Note 2.) $T_A=25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage, Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

### Device Marking

BC807-17=5A, BC807-25=5B, BC807-40=5C

1.FR-5=1.0 x 0.75 x 0.062 in.

2.Alumina=0.4 x 0.3 x 0.024 in. 99.5% alumina.

BC807-16/BC807-25  
BC807-40

**QUNHAN TECH**

**Electrical Characteristics** (TA=25°C Unless Otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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**Off Characteristics**

Collector-Emitter Breakdown Voltage (IC= -10mA)	V <sub>(BR)CEO</sub>	-45	-	-	V
Collector-Emitter Breakdown Voltage (IC=-10 μA ,V <sub>EB</sub> =0)	V <sub>(BR)CES</sub>	-50	-	-	V
Emitter-Base Breakdown Voltage (I <sub>E</sub> =-1.0 μA)	V <sub>(BR)EBO</sub>	-5.0	-	-	V
Collector Cutoff Current (V <sub>CB</sub> =20V) (V <sub>CB</sub> =20V, T <sub>A</sub> =150°C)	I <sub>CBO</sub>	-	-	100 5.0	nA mA

**Electrical Characteristics** (TA=25°C Unless Otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Unit
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**On Characteristics**

DC Current Gain (I <sub>C</sub> = -100mA, V <sub>CE</sub> =-1.0V)	BC807-16 BC807-25 BC807-40	100 160 250	- - -	250 400 600	-
(I <sub>C</sub> = -500mA, V <sub>CE</sub> =-1.0V)		40	-	-	
Collector-Emitter Saturation Voltage (I <sub>C</sub> = -500mA, I <sub>B</sub> =50mA)	V <sub>CE(sat)</sub>	-	-	-0.7	V
Base-Emitter On Voltage (I <sub>C</sub> = -500mA, I <sub>B</sub> =-1.0V)	V <sub>BE(on)</sub>	-	-	-1.2	V

**Small-signal Characteristics**

Current-Gain-Bandwidth Product (I <sub>C</sub> = -10mA, V <sub>CE</sub> = -5.0VDC, f=100MHz)	f <sub>T</sub>	100	-	-	MHz
Output Capacitance (V <sub>CB</sub> = -10V, f=1.0MHz)	C <sub>obo</sub>	-	10	-	pF

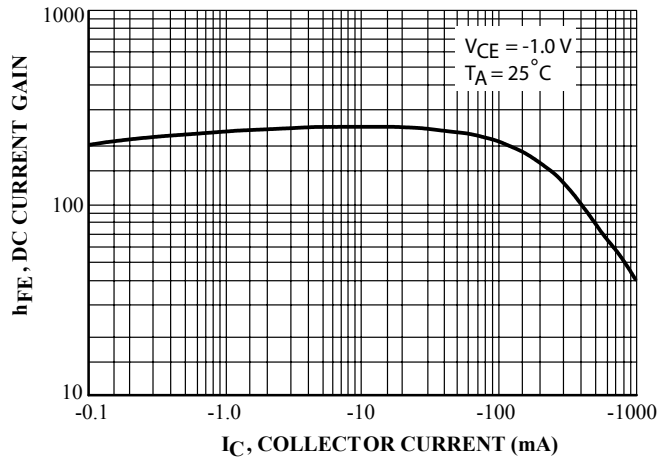


Figure 1. DC Current Gain

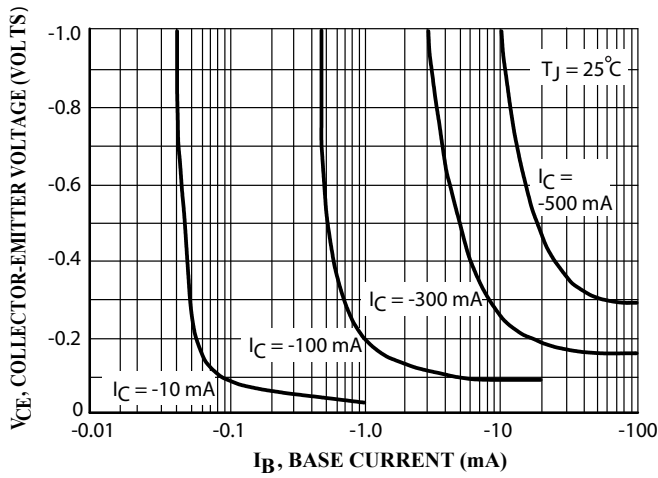


Figure 2. Saturation Region

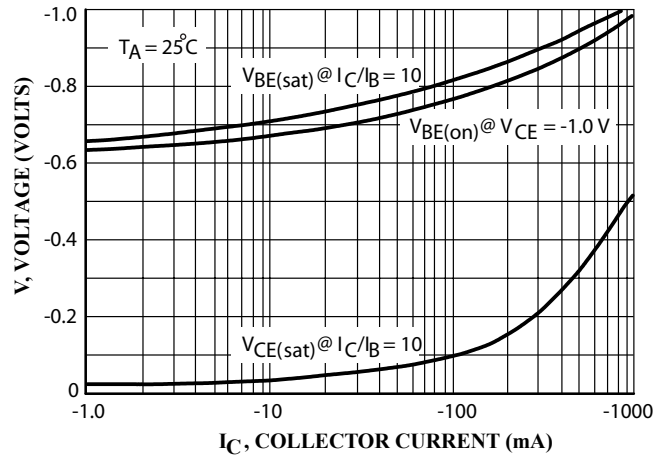


Figure 3. "On" Voltages

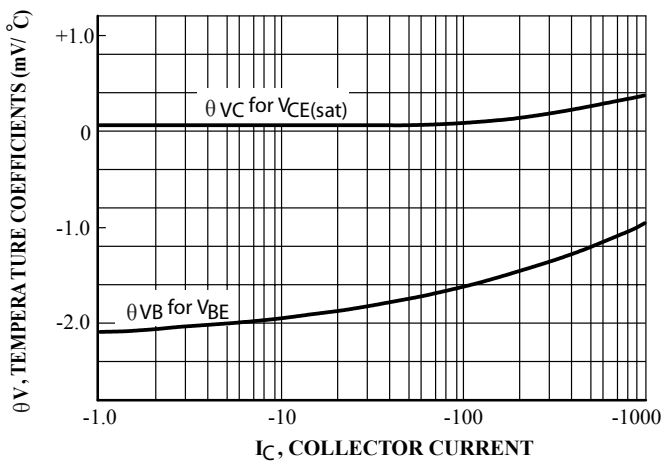


Figure 4. Temperature Coefficients

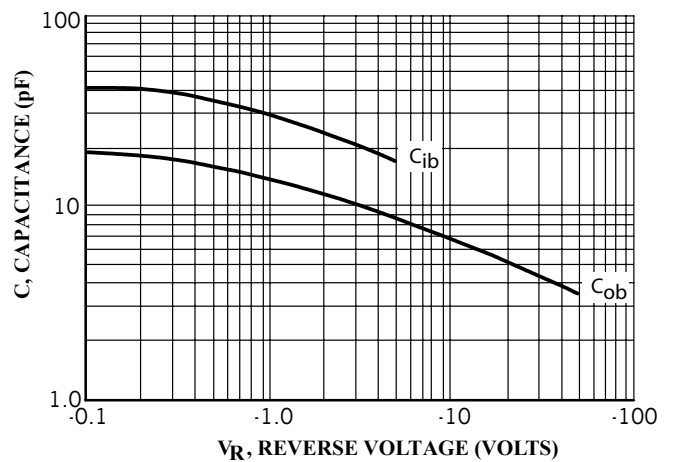
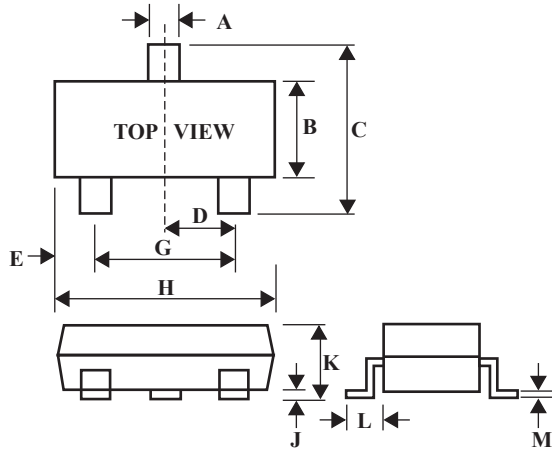


Figure 5. Capacitances

**SOT-23 Package Outline Dimension**



SOT-23		
Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25