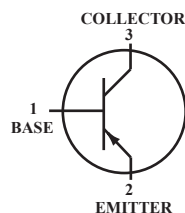


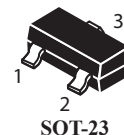
General Purpose Transistor

PNP Silicon

 **Lead(Pb)-Free**



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_{CBO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	500	mAdc

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board ⁽¹⁾ (Note 1.) $T_A=25^{\circ}\text{C}$ Derate above 25°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°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=5A1 , BC807-25=5B1 , BC807-40=5C1

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.

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 _{(BR)CEO}	-45	-	-	V
Collector-Emitter Breakdown Voltage (IC= -10 μA, V _{EB} =0)	V _{(BR)CES}	-50	-	-	V
Emitter-Base Breakdown Voltage (I _E = -1.0 μA)	V _{(BR)EBO}	-5.0	-	-	V
Collector Cutoff Current (V _{CB} =20V) (V _{CB} =20V, T _A =150°C)	I _{CBO}	-	-	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 _C = -100mA, V _{CE} =-1.0V)	BC807-16 BC807-25 BC807-40	100 160 250	- - -	250 400 600	-
(I _C = -500mA, V _{CE} =-1.0V)		40	-	-	
Collector-Emitter Saturation Voltage (I _C = -500mA, I _B =50mA)	V _{CE(sat)}	- -	- -	-0.7	V
Base-Emitter On Voltage (I _C = -500mA, I _B =-1.0V)	V _{BE(on)}	- -	- -	-1.2	V

Small-signal Characteristics

Current-Gain-Bandwidth Product (I _C = -10mA, V _{CE} = -5.0VDC, f=100MHz)	f _T	100	-	-	MHz
Output Capacitance (V _{CB} = -10V, f=1.0MHz)	C _{obo}	-	10	-	pF

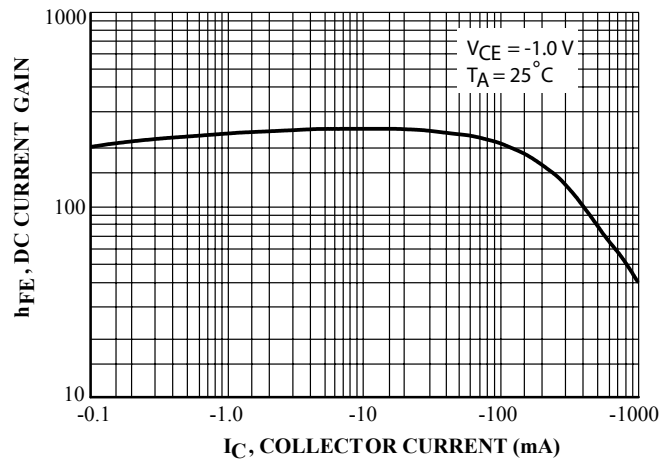


Figure 1. DC Current Gain

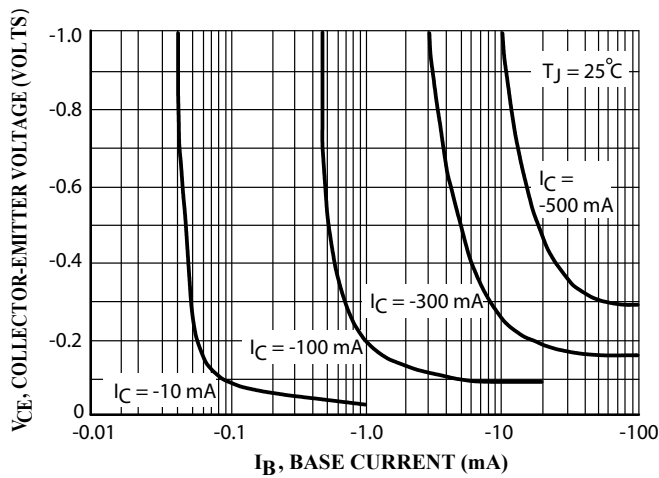


Figure 2. Saturation Region

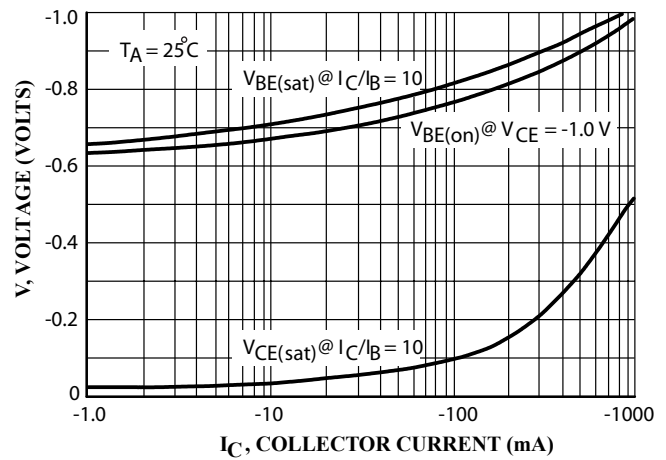


Figure 3. "On" Voltages

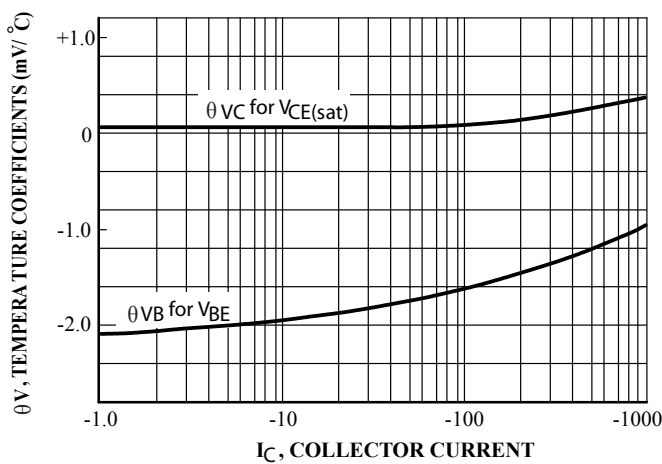


Figure 4. Temperature Coefficients

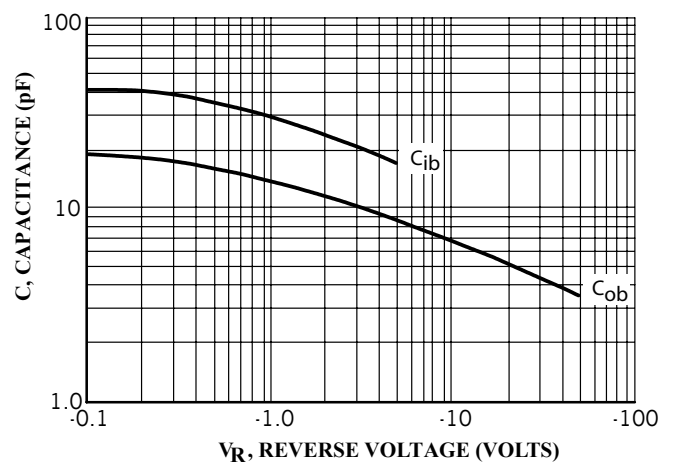
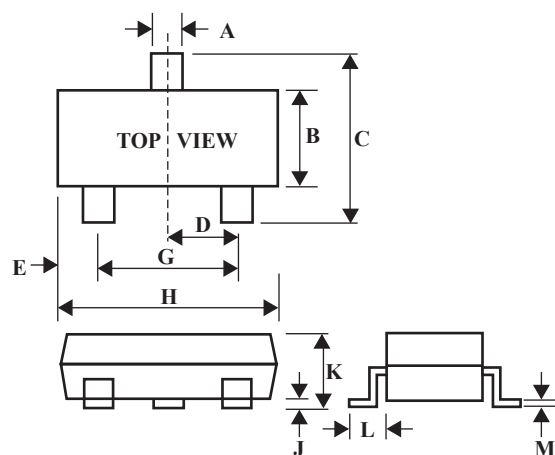


Figure 5. Capacitances

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