

PNP General Purpose Amplifier

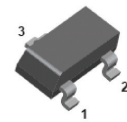
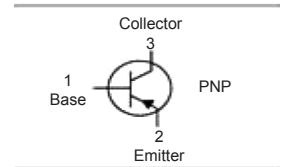


Features:

- Ideally suited for automatic insertion.
- Complementary NPN type available BC817
- Epitaxial planar die construction.

Application:

- This device is designed for general purpose amplifier and switching applications at currents to 1A.



SOT-23

Maximum Rating: @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current -Continuous	I_C	-500	mA
Total Device Dissipation	P_D	300	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics: @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min.	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		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1\mu\text{A}, I_C = 0$	-5		μV
Collector cut-off current	I_{CBO}	$V_{CB} = -45\text{V}, I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -40\text{V}, I_B = 0$		-0.2	
Emitter cut-off current	I_{EBO}	$V_{CE} = -4\text{V}, I_C = 0$		-0.1	
DC current gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	250	
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	
Output capacitance	C_{obo}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		10	pF
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz

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Typical Characteristics: @ $T_A = 25^\circ\text{C}$ unless otherwise specified

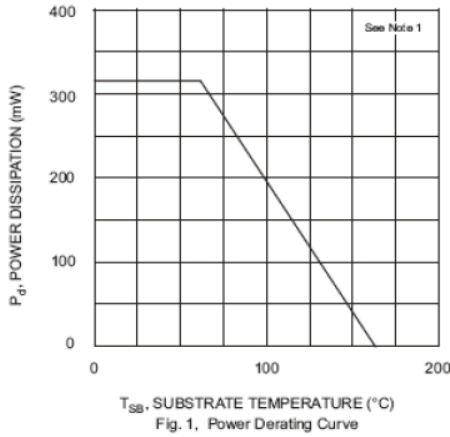


Fig. 1, Power Derating Curve

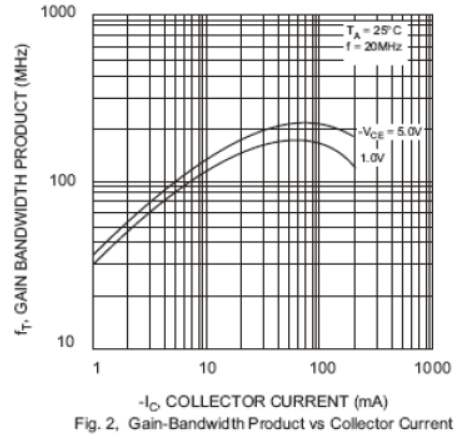


Fig. 2, Gain-Bandwidth Product vs Collector Current

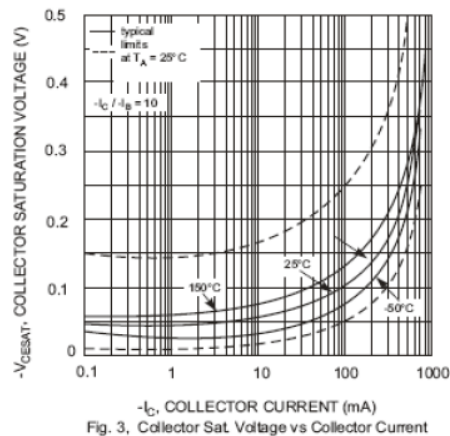


Fig. 3, Collector Sat. Voltage vs Collector Current

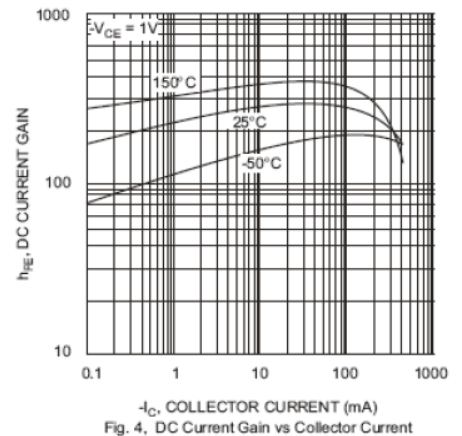


Fig. 4, DC Current Gain vs Collector Current

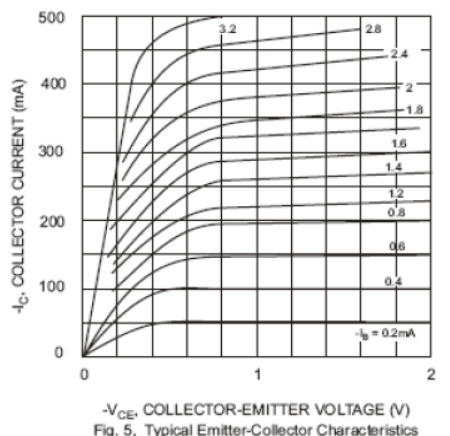


Fig. 5, Typical Emitter-Collector Characteristics

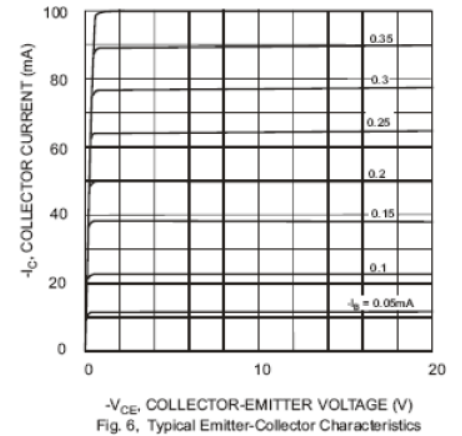


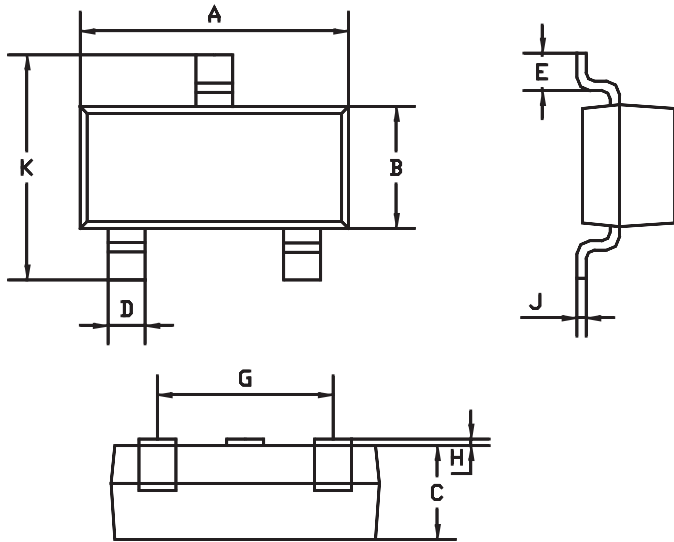
Fig. 6, Typical Emitter-Collector Characteristics



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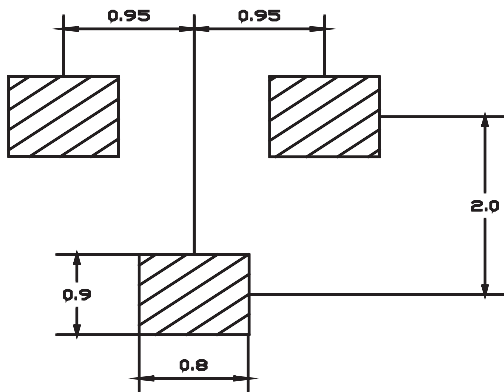


Package Outline:



SOT-23		
Dim	Min.	Max.
A	2.85	2.95
B	1.25	1.35
C	1 Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typical	
K	2.35	2.45
All Dimensions in mm		

Soldering Footprint:



Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, Bipolar, PNP, -45V, -500mA, SOT-23	BC807-16-7-F

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