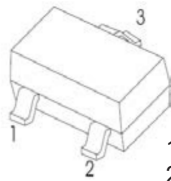


FEATURES

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

APPLICATIONS

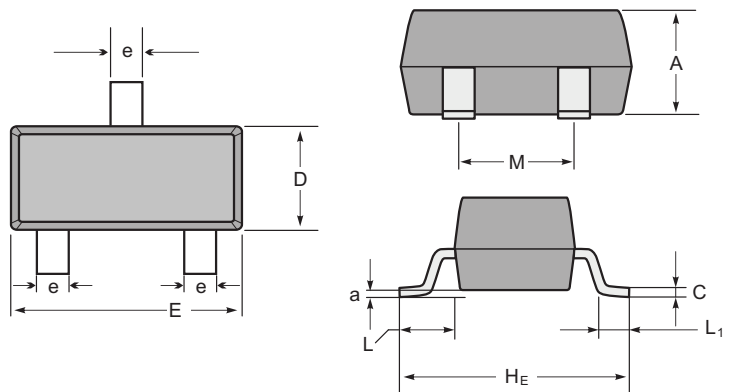
- This device is designed for general purpose amplifier and switching applications at currents to 1.0A.



1.BASE
2.EMITTER
3.COLLECTOR

Marking

Type number	Marking code
BC807-16	5A1
BC807-25	5B
BC807-40	5C



SOT-23 mechanical data

UNIT	A	C	D	E	H _E	e	M	L	L ₁	a	
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-50	V
V _{CEO}	Collector-Emitter Voltage	-45	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current -Continuous	-500	mA
P _D	Total Device Dissipation	300	mW
R _{θJA}	Thermal Resistance Junction to Ambient	375	°C/W
T _j , T _{stg}	Junction and Storage Temperature	-55to+150	°C

BC807-16/-25/-40

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A$ $I_E = 0$	-50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA$ $I_B = 0$	-45		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1\mu A$ $I_C = 0$	-5		μV
Collector cut-off current	I_{CBO}	$V_{CB} = -45V$ $I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = -40V$ $I_B = 0$		-0.2	μA
Emitter cut-off current	I_{EBO}	$V_{CE} = -4V$ $I_C = 0$		-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -1V$ $I_C = -100mA$	100 160 250	250 400 600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-1.2	V
Transition frequency	f_T	$V_{CE} = -5V$ $I_C = -10mA$ $f = 100MHz$	100		MHz

RATING AND CHARACTERISTIC CURVES (BC807-16/-25/-40)

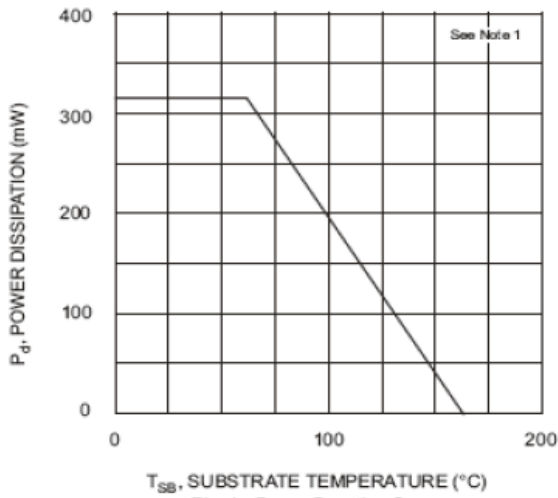


Fig. 1, Power Derating Curve

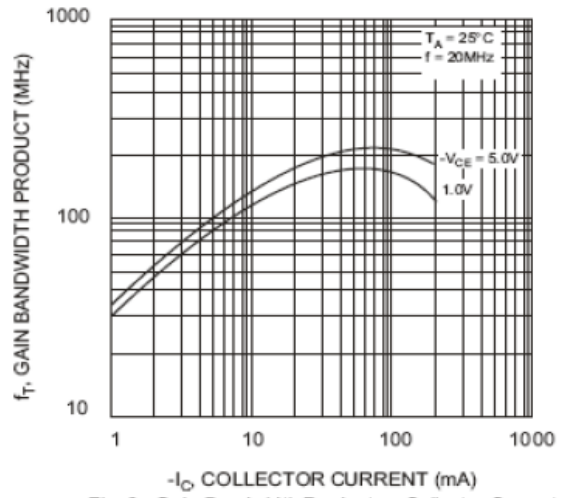


Fig. 2, Gain-Bandwidth Product vs Collector Current

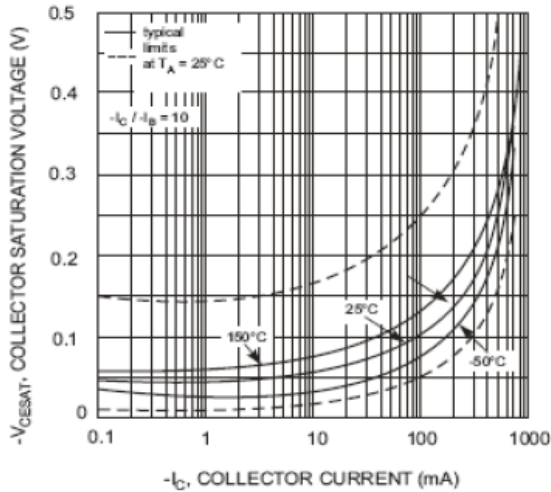


Fig. 3, Collector Sat. Voltage vs Collector Current

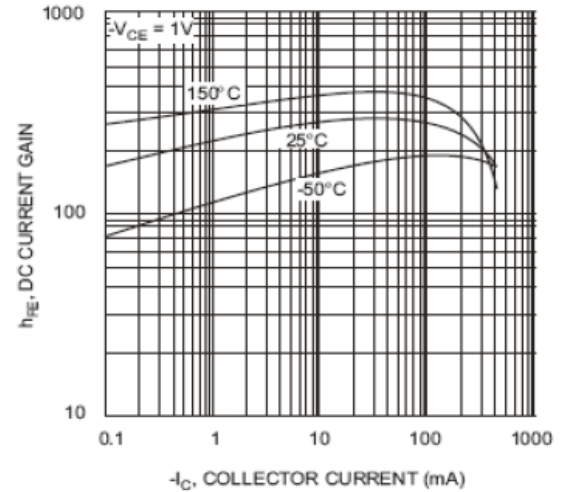


Fig. 4, DC Current Gain vs Collector Current

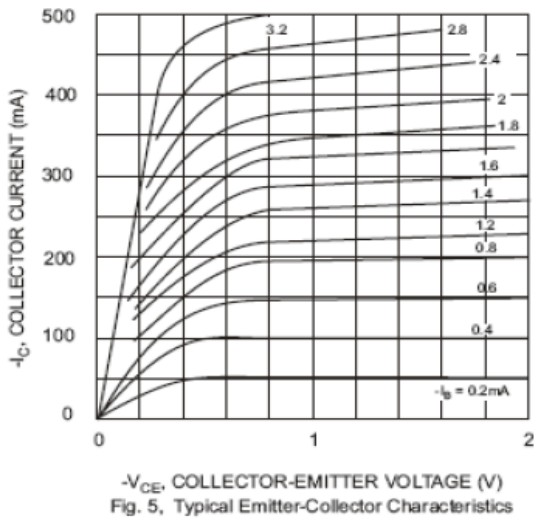


Fig. 5, Typical Emitter-Collector Characteristics

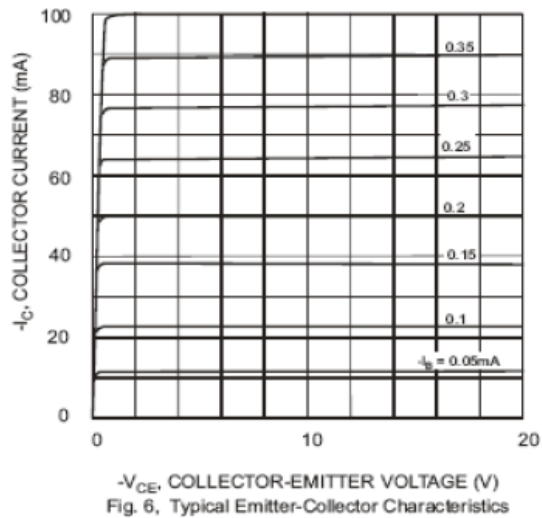


Fig. 6, Typical Emitter-Collector Characteristics