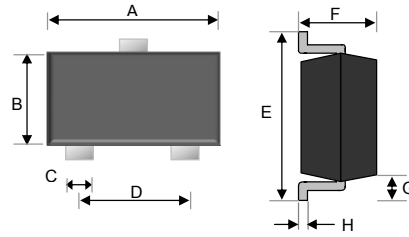


**SOT-23**



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.30	0.50	0.012	0.020
D	1.80	2.00	0.071	0.079
E	2.25	2.55	0.089	0.100
F	0.90	1.20	0.035	0.047
G	0.550	REF	0.022	REF
H	0.08	0.19	0.003	0.007

**Features**

- ✦ Ideally suited for automatic insertion
- ✦ Epitaxial planar die construction
- ✦ For switching, AF driver and amplifier applications
- ✦ Complementary NPN type available (BC817)
- ✦ Qualified to AEC-Q10 standards for high reliability

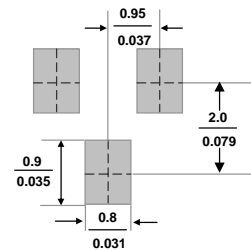
**Mechanical Data**

- ✦ Case : SOT- 23, Molded plastic
- ✦ Case material: Molded plastic. UL flammability classification rating 94V-0
- ✦ Moisture sensitivity: Level 1 per J-STD-020C
- ✦ Terminals: Solderable per MIL-STD-202, Method 208
- ✦ Lead free plating
- ✦ Marking: -16: 5A, -25: 5B, -40: 5C
- ✦ Weight: 0.008 grams (approximate)

**Ordering Information**

Part No.	Packing Code	Package	Packing
BC807-16/-25/-40	RF	SOT-23	3K / 7" Reel
BC807-16/-25/-40	RFG	SOT-23	3K / 7" Reel

**Suggested PAD Layout**



**Maximum Ratings**

Rating at 25°C ambient temperature unless otherwise specified.

Type Number	Symbol	BC807-16	BC807-25	BC807-40	Units
Collector-Base Breakdown Voltage	$I_C = -10\mu A$ $I_E = 0$	$V_{CBO}$	-50		V
Collector-Emitter Breakdown Voltage	$I_C = -10mA$ $I_B = 0$	$V_{CEO}$	45		V
Collector current - continuous		$I_C$	-0.5		A
Power dissipation		$P_D$	0.3		W
Emitter-Base breakdown voltage	$I_E = -1\mu A$ $I_C = 0$	$V_{EBO}$	-5		V
Collector Cut-off Current	$V_{CB} = -45V$ $I_E = 0$	$I_{CBO}$	-0.1		$\mu A$
Collector Cut-off Current	$V_{CB} = -40V$ $I_B = 0$	$I_{CEO}$	-0.2		$\mu A$
Emittor Cut-off Current	$V_{EB} = -4V$ $I_C = 0$	$I_{EBO}$	-0.1		$\mu A$
Collector-Emitter saturation voltage	$I_C = -500mA$ $I_B = 50mA$	$V_{CE(sat)}$	-0.7		V
Base-Emitter saturation voltage	$I_C = -500mA$ $I_B = 50mA$	$V_{BE(sat)}$	-1.2		V
Transition frequency	$V_{CE} = -5V$ $I_C = -10mA$ $f = 100MHz$	$f_T$	100		MHz
Junction Temperature		$T_J$	150		°C
Storage Temperature Range		$T_{STG}$	-55 to +150		°C
Type Number	Symbol	Min	Max	Units	
DC current gain	807-16	100	250		
	807-25	160	400		
	807-40	250	600		

Notes: 1. The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application.

## RATINGS AND CHARACTERISTIC CURVES(BC807-16, BC807-25, BC807-40)

FIG.1- POWER DERATING CURVE

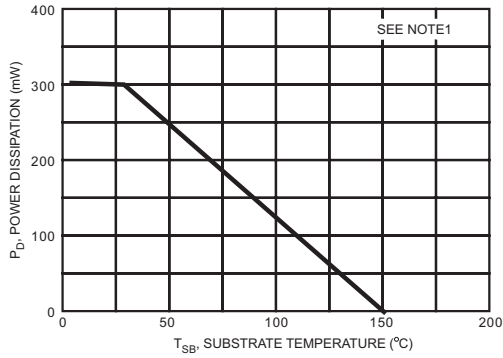


FIG.2- GAIN BANDWIDTH PRODUCT VS COLLECTOR CURRENT

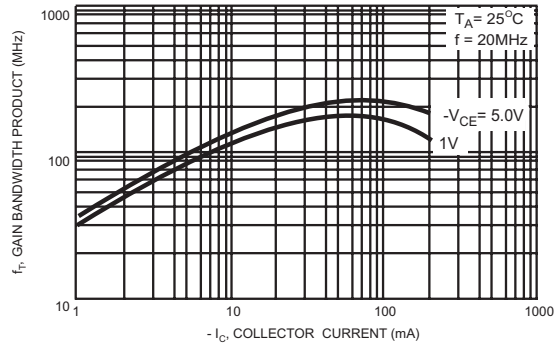


FIG.3-COLLECTOR SAT VOLTAGE VS COLLECTOR CURRENT

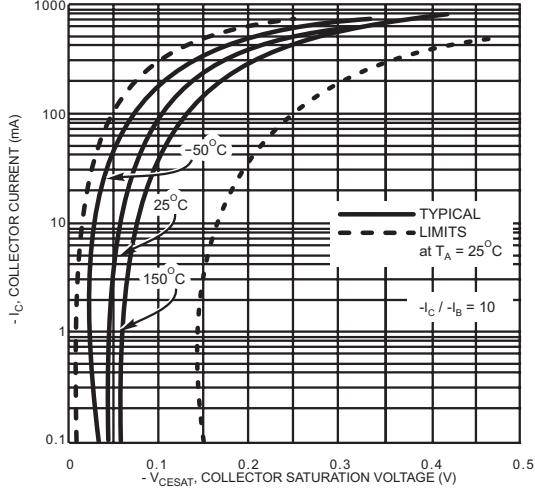


FIG.4- DC CURRENT GAIN VS COLLECTOR CURRENT

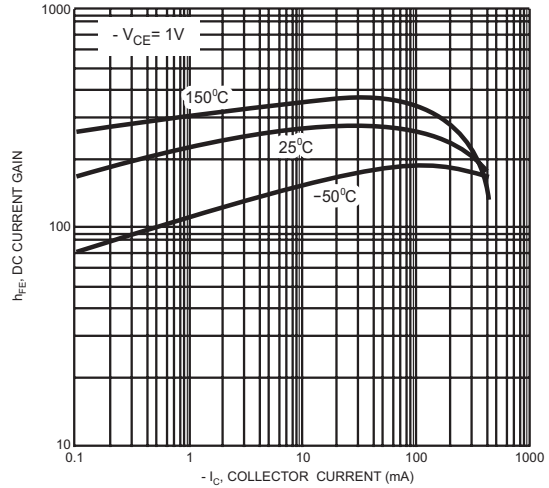


FIG.5- TYPICAL EMITTER-COLLECTOR CHARACTERISTICS

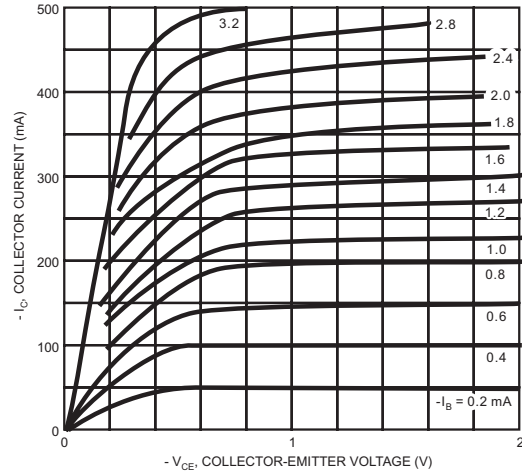


FIG.6- TYPICAL EMITTER-COLLECTOR CHARACTERISTICS

