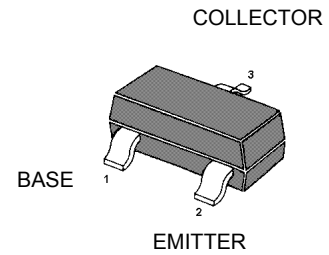




### BC807T... TRANSISTOR (PNP)

#### FEATURES

- Ideally suited for automatic insertion
- epitaxial planar die construction
- complementary NPN type available(BC817T)



Marking: 807-16:5A; 807-25:5B; 807-40:5C

SOT-523

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-45	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-0.5	A
$P_C$	Collector Power Dissipation	0.3	W
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{CBO}$	$I_C = -10\mu\text{A}$ , $I_E = 0$	-50		V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_C = -10\text{mA}$ , $I_B = 0$	-45		V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E = -1\mu\text{A}$ , $I_C = 0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -45\text{V}$ , $I_E = 0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -40\text{V}$ , $I_B = 0$		-0.2	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4\text{V}$ , $I_C = 0$		-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = -1\text{V}$ , $I_C = -100\text{mA}$	807-16	100	250
			807-25	160	400
			807-40	250	600
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	V
Transition frequency	$f_T$	$V_{CE} = -5\text{V}$ , $I_C = -10\text{mA}$ $f = 100\text{MHz}$	100		MHz



### Typical Characteristics

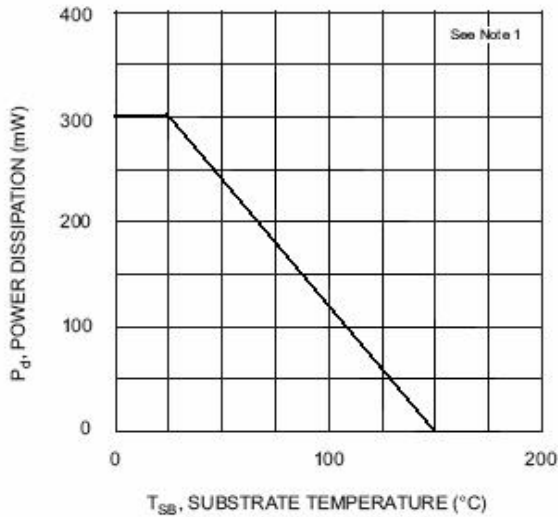


Fig. 1, Power Derating Curve

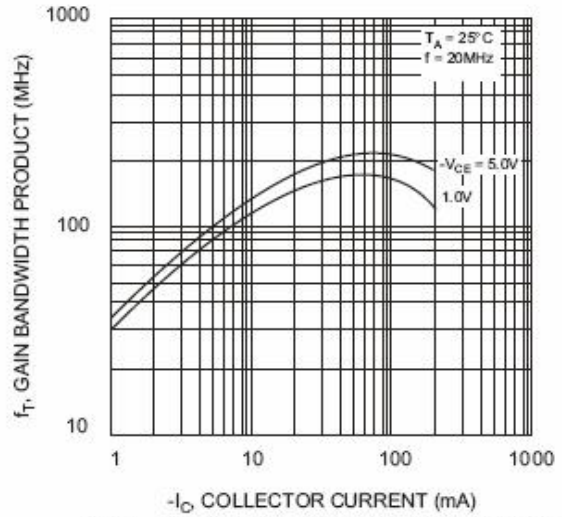


Fig. 2, Gain-Bandwidth Product vs Collector Current

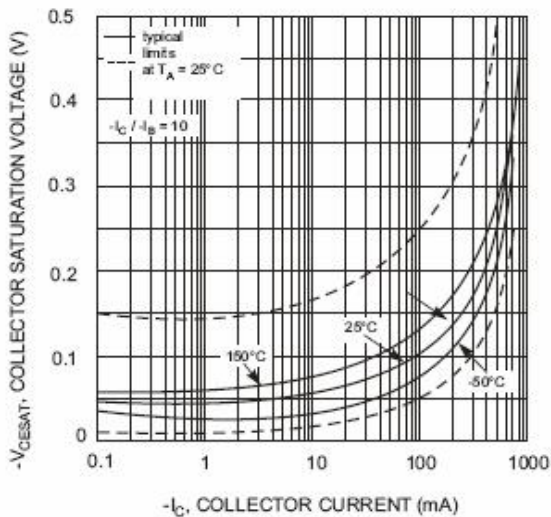


Fig. 3, Collector Sat Voltage vs Collector Current

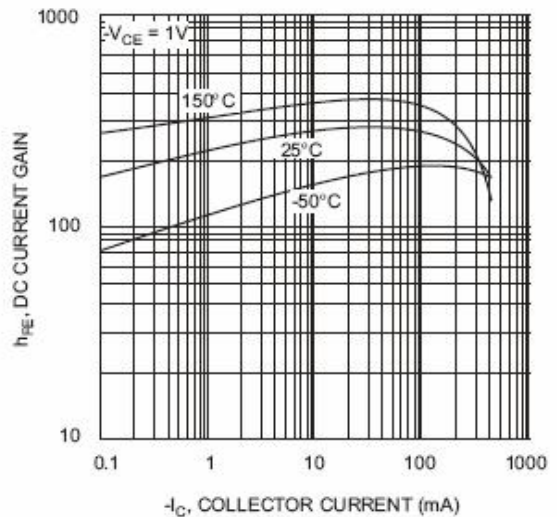


Fig. 4, DC Current Gain vs Collector Current

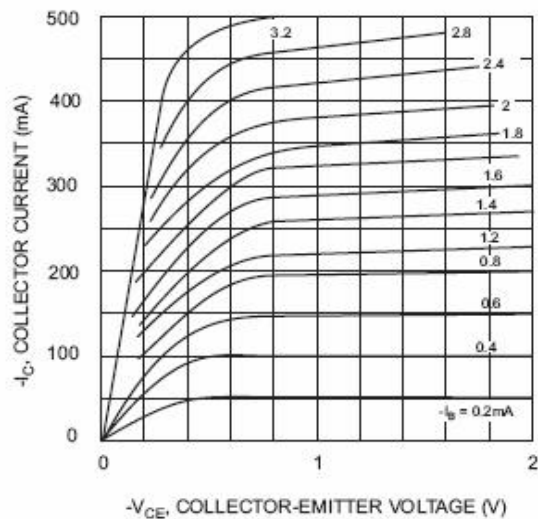


Fig. 5, Typical Emitter-Collector Characteristics

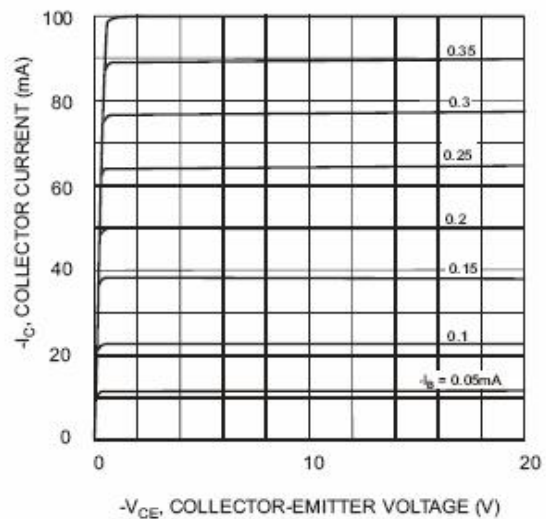
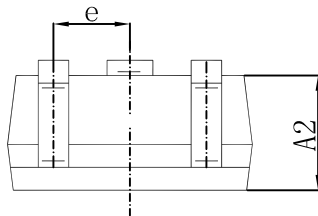
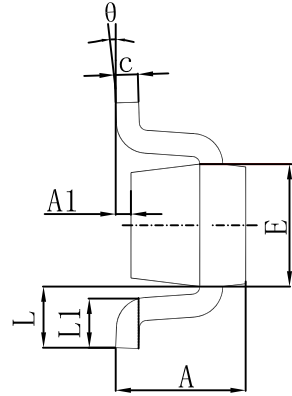
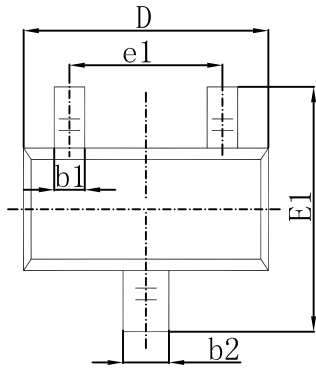


Fig. 6, Typical Emitter-Collector Characteristics

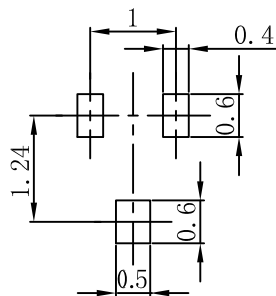


### SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

### SOT-523 Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.