

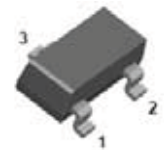
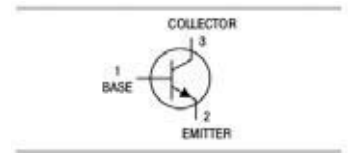
NPN General Purpose Amplifier: BC817-16/-25/-40

Features:

- For general AF applications
- Complementary PNP type available BC807
- High collector current
- High current gain
- Low collector-emitter saturation voltage

Applications:

- General purpose medium power amplifier
- Switching requiring collector currents up to 1.2mA



SOT-23

Ordering Information

Type No.	Marking:	Package Code:
BC817	6D	SOT-23
BC817-16	6A	SOT-23
BC817-25	6B*	SOT-23
BC817-40	6C	SOT-23

Maximum Ratings & Characteristics: Tamb=25°C unless otherwise specified

Parameter:	Symbol:	Value:	Unit:
Collector - Base Voltage	V_{CBO}	50	V
Collector - Emitter Voltage	V_{CEO}	45	V
Emitter - Base Voltage	V_{ebo}	5	V
Collector Current Continuous	I_C	500	mA
Collector Dissipation	P_C	300	mW
Junction and Storage Temperature	T_j, T_{stg}	-65 to +150	°C

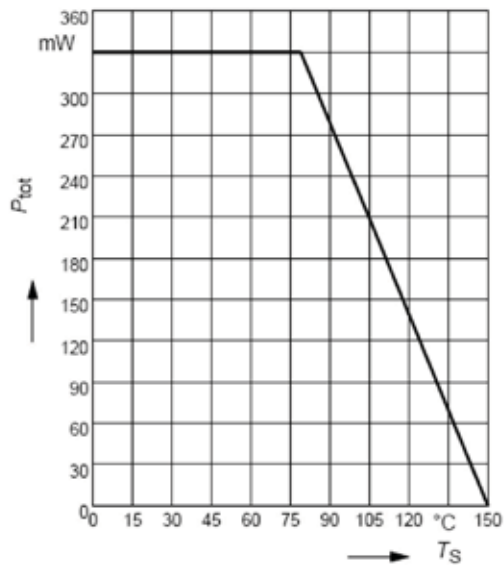
Maximum Ratings & Characteristics: $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified

Parameter:	Symbol:	Test Conditions:	Min:	Typ:	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			V
Emmitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=25\text{V}, I_E=0$			-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{CE}=4\text{V}, I_C=0$			-0.1	μA
DC Current Gain	BC817 BC817-16 BC817-25 BC817-40	h_{FE}	$V_{CE}=1\text{V}, I_C=-100\text{mA}$	100 100 160 250	600 250 400 600	
DC Current Gain	BC817 BC817-16 BC817-25 BC817-40	h_{FE}	$V_{CE}=1\text{V}, I_C=-300\text{mA}$	40 60 100 170		
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
Output Capacitance	C_{obp}	$V_{CB}=10\text{V}, f=1.0\text{MHz}$		6		pF
Transition Frequency	f_T	$V_{CE}=5\text{V}, I_C=50\text{mA}$ $f=100\text{MHz}$		170		MHz

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

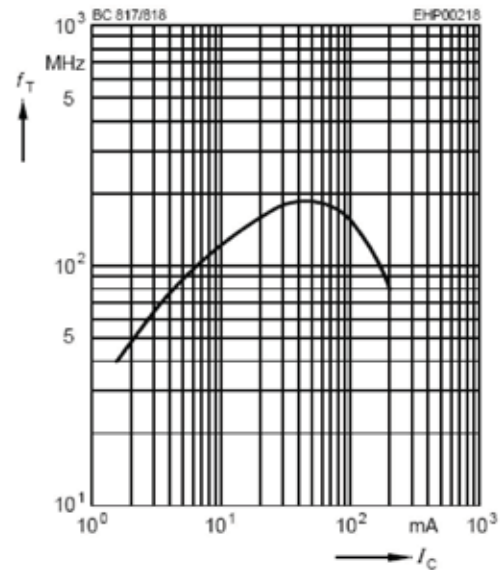
Ratings & Characteristic Curves

Total power dissipation $P_{tot} = f(T_S)$



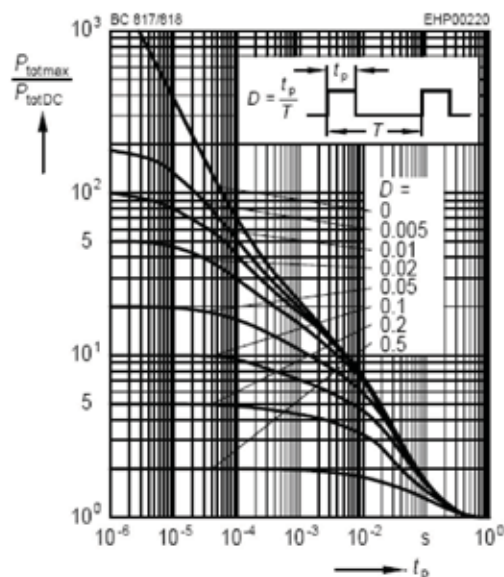
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5V$



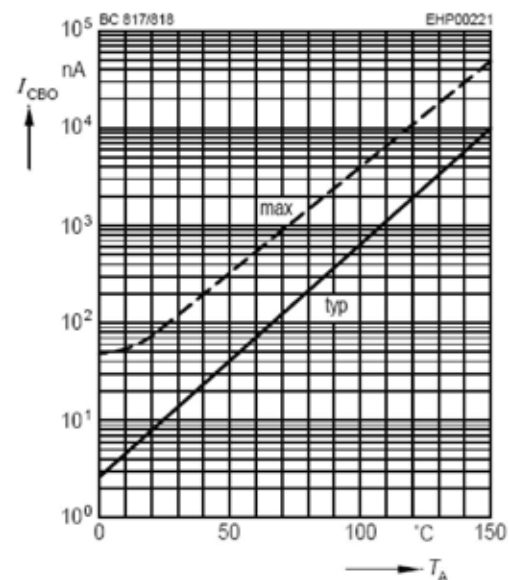
Permissible pulse load

$P_{totmax} / P_{totDC} = f(t_p)$



Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CBO} = 25V$

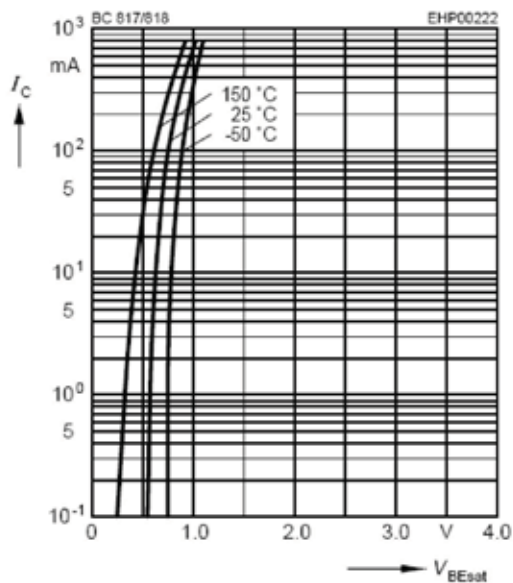


Typical Characteristics: $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified

Ratings & Characteristic Curves

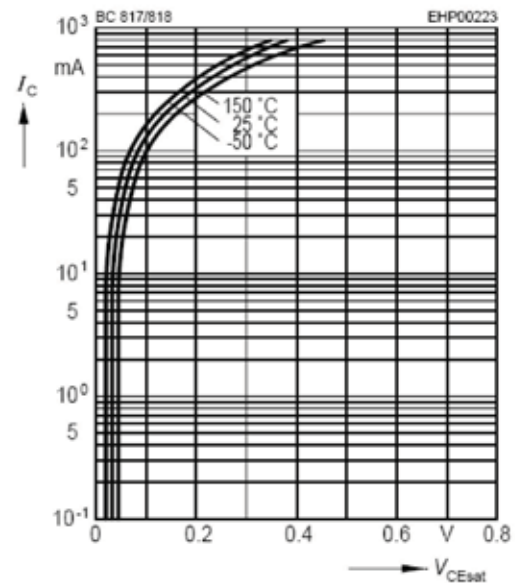
Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 10$$



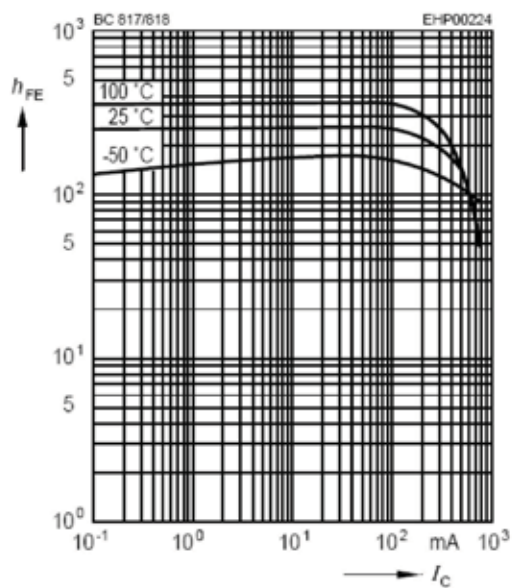
Collector-emitter saturation voltage

$$I_C = f(V_{CEsat}), h_{FE} = 10$$



DC current gain $h_{FE} = f(I_C)$

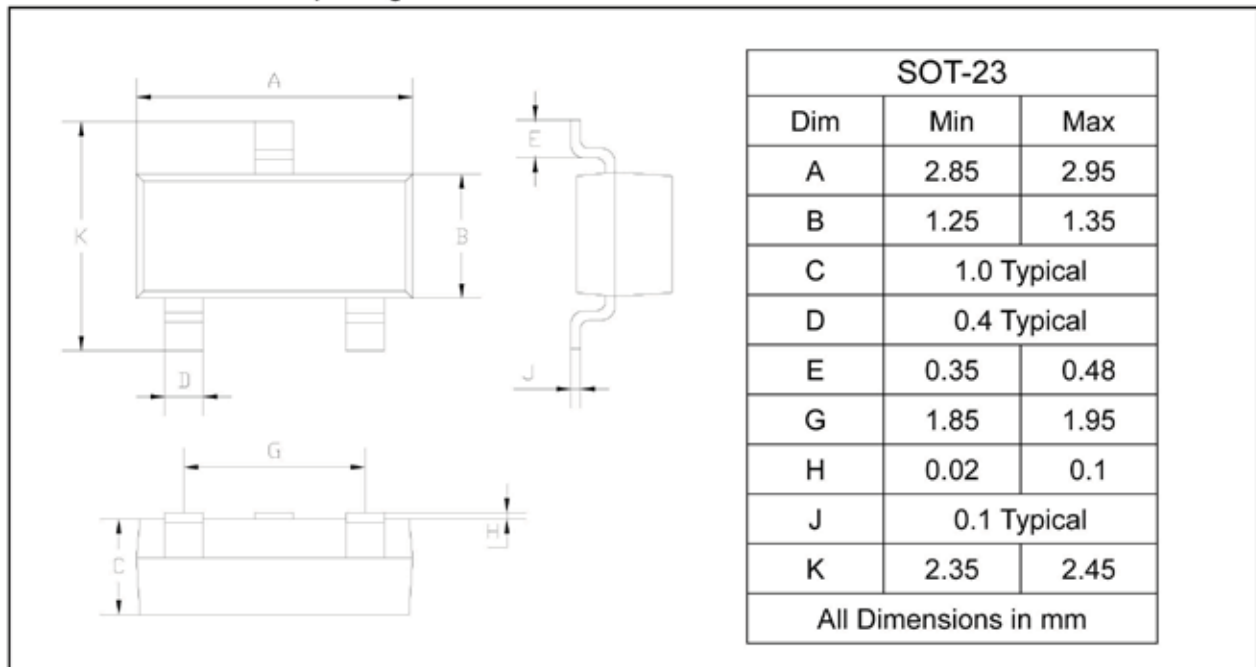
$$V_{CE} = 1V$$



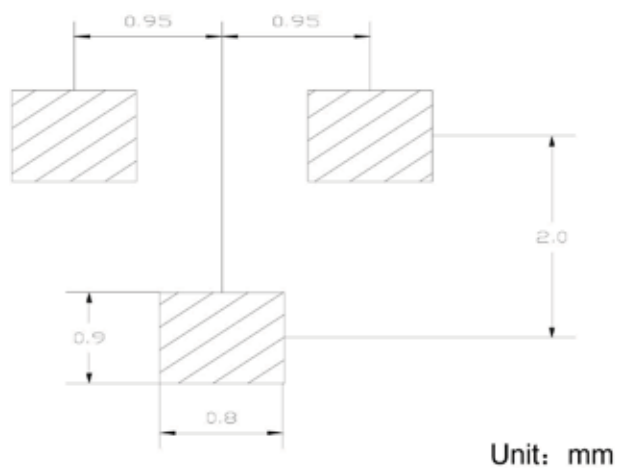
Package Outline

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BC817-16/-25/-40	SOT-23	3000/Tape&Reel