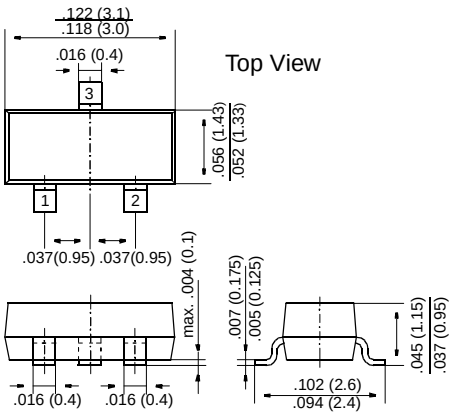
BC807, BC808

Small Signal Transistors (PNP)

SOT-23



Dimensions in inches and (millimeters)

Pin configuration
1 = Base, 2 = Emitter, 3 = Collector.

FEATURES

- PNP Silicon Epitaxial Planar Transistors for switching, AF driver and amplifier applications.
- Especially suited for automatic insertion in thick- and thin-film circuits.
- These transistors are subdivided into three groups -16, -25 and -40 according to their current gain.
- As complementary types, the NPN transistors BC817 and BC818 are recommended.

MECHANICAL DATA

Case: SOT-23 Plastic Package
Weight: approx. 0.008 g
Marking code

Type	Marking
BC807-16	5A
-25	5B
-40	5C
BC808-16	5E
-25	5F
-40	5G

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Value	Unit
Collector-Emitter Voltage	**BC807**	$-V_{CES}$	50	V
	BC808	$-V_{CES}$	30	V
Collector-Emitter Voltage	**BC807**	$-V_{CEO}$	45	V
	BC808	$-V_{CEO}$	25	V
Emitter-Base Voltage		$-V_{EBO}$	5	V
Collector Current		$-I_C$	500	mA
Peak Collector Current		$-I_{CM}$	1000	mA
Peak Base Current		$-I_{BM}$	200	mA
Peak Emitter Current		I_{EM}	1000	mA
Power Dissipation at T_{SB} = 50 °C		P_{tot}	310[1)]	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_S	–65 to +150	°C

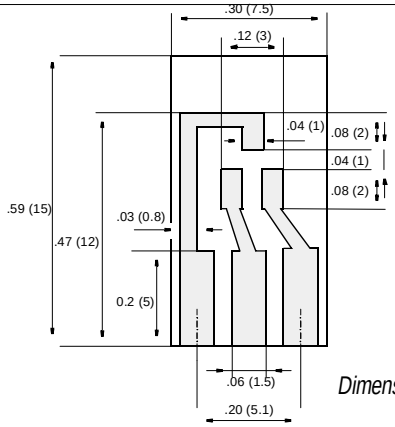
[1)] Device on fiberglass substrate, see layout

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 1 V, $-I_C$ = 100 mA **Current Gain Group -16** **-25** **-40** at $-V_{CE}$ = 1 V, $-I_C$ = 300 mA **-16** **-25** **-40**	 h_{FE} h_{FE} h_{FE} h_{FE} h_{FE} h_{FE}	 100 160 250 60 100 170	 – – – – – –	 250 400 600 – – –	 – – – – – –
Thermal Resistance Junction Substrate Backside	R_{thSB}	–	–	320[1)]	K/W
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	450[1)]	K/W
Collector Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA	$-V_{CEsat}$	–	–	0.7	V
Base-Emitter Voltage at $-V_{CE}$ = 1 V, $-I_C$ = 300 mA	$-V_{BE}$	–	–	1.2	V
Collector-Emitter Cutoff Current at $-V_{CE}$ = 45 V **BC807** at $-V_{CE}$ = 25 V **BC808** at $-V_{CE}$ = 25 V, T_j = 150 °C	 $-I_{CES}$ $-I_{CES}$ $-I_{CES}$	 – – –	 – – –	 100 100 5	 nA nA µA
Emitter-Base Cutoff Current at $-V_{EB}$ = 4 V	$-I_{EBO}$	–	–	100	nA
Gain-Bandwidth Product at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 50 MHz	f_T	–	100	–	MHz
Collector-Base Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz	C_{CBO}		12		pF

[1)] Device on fiberglass substrate, see layout



Dimensions in inches (millimeters)

Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

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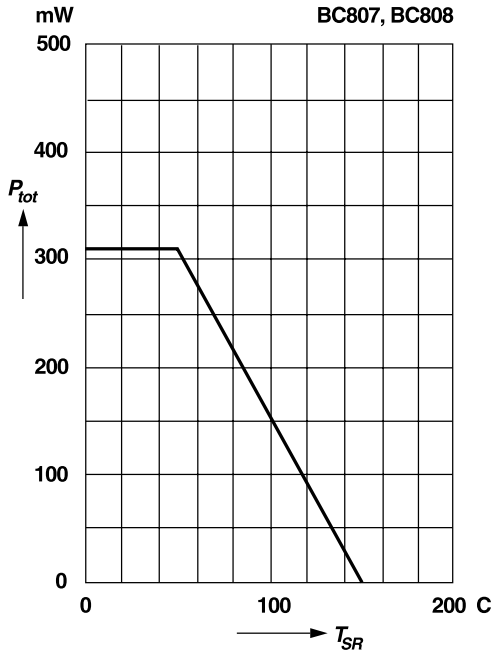
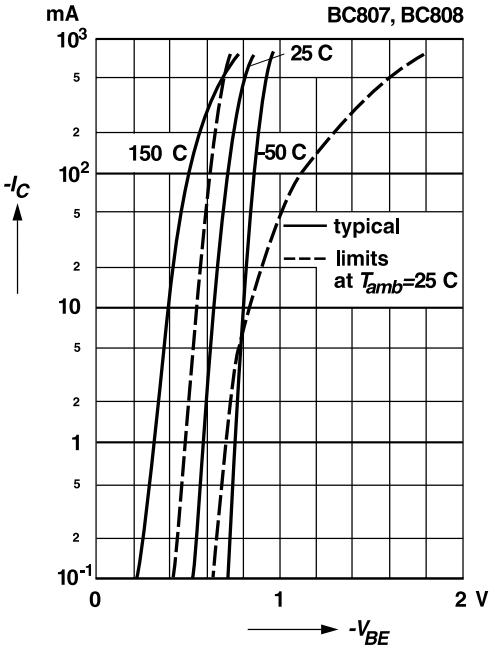
RATINGS AND CHARACTERISTIC CURVES BC807, BC808

Admissible power dissipation versus temperature of substrate backside

Device on fiberglass substrate, see layout

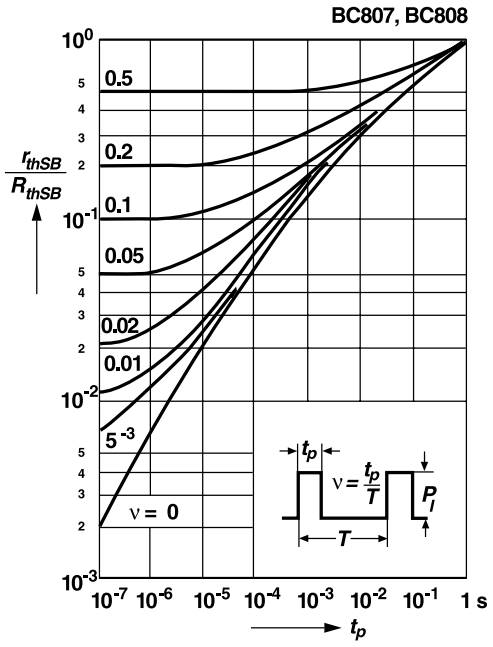


Collector current versus base-emitter voltage

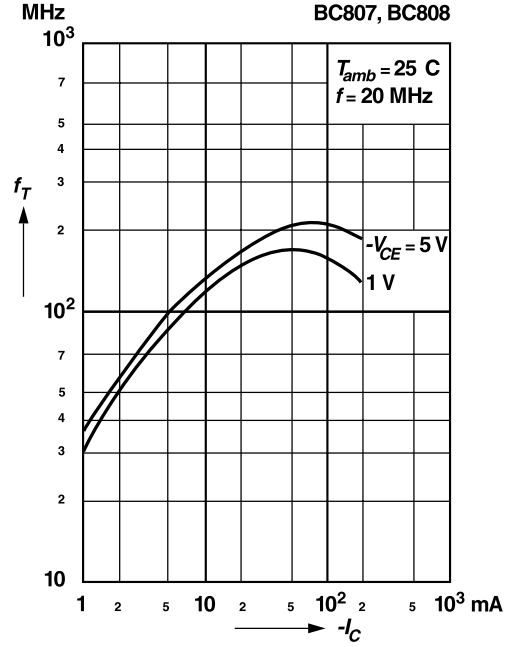


Pulse thermal resistance versus pulse duration (normalized)

Device on fiberglass substrate, see layout



Gain-bandwidth product versus collector current



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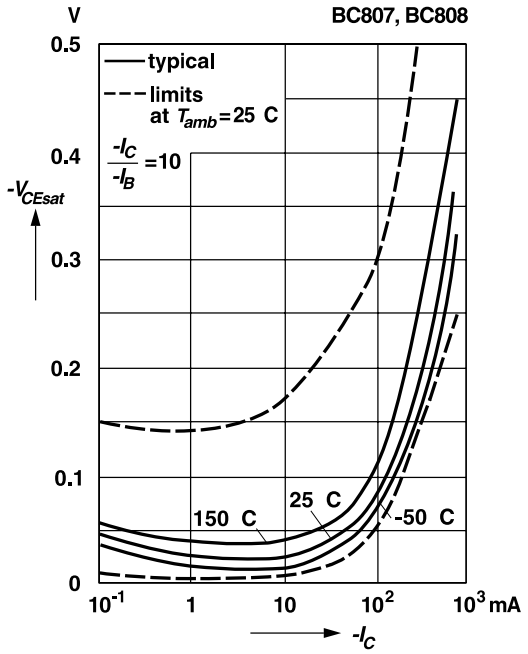
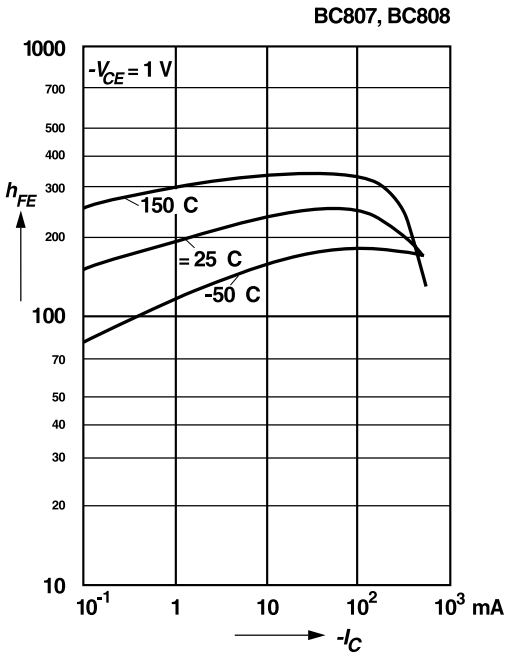
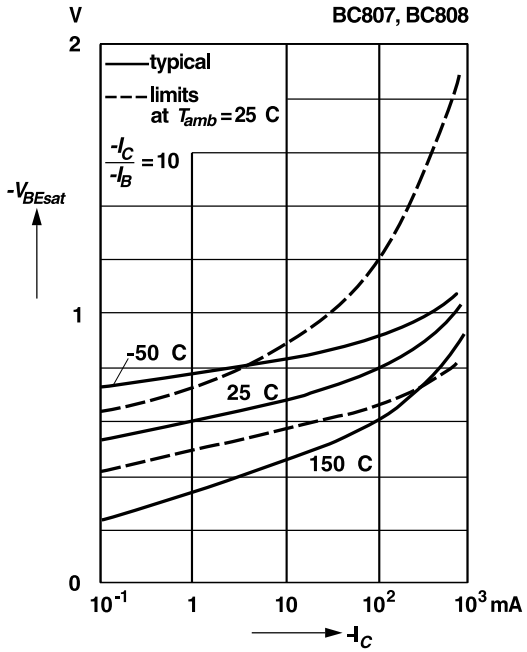
Collector saturation voltage versus collector current



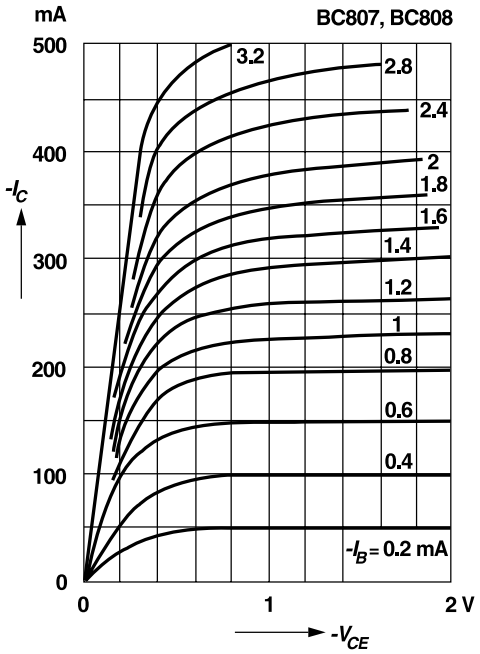
DC current gain versus collector current



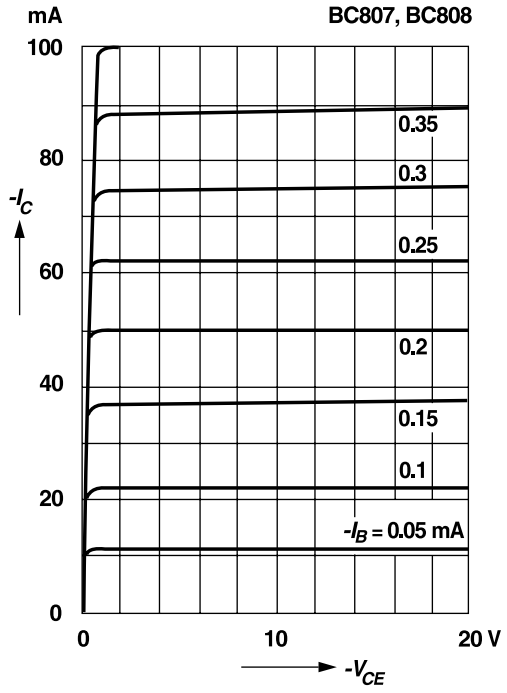
Base saturation voltage versus collector current



Common emitter collector characteristics



Common emitter collector characteristics



Common emitter collector characteristics