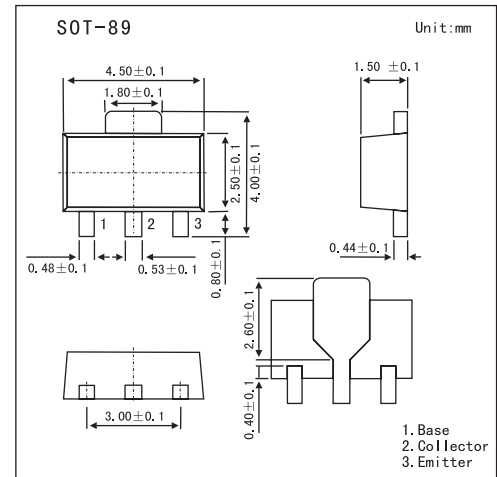


## PNP Medium Power Transistor

## BC869

## ■ Features

- High current.
- Three current gain selections.
- 1.2 W total power dissipation.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit	
Collector-base voltage	$V_{CB0}$	-32	V	
Collector-emitter voltage	$V_{CEO}$	-20	V	
Emitter-base voltage	$V_{EBO}$	-5	V	
Collector current	$I_C$	-1	A	
Peak collector current	$I_{CM}$	-2	A	
Peak base current	$I_{BM}$	-200	mA	
Total power dissipation	$P_{tot}$	*1 and *2	0.5	W
		*1 and *3	0.85	W
		*1 and *4	1.2	W
Storage temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Operating ambient temperature	$R_{amb}$	-65 to +150	$^\circ\text{C}$	
Thermal resistance from junction to ambient	$R_{th(j-a)}$	*1 and *2	250	K/W
		*1 and *3	147	K/W
		*1 and *4	104	K/W
Thermal resistance from junction to solder point	$R_{th(j-s)}$	20	K/W	

\*1.Refer to SOT89 standard mounting conditions.

\*2.Device mounted on an FR4 printed-circuit board, single-sided copper, tin-plated footprint.

\*3.Device mounted on an FR4 printed-circuit board, single-sided copper, tin-plated, mounting pad for collector  $1\text{ cm}^2$ .

\*4.Device mounted on an FR4 printed-circuit board, single-sided copper, tin-plated, mounting pad for collector  $6\text{ cm}^2$ .

**BC869**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter		Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current		I <sub>CBO</sub>	V <sub>CB</sub> = -25 V, I <sub>E</sub> = 0			-100	nA
			V <sub>CB</sub> = -25 V, I <sub>E</sub> = 0; T <sub>j</sub> = 25°C			-10	μA
Emitter cutoff current		I <sub>EBO</sub>	V <sub>EB</sub> = -5 V, I <sub>C</sub> = 0			-100	nA
DC current gain	BC868	h <sub>FE</sub>	I <sub>C</sub> = -5 mA; V <sub>CE</sub> = -10 V	50			
			I <sub>C</sub> = -500 mA; V <sub>CE</sub> = -1 V	85		375	
			I <sub>C</sub> = -1 A; V <sub>CE</sub> = -1 V	60			
	BC868-16	h <sub>FE</sub>	I <sub>C</sub> = -500 mA; V <sub>CE</sub> = -1 V	100		250	
	BC869-25	h <sub>FE</sub>	I <sub>C</sub> = -500 mA; V <sub>CE</sub> = -1 V	160		375	
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = -1 A; I <sub>B</sub> = -100 mA			-500	mV
Base to emitter voltage		V <sub>BE</sub>	I <sub>C</sub> = -5 mA; V <sub>CE</sub> = -10 V			-700	mV
			I <sub>C</sub> = -1 A; V <sub>CE</sub> = -1 V			-1	V
Collector capacitance		C <sub>c</sub>	I <sub>E</sub> = I <sub>E</sub> = 0; V <sub>CB</sub> = -10 V; f = 1 MHz		28		pF
Transition frequency		f <sub>t</sub>	I <sub>C</sub> = -50 mA; V <sub>CE</sub> = -5 V; f = 100 MHz	40	140		MHz

## ■ hFE Classification

TYPE	BC869	BC869-16	BC869-25
Marking	CEC	CGC	CHC