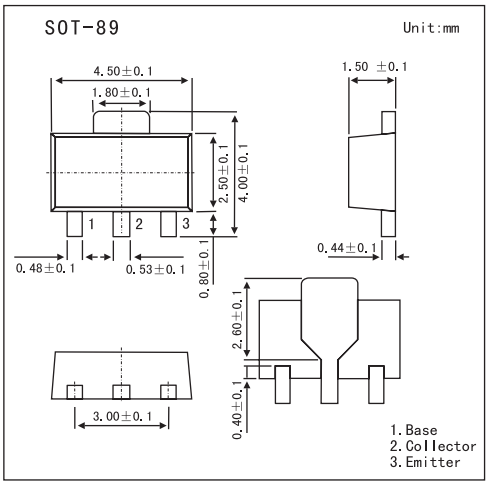
PNP Medium Power Transistor

BC869



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	-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	*1 and *2	P_{tot}	0.5	W
	*1 and *3		0.85	W
	*1 and *4		1.2	W
Storage temperature		T_{stg}	-65 to +150	℃
Junction temperature		T_j	150	℃
Operating ambient temperature		R_{amb}	-65 to +150	℃
Thermal resistance from junction to ambient	*1 and *2	$R_{th(j-a)}$	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 cm^2.

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

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■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current		I_{CBO}	V_{CB} = -25 V, I_E = 0			-100	nA
			V_{CB} = -25 V, I_E = 0; Tj = 25℃			-10	μA
Emitter cutoff current		I_{EBO}	V_{EB} = -5 V, I_C = 0			-100	nA
DC current gain	BC868	h_{FE}	I_C = -5 mA; V_{CE} = -10 V	50			
			I_C = -500 mA; V_{CE} = -1 V	85		375	
			I_C = -1 A; V_{CE} = -1 V	60			
	BC868-16	h_{FE}	I_C = -500 mA; V_{CE} = -1 V	100		250	
	BC869-25	h_{FE}	I_C = -500 mA; V_{CE} = -1 V	160		375	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C = -1 A; I_B = -100 mA			-500	mV
Base to emitter voltage		V_{BE}	I_C = -5 mA; V_{CE} = -10 V			-700	mV
			I_C = -1 A; V_{CE} = -1 V			-1	V
Collector capacitance		C_C	I_E = Ie = 0; V_{CB} = -10 V; f = 1 MHz		28		pF
Transition frequency		f_T	I_C = -50 mA; V_{CE} = -5 V; f = 100 MHz	40	140		MHz

■ h_{FE} Classification

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