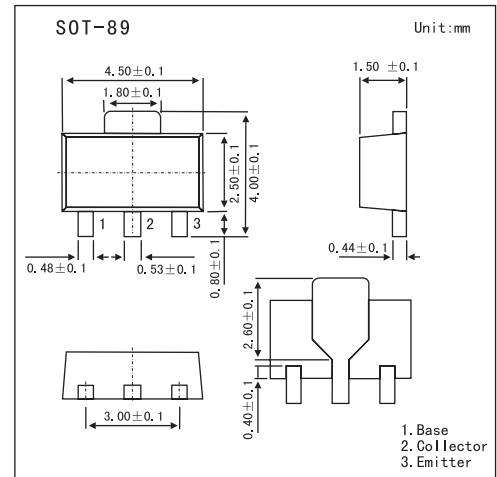


NPN Medium Power Transistor

BC868

■ Features

- High current
- Two 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 (open emitter)	V_{CB0}	32	V
Collector-emitter voltage (open base)	V_{CE0}	20	V
Emitter-base voltage (open collector)	V_{EB0}	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
		*1 and *3	0.85
		*1 and *4	1.2
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_J	150	$^\circ\text{C}$
ambient temperature	T_{amb}	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient	$R_{th(j-a)}$	*1 and *2	250
		*1 and *3	147
		*1 and *4	104
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 .

BC868■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	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; T _j = 25°C			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			
	BC868-25	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 = I _E = 0; V _{CB} = 10 V; f = 1 MHz		22		pF	
Transition frequency	f _T	I _C = 50 mA; V _{CE} = 5 V; f = 100 MHz	40	170		MHz	

■ h_{FE} Classification

TYPE	BC868	BC868-25
Marking	CAC	CDC