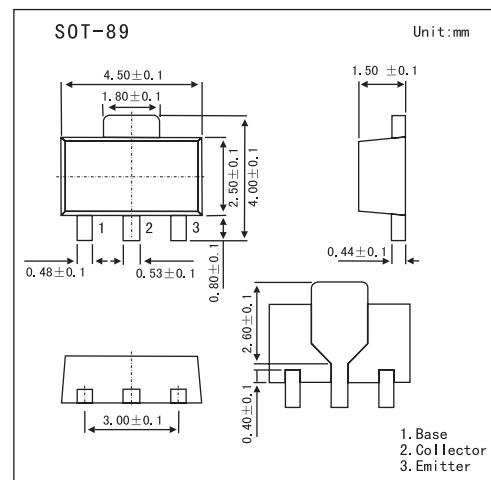


NPN Medium Power Transistor

BC868

■ Features

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



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage (open emitter)	V _{CBO}	32	V
Collector-emitter voltage (open base)	V _{CEO}	20	V
Emitter-base voltage (open collector)	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	°C
Junction temperature	T _j	150	°C
ambient temperature	T _{amb}	-65 to +150	°C
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 cm².

*4. Device mounted on an FR4 printed-circuit board, single-sided copper, tin-plated, mounting pad for collector 6 cm².

BC868

■ Electrical Characteristics Ta = 25°C

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; T _j = 25°C			10	μA
Emitter cutoff current	I _{EBO}	V _{EB} = 5 V, I _C = 0			100	nA
DC current gain	BC868	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	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

■ hFE Classification

TYPE	BC868	BC868-25
Marking	CAC	CDC