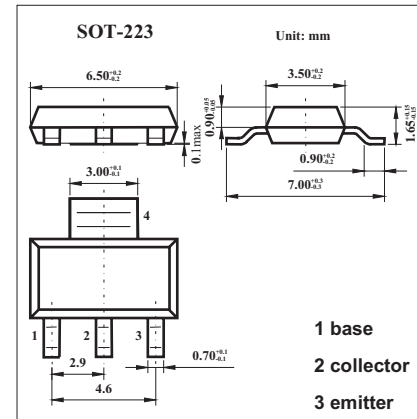


NPN Medium Power Transistor

BCP68

■ Features

- High current.
- Three current gain selections.
- 1.4 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_{CE0}	20	V	
Emitter-base voltage	V_{EB0}	5	V	
Collector current (DC)	I_C	1	A	
Peak collector current	I_{CM}	2	A	
Peak base current	I_{BM}	200	mA	
Total power dissipation	P_{tot}	0.625	W	
* 1		1	W	
* 2		1.4	W	
* 3				
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$	
Junction temperature	T_j	150	$^\circ\text{C}$	
Operating ambient temperature	T_{amb}	-65 to +150	$^\circ\text{C}$	
Thermal resistance from junction to ambient *	$R_{th(j-a)}$			
$T_{amb} \leq 25^\circ\text{C}$		* 1	200	K/W
		* 2	125	K/W
	* 3	89	K/W	
Thermal resistance from junction to solder point	$R_{th(j-s)}$	15	K/W	

*1 Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

*2 Device mounted on a FR4 PCB; single-sided copper; tinplated; 1 cm² collector mounting pad.

*3 Device mounted on a FR4 PCB; single-sided copper; tinplated; 6 cm² collector, mounting pad.

BCP68

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

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I _{CBO}	I _E = 0 A; V _{CB} = 25 V			100	nA
		I _E = 0 A; V _{CB} = 25 V; T _j = 150 °C			10	μA
Emitter cutoff current	I _{EBO}	I _C = 0 A; V _{EB} = 5 V			100	nA
DC current gain BCP68	h _{FE}	V _{CE} = 10 V; I _C = 5 mA	50			
		V _{CE} = 1 V; I _C = 500 mA	85		375	
		V _{CE} = 1 V; I _C = 1 A	60			
DC current gain BCP68-25		V _{CE} = 1 V; I _C = 500 mA	160		375	
Collector-emitter saturation voltage	V _{CEsat}	I _C = 100 mA; I _B = 1 A;			500	mV
Base-emitter voltage	V _{BE}	V _{CE} = 10 V; I _C = 5 mA			700	mV
		V _{CE} = 1 V; I _C = 1 A			1	V
Collector capacitance	C _c	I _E = I _E = 0 A; 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	BCP68	BCP68-25
Marking	BCP68	BCP68/25