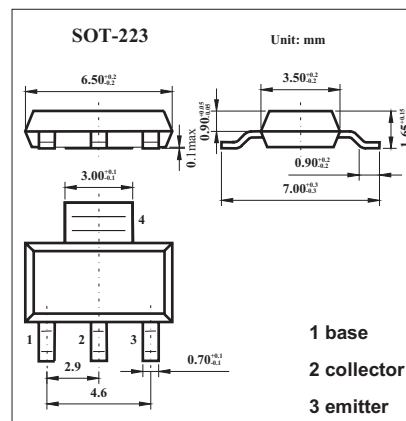


PNP Medium Power Transistor

BCP69

■ 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}		
* 1		0.625	W
* 2		1	W
* 3		1.4	W
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 *	$R_{th(j-a)}$		
* 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 a FR4 PCB; single-sided copper; tinplated; standard footprint for SOT223.

*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.

BCP69■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$I_E = 0\text{ A}; V_{CB} = -25\text{ V}$			-100	nA
		$I_E = 0\text{ A}; V_{CB} = -25\text{ V}; T_j = 150^\circ\text{C}$			-10	μA
Emitter cutoff current	I_{EBO}	$I_C = 0\text{ A}; V_{EB} = -5\text{ V}$			-100	nA
DC current gain	BCP69 hFE	$V_{CE} = -10\text{ V}; I_C = -5\text{ mA}$	50			
		$V_{CE} = -1\text{ V}; I_C = -500\text{ mA}$	85		375	
		$V_{CE} = -1\text{ V}; I_C = -1\text{ A}$	60			
		$V_{CE} = -1\text{ V}; I_C = -500\text{ mA}$	100		250	
			140		230	
			160		375	
Collector-emitter saturation voltage	V_{CEsat}	$I_C = -1\text{ A}; I_B = -100\text{ mA};$			-500	mV
Base-emitter voltage	V_{BE}	$V_{CE} = -10\text{ V}; I_C = -5\text{ mA}$			-700	mV
		$V_{CE} = -1\text{ V}; I_C = -1\text{ A}$			-1	V
Collector capacitance	C_c	$I_E = I_C = 0\text{ A}; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$		28		pF
Transition frequency	f_T	$I_C = -50\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	40	140		MHz

■ hFE Classification

TYPE	BCP69	BCP69-16	BCP69-16/IN	BCP69-25
Marking	BCP69	BCP69/16	69-16N	BCP69/25