



## BCP69

## PNP SILICON TRANSISTOR

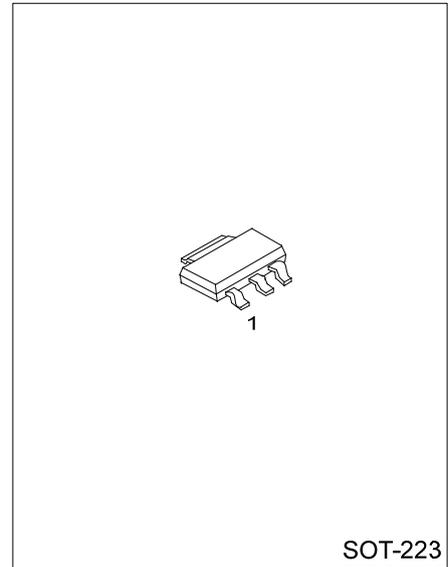
### PNP MEDIUM POWER TRANSISTOR

#### ■ FEATURES

- \* High current (max. 1 A)
- \* Low voltage (max. 20 V).
- \* Complementary to UTC BCP68

#### ■ APPLICATIONS

- \* General purpose switching and amplification
- \* Power applications such as audio output stages.



#### ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen-Free		1	2	3	
BCP69L-xx-AA3-R	BCP69G-xx-AA3-R	SOT-223	B	C	E	Tape Reel

<p>BCP69L-xx-AA3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Lead Plating</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223 (3) xx: refer to Classification of <math>h_{FE}</math> (4) G: Halogen Free, L: Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°C , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage (Open Emitter)	V <sub>CBO</sub>	-32	V
Collector-Emitter Voltage (Open Base)	V <sub>CEO</sub>	-20	V
Emitter-Base Voltage (Open Collector)	V <sub>EBO</sub>	-5	V
Collector Current (DC)	I <sub>C</sub>	-1	A
Peak Collector Current	I <sub>CM</sub>	-2	A
Peak Base Current	I <sub>BM</sub>	-200	mA
Total Power Dissipation, Ta ≤25°C	P <sub>D</sub>	1.35	W
Junction Temperature	T <sub>J</sub>	150	°C
Operating Temperature	T <sub>OPR</sub>	-45 ~ +150	°C
Storage Temperature	T <sub>STG</sub>	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	91	K/W

■ ELECTRICAL CHARACTERISTICS (T<sub>J</sub> = 25°C, unless otherwise specified.)

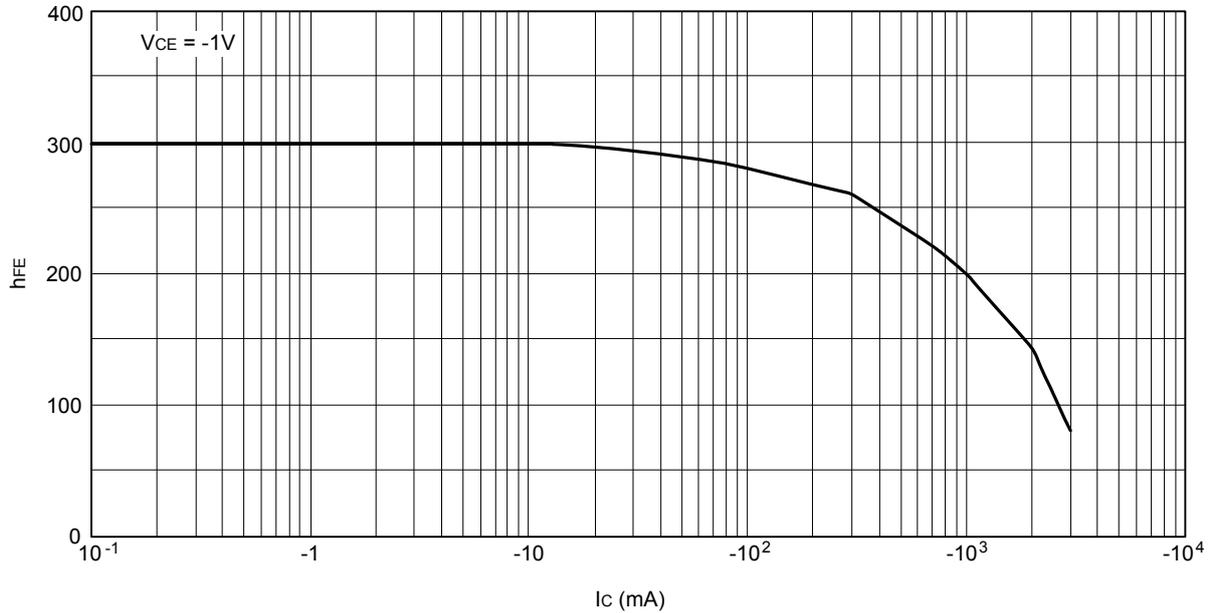
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -100mA			-500	mV
Base-Emitter Voltage	V <sub>BE</sub>	I <sub>C</sub> = -5mA, V <sub>CE</sub> = -10V		-620		mV
		I <sub>C</sub> = -1A, V <sub>CE</sub> = -1V			-1	V
Collector Cut-off Current	I <sub>CBO</sub>	I <sub>E</sub> = 0, V <sub>CB</sub> = -25V			-100	nA
		I <sub>E</sub> = 0, V <sub>CB</sub> = -25V, T <sub>J</sub> = 150°C			-10	μA
Emitter Cut-off Current	I <sub>EBO</sub>	I <sub>C</sub> = 0, V <sub>EB</sub> = -5V			-100	nA
DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> = -5mA, V <sub>CE</sub> = -10V	50			
		I <sub>C</sub> = -500mA, V <sub>CE</sub> = -1V	85		375	
		I <sub>C</sub> = -1A, V <sub>CE</sub> = -1V	60			
Collector Capacitance	C <sub>C</sub>	I <sub>E</sub> = i <sub>e</sub> = 0, V <sub>CB</sub> = -5V, f = 1MHz		48		pF
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> = -10mA, V <sub>CE</sub> = -5V, f = 100MHz	40			MHz
DC current gain ratio of the complementary pairs	$\frac{h_{FE1}}{h_{FE2}}$	I <sub>C</sub>   = 0.5A,  V <sub>CE</sub>   = 1V			1.6	

■ CLASSIFICATION OF h<sub>FE</sub>

RANK	16	25
RANGE	100~250	160~375

■ TYPICAL CHARACTERISTICS

DC Current Gain (Typical Values)



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