



BCP68

NPN SILICON TRANSISTOR

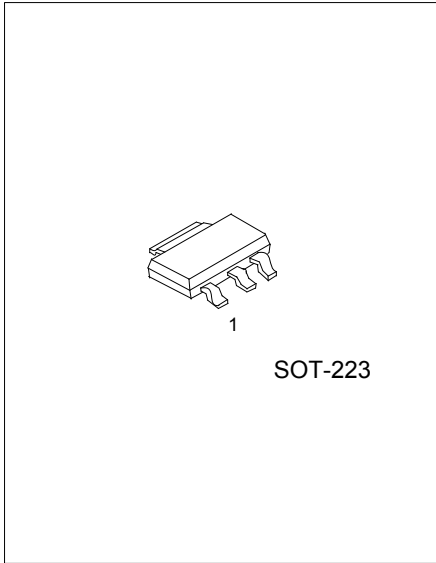
NPN MEDIUM POWER TRANSISTOR

FEATURES

- * High current (max. 1 A)
- * Low voltage (max. 20 V).
- * Complementary to UTC BCP69

APPLICATIONS

- * General purpose switching and amplification under high current conditions.



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BCP68L-xx-AA3-R	BCP68G-xx-AA3-R	SOT-223	B	C	E	Tape Reel

<p>BCP68L-xx-AA3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Lead Free</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223 (3) xx: refer to Classification of hFE (4) G: Halogen Free, L: Lead Free</p>
--	---

■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	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	DC	I_C	1
	Peak	I_{CM}	2
Peak Base Current	I_{BM}	200	mA
Total Power Dissipation ($T_A \leq 25^\circ\text{C}$)	P_D	1.35	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Operating Temperature	T_{OPR}	-45 ~ +150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ +150	$^\circ\text{C}$

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**

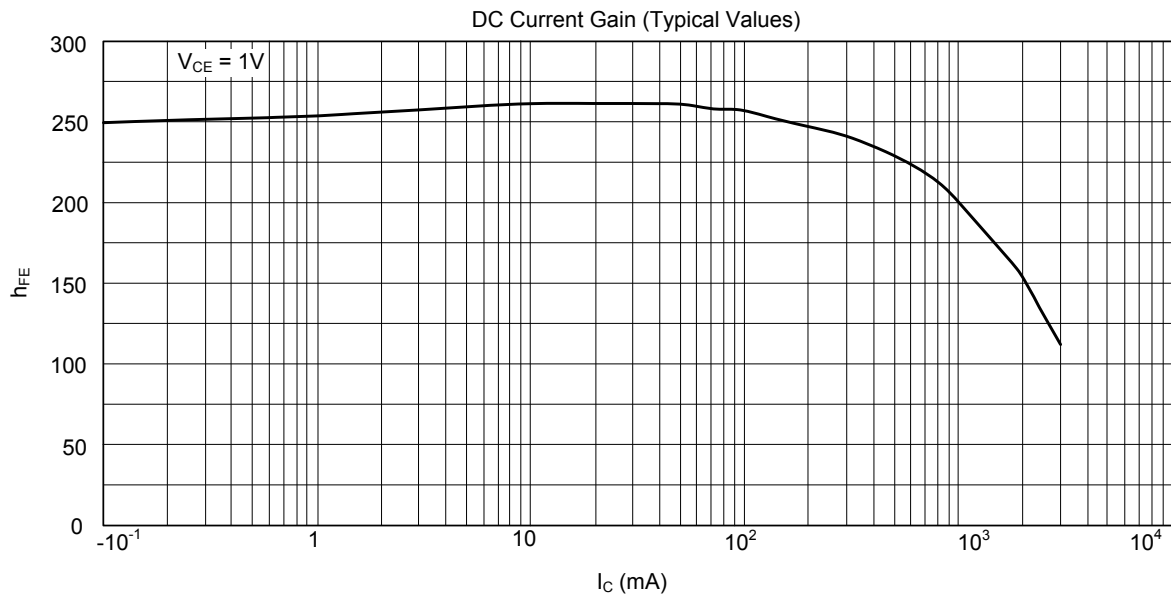
PARAMETER	SYMBOL	RATINGS	UNIT
Junction To Ambient	θ_{JA}	91	$^\circ\text{C}/\text{W}$

■ **ELECTRICAL CHARACTERISTICS** ($T_J = 25^\circ\text{C}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 1\text{A}, I_B = 100\text{mA}$			500	mV
Base-Emitter Voltage	V_{BE}	$I_C = 5\text{mA}, V_{CE} = 10\text{V}$		620		mV
		$I_C = 1\text{A}, V_{CE} = 1\text{V}$			1	V
Collector Cut-off Current	I_{CBO}	$I_E = 0, V_{CB} = 25\text{V}$			100	nA
		$I_E = 0, V_{CB} = 25\text{V}, T_J = 150^\circ\text{C}$			10	μA
Emitter Cut-off Current	I_{EBO}	$I_C = 0, V_{EB} = 5\text{V}$			100	nA
DC Current Gain	h_{FE}	$I_C = 5\text{mA}, V_{CE} = 10\text{V}$	50			
		$I_C = 500\text{mA}, V_{CE} = 1\text{V}$	85		375	
		$I_C = 1\text{A}, V_{CE} = 1\text{V}$	60			
Collector Capacitance	C_C	$I_E = i_e = 0, V_{CB} = 5\text{V}, f = 1\text{MHz}$		48		pF
Transition Frequency	f_T	$I_C = -10\text{mA}, V_{CE} = -5\text{V}, f = 100\text{MHz}$	40			MHz
DC Current Gain Ratio of the Complementary Pairs	$\frac{h_{FE1}}{h_{FE2}}$	$ I_C = 0.5\text{A}, V_{CE} = 1\text{V}$			1.6	

■ **CLASSIFICATION OF h_{FE}**

RANK	16	25
RANGE	100~250	160~375

■ **TYPICAL CHARACTERISTIC**

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.