



BCP68

NPN SILICON TRANSISTOR

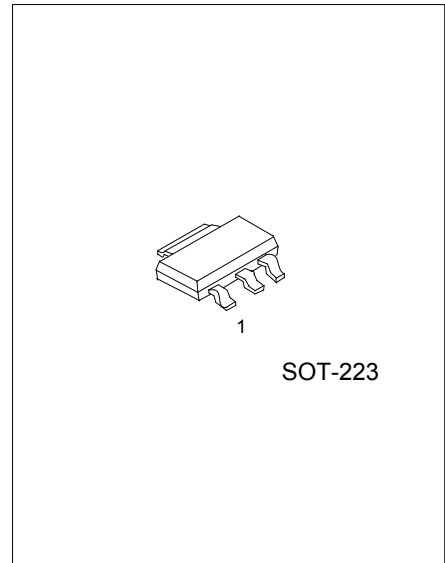
NPN MEDIUM POWER TRANSISTOR

■ 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.



Lead-free: BCP68L
Halogen-free: BCP68G

■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
BCP68-xx-AA3-R	BCP68L-xx-AA3-R	BCP68G-xx-AA3-R	SOT-223	B	C	E	Tape Reel

BCP68L-xx-AA3-R	(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating	(1) R: Tape Reel (2) AA3: SOT-223 (3) xx: refer to Classification of h_{FE} (4) L: Lead Free Plating, Blank: Pb/Sn
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■ ABSOLUTE MAXIMUM RATINGS (Ta=25°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 (Ta ≤ 25°C)	P_D	1.35	W
Junction Temperature	T_J	150	°C
Operating Temperature	T_{OPR}	-45 ~ +150	°C
Storage Temperature	T_{STG}	-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
Thermal Resistance From Junction To Ambient	θ_{JA}	91	°C/W

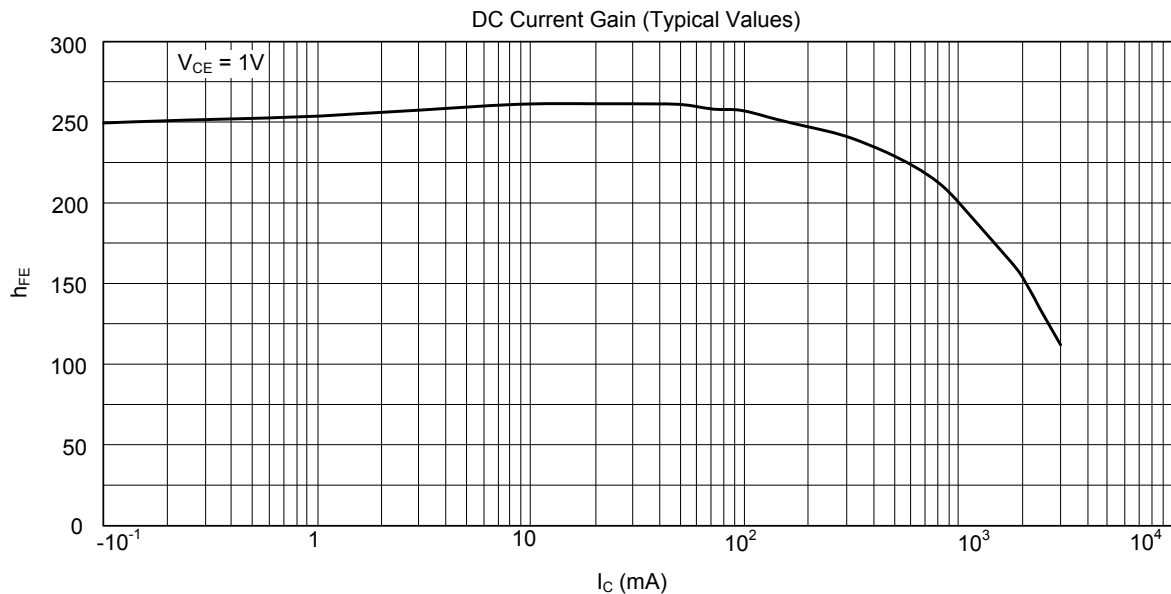
■ ELECTRICAL CHARACTERISTICS (T_J = 25°C , unless otherwise specified.)

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

■ CLASSIFICATION OF h_{FE}

RANK	16	25
RANGE	100~250	160~375

■ TYPICAL CHARACTERISTIC



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