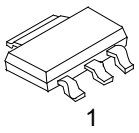
BCP68

NPN SILICON TRANSISTOR

NPN MEDIUM POWER TRANSISTOR



SOT-223

■ FEATURES

* High current (max. 1A)
* Low voltage (max. 20V).
* 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

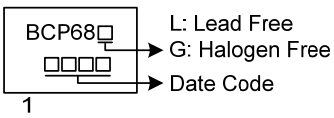
Note: Pin Assignment: B: Base C: Collector E: Emitter

BCP68G-xx-AA3-R

(1)Packing Type
(2)Package Type
(3)Rank
(4)Green Package

(1) R: Tape Reel
(2) AA3: SOT-223
(3) xx: refer to Classification of h_{FE3}
(4) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=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	A
	Peak	I_{CM}	2	A
Peak Base Current		I_{BM}	200	mA
Total Power Dissipation ($T_A \le 25°C$)		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
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℃			10	μA
Emitter Cut-off Current	I_{EBO}	I_C=0, V_{EB}=5V			100	nA
DC Current Gain	h_{FE}	I_C=500mA, V_{CE}=1V	85		375	
	h_{FE1}	I_C=5mA, V_{CE}=10V	50			
	h_{FE2}	I_C=1A, V_{CE}=1V	60			
	h_{FE3}	I_C=500mA, V_{CE}=1V	100		250	
			160		375	
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_{FE3}

RANK	16	25
RANGE	100~250	160~375

■ TYPICAL CHARACTERISTICS