

BCW66G

NPN General Purpose Amplifier

- This device is designed for general purpose amplifier applications at collector currents to 500mA.
- Sourced from process 13.



1. Base 2. Emitter 3. Collector

Rev. A1, August 2002

Absolute Maximum Ratings * T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units	
V _{CEO}	Collector-Emitter Voltage	45	V	
V _{CBO}	Collector-Base Voltage	75	V	
V _{EBO}	Emitter-Base Voltage	5	V	
I _C	Collector Current - Continuous	1	Α	
T _J , T _{STG}	Operating and Storage Junction Temperature Range	- 55 ~ +150	°C	

^{*} These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

- NOTES:
 1. These ratings are based on a maximum junction temperature of 150degrees C.
 2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu A$	75			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA	45			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 10μA	5			V
I _{CES}	Collector Cut-off Current	$V_{CB} = 45V, I_{E} = 0$			20	nA
		$V_{CB} = 45V, I_{E} = 0$ $T_{A} = 150^{\circ}C$			20	μΑ
I _{EBO}	Emitter Cut-off Current	V _{EB} = 4V			20	nA
h _{FE}	DC Current Gain	$V_{CE} = 10V, I_{C} = 100\mu A$	50			
		$V_{CE} = 1V$, $I_C = 10mA$	110			
		$V_{CE} = 1V, I_{C} = 100mA$	160		400	
		$V_{CE} = 2V$, $I_C = 500$ mA	60			
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C = 100 \text{mA}, I_B = 10 \text{mA}$			0.3	V
		$I_C = 500 \text{mA}, I_B = 50 \text{mA}$			0.7	
V _{BE} (sat)	Base-Emitter Saturation Voltage	I _C = 500mA, I _B = 50mA			2	V
C _{obo}	Output Capacitance	V _{CB} = 10V, f = 1MHz			12	pF
C _{ibo}	Input Capacitance	V _{EB} = 0.5V, f = 1MHz			80	pF
f _T	Current gain Bandwidth Product	V _{CE} = 10V, I _C = 20mA,	100			MHz
		f = 100MHz				
NF	Noise Figure	$V_{CE} = 5V, I_{C} = 0.2 \text{mA}, R_{S} = 1 \text{k}\Omega,$			10	dB
		f = 1KHz, BW = 200Hz				
t _{on}	Turn-On Time	$I_{B1} = I_{B2} = 15mA$			100	ns
t _{off}	Turn-Off Time	$I_C = 150 \text{mA}, R_L = 150 \Omega$			400	

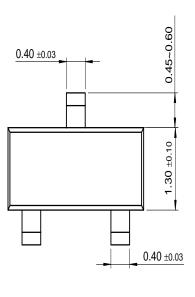
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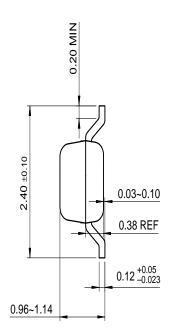
Thermal Characteristics					
Symbol	Parameter	Min.	Тур.	Max.	Units
P _D	Total Device Dissipation Derate above 25°C			350 2.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient			357	°C/W
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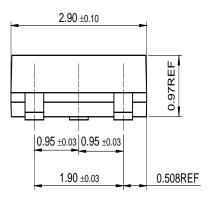
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Package Dimensions

SOT-23







Dimensions in Millimeters

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