

SOT-23 Formed SMD Package

**BCW66F, BCW66G
BCW66H**

GENERAL PURPOSE TRANSISTOR

N-P-N transistor

Marking

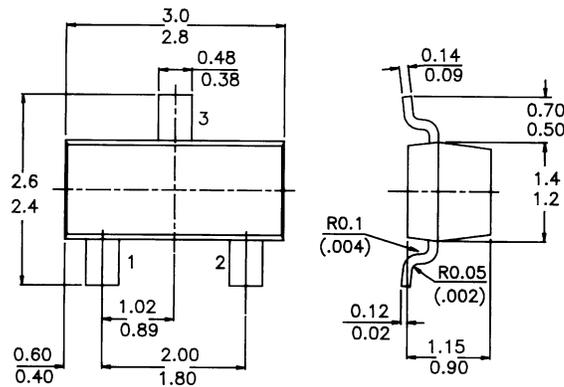
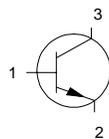
BCW 66F = EF
BCW 66G = EG
BCW 66H = EH

PACKAGE OUTLINE DETAILS

ALL DIMENSIONS IN mm

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

		BCW66F	66G	66H
Collector-base voltage (open emitter)	$-V_{CBO}$	max. 75	75	75 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max. 45	45	45 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max. 5	5	5 V
Collector current (d.c.)	$-I_C$	max. 800	800	800 mA
Total power dissipation at $T_{amb} = 25^\circ C$	P_{tot}	max. 225	225	225 mW
D.C. current gain				
$-I_C = 100$ mA; $-V_{CE} = 10$ V	h_{FE}	min. 35	50	80
$-I_C = 10$ mA; $V_{CE} = 1$ V		min. 75	110	180
$-I_C = 100$ mA; $V_{CE} = 1$ V		min. 100	160	250
		max. 250	400	630
$-I_C = 500$ mA; $V_{CE} = 2$ V		min. 35	60	100

**BCW66F, BCW66G
BCW66H**

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values		BCW	66F	66G	66H
Collector-base voltage (open emitter)	$-V_{CBO}$	max.	75	75	75 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	45	45	45 V
Emitter-base voltage (open collector)	$-V_{EBO}$	max.	5	5	5 V
Collector current (d.c.)	$-I_C$	max.	800	800	800 mA
Total power dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	max	225	225	225 mW
Storage temperature	T_{stg}		-55 to +150		$^\circ\text{C}$

THERMAL CHARACTERISTICS

$$T_j = P (R_{th\ j-t} + R_{th\ s-a}) + T_{amb}$$

Thermal resistance

from junction to ambient	$R_{th\ j-a}$	556	556	556	$^\circ\text{C}/\text{mW}$
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CHARACTERISTICS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Collector-emitter breakdown voltage $-I_C = 10\ \text{mA}; I_B = 0$	$-V_{(BR)CEO\ min.}$	45	45	45	V
Collector-emitter breakdown voltage $-I_C = 10\ \text{mA}; V_{EB} = 0$	$-V_{(BR)CES\ min.}$	75	75	75	V
Emitter-base breakdown voltage $-I_E = 10\ \text{mA}; I_C = 0$	$-V_{(BR)EBO\ min.}$	5	5	5	V
Collector cut-off current $-V_{CE} = 45\ \text{V}; I_C = 0\ \text{V}$	$-I_{CES}$	max.	20	20	20 nA
Emitter cut-off current $V_{EB} = 4\ \text{V}; I_C = 0$	I_{EBO}	max.	20	20	20 nA
Output capacitance at $f = 1\ \text{MHz}$ $I_E = 0; -V_{CB} = 10\ \text{V}$	C_c	max.	12	12	12 pF
Input capacitance at $f = 1\ \text{MHz}$ $I_C = 0; -V_{EB} = 0.5\ \text{V}$	C_e	max.	80	80	80 pF
Saturation voltages $-I_C = 500\ \text{mA}; -I_B = 50\ \text{mA}$	$-V_{CEsat}$	max.	0.7	0.7	0.7 V
$-I_C = 100\ \text{mA}; -I_B = 10\ \text{mA}$	$-V_{CEsat}$	typ.	0.3	0.3	0.3 V
$-I_C = 500\ \text{mA}; -I_B = 50\ \text{mA}$	$-V_{BEsat}$	max.	2	2	2 V
Noise figure at $R_S = 1\ \text{k}\Omega$ $-I_C = 0.2\ \text{mA}; -V_{CE} = 5\ \text{V}$ $f = 1\ \text{KHz}, BW = 200\ \text{Hz}$	NF	max.	10	10	10 dB
Current Gain-Bandwidth Product $I_C = 20\ \text{mA}, V_{CE} = 10\ \text{V}, f = 100\ \text{MHz}$		min.	100	100	100 MHz

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