

SOT-23 Formed SMD Package

**BCW66F, BCW66G
BCW66H**

GENERAL PURPOSE TRANSISTOR

N-P-N transistor

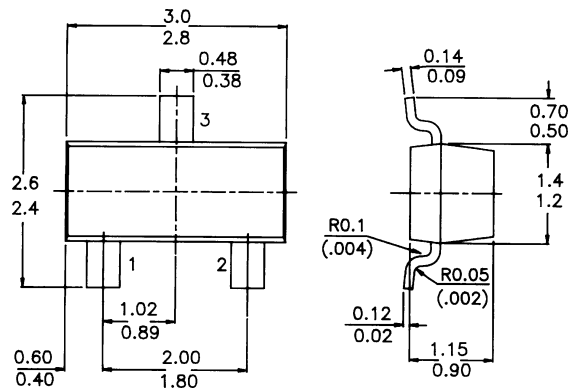
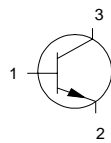
Marking

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)	$-V_{CB0}$	max. 75	75	75 V
Collector-emitter voltage (open base)	$-V_{CE0}$	max. 45	45	45 V
Emitter-base voltage (open collector)	$-V_{EB0}$	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
D.C. current gain				
$-I_C = 100 \text{ mA}; -V_{CE} = 10 \text{ V}$	h_{FE}	min. 35	50	80
$-I_C = 10 \text{ mA}; V_{CE} = 1 \text{ V}$		min. 75	110	180
$-I_C = 100 \text{ mA}; V_{CE} = 1 \text{ V}$		min. 100	160	250
		max. 250	400	630
$-I_C = 500 \text{ mA}; V_{CE} = 2 \text{ V}$		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	$^\circ\text{C/mW}$
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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 $R_S = 1\text{ kW}$

$-I_C = 0.2\text{ mA}; -V_{CE} = 5\text{ V}$ $f = 1\text{ KHz}, BW = 200\text{ Hz}$	NF	max. 10	10	10	dB
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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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Disclaimer

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