

**BCW29
BCW30**

SILICON PLANAR EPITAXIAL TRANSISTORS

P-N-P transistors

Marking

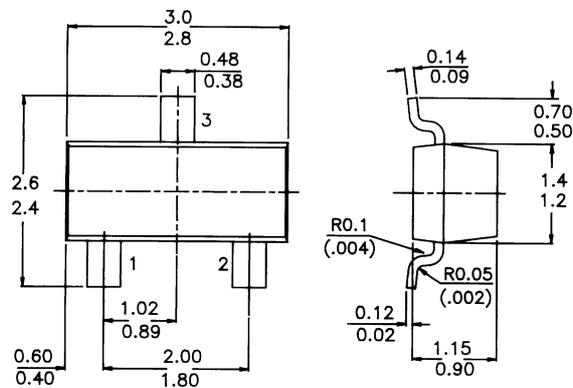
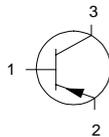
BCW29 = C1

BCW30 = C2

**PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm**

Pin configuration

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

		BCW29	BCW30
D.C. current gain at $T_j = 25\text{ }^\circ\text{C}$	>	120	215
$-I_C = 2\text{ mA}; -V_{CE} = 5\text{ V}$			
h_{FE}	<	260	500
Collector-base voltage (open emitter)	$-V_{CB0}$ max.	32	V
Collector-emitter voltage (open base)	$-V_{CE0}$ max.	32	V
Collector current (peak value)	$-I_{CM}$ max.	200	mA
Total power dissipation up to $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^\circ\text{C}$
Transition frequency at $f = 35\text{ MHz}$			
$-I_C = 10\text{ mA}; -V_{CE} = 5\text{ V}$	f_T typ.	150	MHz
Noise figure at $R_S = 2\text{ kW}$			
$-I_C = 200\text{ mA}; -V_{CE} = 5\text{ V};$ $f = 1\text{ kHz}; B = 200\text{ Hz}$	F	< 10	dB

BCW29
BCW30

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

Limiting values

Collector-base voltage (open emitter)	$-V_{CB0}$	max.	32 V
Collector-emitter voltage ($V_{BE} = 0$)	$-V_{CES}$	max.	32 V
Collector-emitter voltage (open base)			
$-I_C = 2 \text{ mA}$	$-V_{CE0}$	max.	32 V
Emitter-base voltage (open collector)	$-V_{EB0}$	max.	5 V
Collector current (d.c.)	$-I_C$	max.	100 mA
Collector current (peak value)	$-I_{CM}$	max.	200 mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot}	max.	250 mW
Storage temperature	T_{stg}		-55 to +150
$^\circ\text{C}$			
Junction temperature	T_j	max.	150 $^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$	=	500 K/W
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CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified

Collector cut-off current

$I_E = 0; -V_{CB} = 32 \text{ V}$	$-I_{CB0}$	<	100 nA
$I_E = 0; -V_{CB} = 32 \text{ V}; T_j = 100^\circ\text{C}$	$-I_{CB0}$	<	10 nA

Base-emitter voltage

$-I_C = 2 \text{ mA}; -V_{CE} = 5 \text{ V}$	$-V_{BE}$	600 to 750	mV
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Saturation voltages

$-I_C = 10 \text{ mA}; -I_B = 0,5 \text{ mA}$	$-V_{CEsat}$	typ.	80 mV
		<	300 mV
	$-V_{BEsat}$	typ.	720 mV
$-I_C = 50 \text{ mA}; -I_B = 2,5 \text{ mA}$	$-V_{CEsat}$	typ.	150 mV
	$-V_{BEsat}$	typ.	810 mV

D.C. current gain

$-I_C = 10 \text{ mA}; -V_{CE} = 5 \text{ V}$	h_{FE}	typ.	BCW 29 90	30 150
$-I_C = 2 \text{ mA}; -V_{CE} = 5 \text{ V}$		>	120	215
		<	260	500

Collector capacitance at $f = 1 \text{ MHz}$

$I_E = I_e = 0; -V_{CB} = 10 \text{ V}$	C_c	typ.	4,5	pF
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Transition frequency at $f = 35 \text{ MHz}$

$-I_C = 10 \text{ mA}; -V_{CE} = 5 \text{ V}$	f_T	typ.	150	MHz
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Noise figure at $R_S = 2 \text{ k}\Omega$

$-I_C = 200 \text{ mA}; -V_{CE} = 5 \text{ V}$	F	<	10	dB
$f = 1 \text{ KHz}; B = 200 \text{ Hz}$				

Notes

Disclaimer

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