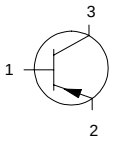
BCW29
BCW30

SILICON PLANAR EPITAXIAL TRANSISTORS

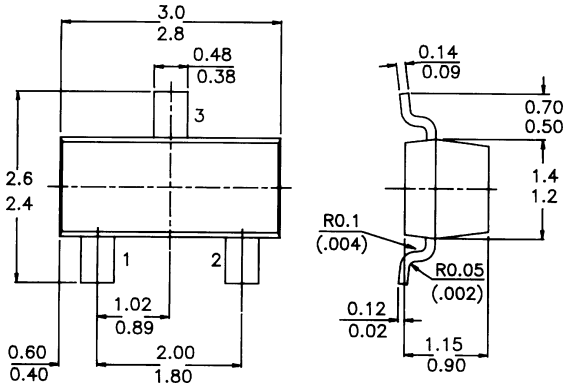
P–N–P transistors

Marking
BCW29 = C1
BCW30 = C2

Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR



PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm



ABSOLUTE MAXIMUM RATINGS

			BCW29	*BCW30*	
D.C. current gain at T_j = 25 °C		>	*120*	*215*	
$-I_C$ = 2 mA; $-V_{CE}$ = 5 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 °C	P_{tot}	*max,*		*250*	mW
Junction temperature	T_j	*max.*		*150*	°C
Transition frequency at f = 35 MHz					
$-I_C$ = 10 mA; $-V_{CE}$ = 5 V	f_T	*typ.*		*150*	MHz
Noise figure at R_S = 2 kW					
$-I_c$ = 200 mA; $-V_{CE}$ = 5 V;					
f = 1 kHz; B = 200 Hz	*F*	<		*10*	*dB*

RATINGS *(at T_A = 25°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 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 °C	P_{tot}	*max.*	*250*	mW
Storage temperature	T_{stg}		*–55 to +150*	
° C				
Junction temperature	T_j	*max.*	*150*	*° C*

THERMAL RESISTANCE

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

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

Collector cut–off current				
I_E = 0; $-V_{CB}$ = 32 V	$-I_{CB0}$	<	*100*	*nA*
I_E = 0; $-V_{CB}$ = 32 V; T_j = 100 °C	$-I_{CB0}$	<	*10*	*mA*
Base–emitter voltage				
$-I_C$ = 2 mA; $-V_{CE}$ = 5 V	$-V_{BE}$		*600 to 750*	*mV*
Saturation voltages				
$-I_C$ = 10 mA; $-I_B$ = 0,5 mA	$-V_{CEsat}$	*typ.*	*80*	*mV*
		<	*300*	*mV*
	$-V_{BEsat}$	*typ.*	*720*	*mV*
$-I_C$ = 50 mA; $-I_B$ = 2,5 mA	$-V_{CEsat}$	*typ.*	*150*	*mV*
	$-V_{BEsat}$	*typ.*	*810*	*mV*

D.C. current gain		***BCW***	***29***	***30***
$-I_C$ = 10 mA; $-V_{CE}$ = 5 V	h_{FE}	*typ.*	*90*	*150*
$-I_C$ = 2 mA; $-V_{CE}$ = 5 V		>	*120*	*215*
		<	*260*	*500*
Collector capacitance at f = 1 MHz				
$I_E = I_e$ = 0; $-V_{CB}$ = 10 V	C_c	*typ.*	*4,5*	*pF*
Transition frequency at f = 35 MHz				
$-I_C$ = 10 mA; $-V_{CE}$ = 5 V	f_T	*typ.*	*150*	MHz
Noise figure at RS = 2 kW				
$-I_C$ = 200 mA; $-V_{CE}$ = 5 V				
f = 1 KHz; B = 200 Hz	*F*	<	*10*	*dB*

Notes

Disclaimer

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