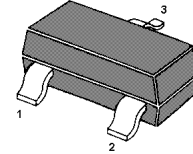


PNP Silicon Epitaxial Planar Transistors

for general purpose switching and amplification.

These transistors are subdivided into three groups B, C and D, according to their current gain.

As complementary types the NPN transistors BCW60 are recommended.



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$-V_{CBO}$	32	V
Collector-Emitter Voltage	$-V_{CEO}$	32	V
Emitter-Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	100	mA
Peak Collector Current	$-I_{CM}$	200	mA
Peak Base Current	$-I_{BM}$	100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_S	-65 to +150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ }\mu\text{A}$ at $-V_{CE} = 5\text{ V}$, $-I_C = 2\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 50\text{ mA}$	BCW61B	h_{FE}	30	-	-	-
	BCW61C	h_{FE}	40	-	-	-
	BCW61D	h_{FE}	100	-	-	-
	BCW61B	h_{FE}	180	-	310	-
	BCW61C	h_{FE}	250	-	460	-
	BCW61D	h_{FE}	380	-	630	-
	BCW61B	h_{FE}	80	-	-	-
	BCW61C	h_{FE}	100	-	-	-
	BCW61D	h_{FE}	110	-	-	-
Collector Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 0.25\text{ mA}$	$-V_{CEsat}$	0.06	-	0.25	V	
Collector Saturation Voltage at $-I_C = 50\text{ mA}$, $-I_B = 1.25\text{ mA}$	$-V_{CEsat}$	0.12	-	0.55	V	
Base Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 0.25\text{ mA}$	$-V_{BEsat}$	0.6	-	0.85	V	
Base Saturation Voltage at $-I_C = 50\text{ mA}$, $-I_B = 1.25\text{ mA}$	$-V_{BEsat}$	0.68	-	1.05	V	
Base-Emitter Voltage at $-I_C = 2\text{ mA}$, $-V_{CE} = 5\text{ V}$	$-V_{BE(on)}$	0.6	-	0.75	V	
Collector Base Cutoff Current at $-V_{CB} = 32\text{ V}$ at $-V_{CB} = 32\text{ V}$, $T_j = 150\text{ }^\circ\text{C}$	$-I_{CBO}$	-	-	20	nA	
	$-I_{CBO}$	-	-	20	μA	
Emitter-Base Cutoff Current at $-V_{EB} = 4\text{ V}$	$-I_{EBO}$	-	-	20	nA	
Gain -Bandwidth Product at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	-	MHz	
Collector-Base Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{CBO}	-	4.5	-	pF	
Emitter-Base Capacitance at $-V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{EBO}	-	11	-	pF	
Noise figure at $-I_C = 200\text{ }\mu\text{A}$, $-V_{CE} = 5\text{ V}$, $R_S = 2\text{ K}\Omega$, $f = 1\text{ KHz}$, $\Delta f = 200\text{ Hz}$	NF	-	2	6	dB	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	-	-	500 ¹⁾	K/W	

¹⁾ Transistor mounted on an FR4 printed-circuit board.