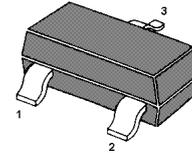


# BCW66

## NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications



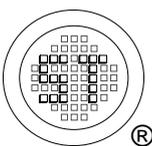
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	75	V
Collector Emitter Voltage	$V_{CEO}$	45	V
Emitter Base Voltage	$V_{EBO}$	5	V
Power Dissipation	$P_{tot}$	300	mW
Collector Collector	$I_C$	600	mA
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 10\text{ V}$ , $I_C = 0.1\text{ mA}$ at $V_{CE} = 1\text{ V}$ , $I_C = 10\text{ mA}$ at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$ at $V_{CE} = 2\text{ V}$ , $I_C = 500\text{ mA}$	$h_{FE}$ $h_{FE}$ $h_{FE}$ $h_{FE}$	50 110 160 60	- - 400 -	- - - -
Collector Emitter Cutoff Current at $V_{CE} = 45\text{ V}$	$I_{CES}$	-	20	nA
Emitter Base Cutoff Collector at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	20	nA
Collector Emitter Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CES}$	75	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	45	-	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$ , $I_B = 10\text{ mA}$ at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	0.3 0.7	V
Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$ , $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	2	V
Transition Frequency at $V_{CE} = 10\text{ V}$ , $I_C = 20\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	100	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	12	pF
Turn-on Time at $I_{B1} = I_{B2} = 15\text{ mA}$	$t_{on}$	-	100	ns
Turn-off Time at $I_C = 150\text{ mA}$ , $R_L = 150\text{ }\Omega$	$t_{off}$	-	400	ns



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