

SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

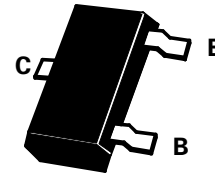
BCW66

ISSUE 4 - MARCH 2001

PARTMARKING DETAILS –

BCW66F –	EF	BCW66FR –	7P
BCW66G –	EG	BCW66GR –	5T
BCW66H –	EH	BCW66HR –	7M

COMPLEMENTARY TYPE – BCW68



SOT23

ABSOLUTE MAXIMUM RATINGS.

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
Continuous Collector Current	I_C	800	mA
Peak Collector Current(10ms)	I_{CM}	1000	mA
Base Current	I_B	100	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$



BCW66

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	45			V	$I_{CEO} = 10\text{mA}$
	$V_{(BR)CES}$	75			V	$I_C = 10\mu\text{A}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_{EBO} = 10\mu\text{A}$
Collector-Emitter Cut-off Current	I_{CES}			20 20	nA μA	$V_{CES} = 45\text{V}$ $V_{CES} = 45\text{V}, T_{amb} = 150^{\circ}\text{C}$
Emitter-Base Cut-Off Current	I_{EBO}			20	nA	$V_{EBO} = 4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.3 0.7	V V	$I_C = 100\text{mA}, I_B = 10\text{mA}$ $I_C = 500\text{mA}, I_B = 50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			2	V	$I_C = 500\text{mA}, I_B = 50\text{mA}^*$
Static Forward Current Transfer	BCW66F	h_{FE}	75 100 35	160	250	$I_C = 10\text{mA}, V_{CE} = 1\text{V}$ $I_C = 100\text{mA}, V_{CE} = 1\text{V}^*$ $I_C = 500\text{mA}, V_{CE} = 2\text{V}^*$
	BCW66G	h_{FE}	110 160 60	250	400	$I_C = 10\text{mA}, V_{CE} = 1\text{V}$ $I_C = 100\text{mA}, V_{CE} = 1\text{V}^*$ $I_C = 500\text{mA}, V_{CE} = 2\text{V}^*$
	BCW66H	h_{FE}	180 250 100	350	630	$I_C = 10\text{mA}, V_{CE} = 1\text{V}$ $I_C = 100\text{mA}, V_{CE} = 1\text{V}^*$ $I_C = 500\text{mA}, V_{CE} = 2\text{V}^*$
Transition Frequency	f_T	100			MHz	$I_C = 20\text{mA}, V_{CE} = 10\text{V}$ $f = 100\text{MHz}$
Output Capacitance	C_{obo}		8	12	pF	$V_{CB} = 10\text{V}, f = 1\text{MHz}$
Input Capacitance	C_{ibo}			80	pF	$V_{EB} = 0.5\text{V}, f = 1\text{MHz}$
Noise Figure	N		2	10	dB	$I_C = 0.2\text{mA}, V_{CE} = 5\text{V}$ $R_G = 1\text{k}\Omega$
Switching times: Turn-On Time Turn-Off Time	t_{on} t_{off}			100 400	ns ns	$I_C = 150\text{mA}$ $I_{B1} = -I_{B2} = 15\text{mA}$ $R_L = 150\Omega$

Spice parameter data is available upon request for this device

*Measured under pulsed conditions.

