

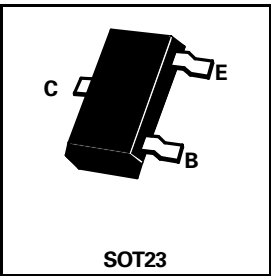
# SOT23 PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

**BCW67  
BCW68**

**ISSUE 4 - JUNE 1996**

**PARTMARKING DETAILS –**

BCW67A – DA	BCW67AR – 4W
BCW67B – DB	BCW67BR – 5W
BCW67C – DC	BCW67CR – 6W
BCW68F – DF	BCW68FR – 7T
BCW68G – DG	BCW68GR – 5T
BCW68H – DH	BCW68HR – 7N



**COMPLEMENTARY TYPES –**

BCW67 – BCW65  
BCW68 – BCW66

**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	BCW67	BCW68	UNIT
Collector-Emitter Voltage	$V_{CES}$	-45	-60	V
Collector-Emitter Voltage	$V_{CEO}$	-32	-45	V
Emitter-Base Voltage	$V_{EBO}$	-5		V
Peak Pulse Current(10ms)	$I_{CM}$	-1000		mA
Continuous Collector Current	$I_C$	-800		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		$^{\circ}C$

# BCW67 BCW68

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

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Breakdown Voltage	BCW67	$V_{(BR)CEO}$	-32			V	$I_{CEO} = -10\text{mA}$
	BCW68		-45				$I_{CEO} = -10\text{mA}$
	BCW67	$V_{(BR)CES}$	-45				$I_C = -10\mu\text{A}$
	BCW68		-60				$I_C = -10\mu\text{A}$
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	-5			V	$I_{EBO} = -10\mu\text{A}$
Collector-Emitter Cut-off Current	BCW67	$I_{CES}$			-20 -10	nA $\mu\text{A}$	$V_{CES} = -32\text{V}$ $V_{CES} = -32\text{V}$ , $T_{amb} = 150^{\circ}\text{C}$
	BCW68				-20 -10	nA $\mu\text{A}$	$V_{CES} = -45\text{V}$ $V_{CES} = -45\text{V}$ , $T_{amb} = 150^{\circ}\text{C}$
Emitter-Base Cut-Off Current		$I_{EBO}$			-20	nA	$V_{EBO} = -4\text{V}$
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$		-0.7	-0.3	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	BCW67A BCW68F	$h_{FE}$	75 100 35	170	250		$I_C = -10\text{mA}$ , $V_{CE} = -1\text{V}$ $I_C = -100\text{mA}$ , $V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}$ , $V_{CE} = -2\text{V}^*$
	BCW67B BCW68G	$h_{FE}$	120 160 60	250	400		$I_C = -10\text{mA}$ , $V_{CE} = -1\text{V}$ $I_C = -100\text{mA}$ , $V_{CE} = -1\text{V}^*$ $I_C = -500\text{mA}$ , $V_{CE} = -2\text{V}^*$
	BCW67C BCW68H	$h_{FE}$	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	$I_C = -20\text{mA}$ , $V_{CE} = -10\text{V}$ $f = 100\text{MHz}$
Collector-Base Capacitance		$C_{cbo}$		12	18	pF	$V_{CBO} = -10\text{V}$ , $f = 1\text{MHz}$
Emitter-Base Capacitance		$C_{ebo}$			80	pF	$V_{EBO} = -0.5\text{V}$ , $f = 1\text{MHz}$
Noise Figure		N		2	10	dB	$I_C = -0.2\text{mA}$ , $V_{CE} = -5\text{V}$ $R_G = 1\text{K}\Omega$ , $f = 1\text{KHz}$ $\Delta f = 200\text{Hz}$
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. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$