

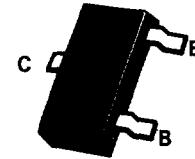
# SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 3 - AUGUST 1995

**BCW65  
BCW66**

## PARTMARKING DETAILS -

BCW65A - EA	BCW65AR - 4V
BCW65B - EB	BCW65BR - 5V
BCW65C - EC	BCW65CR - 6V
BCW66F - EF	BCW66FR - 7P
BCW66G - EG	BCW66GR - 5T
BCW66H - EH	BCW66HF - 7M



SOT23

## COMPLEMENTARY TYPES -

BCW65 -	BCW67
BCW66 -	BCW68

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	BCW65	BCW66	UNIT
Collector-Base Voltage	$V_{CBO}$	60	75	V
Collector-Emitter Voltage	$V_{CEO}$	32	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 $T_{amb}=25^\circ\text{C}$	$P_{tot}$		330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$		-55 to +150	°C

# BCW65

# BCW66

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

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Breakdown Voltage	BCW65 BCW66	$V_{(BR)CEO}$	32 45			V	$I_{CEO}=10mA$ $I_{CEO}=10mA$
	BCW65 BCW66	$V_{(BR)CES}$	60 75			V	$I_C=10\mu A$ $I_C=10\mu A$
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	5			V	$I_{EBO}=10\mu A$
Collector-Emitter Cut-off Current	BCW65	$I_{CES}$			20 20	nA $\mu A$	$V_{CES}=32V$ $V_{CES}=32V, T_{amb}=150^\circ C$
	BCW66				20 20	nA $\mu A$	$V_{CES}=45V$ $V_{CES}=45V, T_{amb}=150^\circ C$
Emitter-Base Cut-Off Current		$I_{EBO}$			20	nA	$V_{EBO}=4V$
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			0.3 0.7	V V	$I_C=100mA, I_B=10mA$ $I_C=500mA, I_B=50mA^*$
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$			2	V	$I_C=500mA, I_B=50mA^*$
Static Forward Current Transfer	BCW65A BCW66F	$h_{FE}$	35 75 100 35	160	250		$I_C=100\mu A, V_{CE}=10V$ $I_C=10mA, V_{CE}=1V$ $I_C=100mA, V_{CE}=1V^*$ $I_C=500mA, V_{CE}=2V^*$
	BCW65B BCW66G	$h_{FE}$	50 110 160 60	250	400		$I_C=100\mu A, V_{CE}=10V$ $I_C=10mA, V_{CE}=1V$ $I_C=100mA, V_{CE}=1V^*$ $I_C=500mA, V_{CE}=2V^*$
	BCW65C BCW66H	$h_{FE}$	80 180 250 100	350	630		$I_C=100\mu A, V_{CE}=10V$ $I_C=10mA, V_{CE}=1V$ $I_C=100mA, V_{CE}=1V^*$ $I_C=500mA, V_{CE}=2V^*$
Transition Frequency		$f_T$	100			MHz	$I_C=20mA, V_{CE}=10V$ $f=100MHz$
Collector-Base Capacitance		$C_{cbo}$		8	12	pF	$V_{CBO}=10V, f=1MHz$
Emitter-Base Capacitance		$C_{ebo}$			80	pF	$V_{EBO}=0.5V, f=1MHz$
Noise Figure		N		2	10	dB	$I_C=0.2mA, V_{CE}=5V$ $R_G=1k\Omega$
Switching times: Turn-On Time Turn-Off Time		$t_{on}$ $t_{off}$			100 400	ns ns	$I_C=150mA$ $I_{B1}=-I_{B2}=15mA$ $R_L=150\Omega$

Spice parameter data is available upon request for this device

\*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%