SOT23 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

BCW65
BCW66

ISSUE 3 - AUGUST 1995

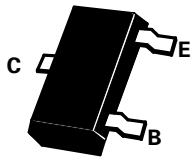
PARTMARKING DETAILS –

BCW65A – EA	BCW65AR – 4V
BCW65B – EB	BCW65BR – 5V
BCW65C – EC	BCW65CR – 6V
BCW66F – EF	BCW66FR – 7P
BCW66G – EG	BCW66GR – 5T
BCW66H – EH	BCW66HR – 7M

COMPLEMENTARY TYPES –

BCW65 – BCW67

BCW66 – BCW68



SOT23

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°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°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=10μA I_C=10μA
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	5			V	I_{EBO}=10μA
Collector-Emitter Cut-off Current	BCW65	I_{CES}			20 20	nA μA	V_{CES}= 32V V_{CES}= 32V , T_{amb}=150°C
	BCW66				20 20	nA μA	V_{CES}= 45V V_{CES}= 45V , T_{amb}=150°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=100μA, 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=100μA, 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=100μA, 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 =1kΩ
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=150Ω

Spice parameter data is available upon request for this device
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%