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BCW66H

NPN Small Signal Transistor 330mW

Features

- Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- Low Current, Low Voltage
- Epitaxial Planar Die Construction

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Marking: EH
- Weight: 0.008 grams (approx.)

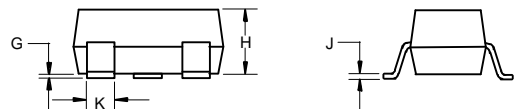
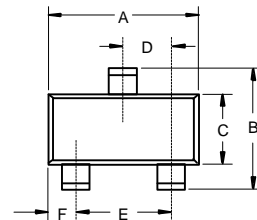
Maximum Ratings @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	V
Collector-Base Voltage	V_{CBO}	75	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current(DC)	I_C	800	mA
Peak Collector Current	I_{CM}	1000	mA
Base Current(DC)	I_B	100	mA
Peak Base Current	I_{BM}	200	mA
Power Dissipation@ $T_s=79^\circ\text{C}$	P_d	330	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	285 ⁽¹⁾	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Soldering Point	$R_{\theta JS}$	215	$^\circ\text{C}/\text{W}$
Operating & Storage Temperature	T_j, T_{STG}	-55~150	$^\circ\text{C}$

Notes:

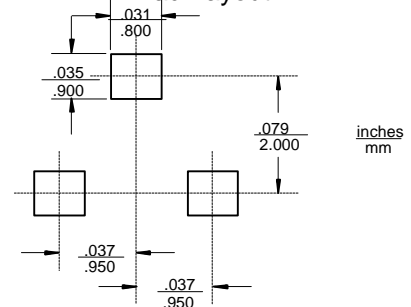
- (1) Mounted on FR-4 printed-circuit board

SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



BCW66H

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Min.	TYP.	Max.	Unit
DC Current Gain ⁽¹⁾ at $V_{CE} = 10V$, $I_C = 100\mu A$ at $V_{CE} = 1V$, $I_C = 10mA$ at $V_{CE} = 1V$, $I_C = 100mA$ at $V_{CE} = 2V$, $I_C = 500mA$	h_{FE} h_{FE} h_{FE} h_{FE}	80 180 250 100	– – – –	– – 630 –	– – – –
Collector-Emitter Saturation Voltage ⁽¹⁾ at $I_C = 100mA$, $I_B = 10mA$ at $I_C = 500mA$, $I_B = 50mA$	V_{CEsat} V_{CEsat}	– –	– –	0.3 0.7	V V
Base-Emitter Saturation Voltage ⁽¹⁾ at $I_C = 100mA$, $I_B = 10mA$ at $I_C = 500mA$, $I_B = 50mA$	V_{BEsat} V_{BEsat}	– –	– –	1.25 2	V V
Collector-Emitter Breakdown Voltage at $I_C = 10mA$, $I_B = 0$	$V_{(BR)CEO}$	45	–	–	V
Collector-Base Breakdown Voltage at $I_C = 10\mu A$, $I_B = 0$	$V_{(BR)CBO}$	75	–	–	V
Emitter-Base Breakdown Voltage at $I_E = 10\mu A$, $I_C = 0$	$V_{(BR)EBO}$	5	–	–	V
Collector-Base Cut-off Current at $V_{CB} = 45V$, $I_E = 0$ at $V_{CB} = 45V$, $I_E = 0$, $T_A = 150^\circ C$	I_{CBO} I_{CBO}	– –	– –	20 20	nA μA
Emitter-Base Cut-off Current at $V_{EB} = 4V$, $I_C = 0$	I_{EBO}	–	–	20	nA
Gain-Bandwidth Product at $V_{CE} = 10V$, $I_C = 20mA$, $f = 100MHz$	f_T	–	100	–	MHz
Collector-Base Capacitance at $V_{CB} = 10V$, $f = 1MHz$	C_{CB}	–	6	–	pF
Emitter-Base Capacitance at $V_{EB} = 0.5V$, $f = 1MHz$	C_{EB}	–	60	–	pF

Note: (1) Pulse test: $t \leq 300\mu s$, $D = 2\%$