

PNP General Purpose Amplifier

BCW61

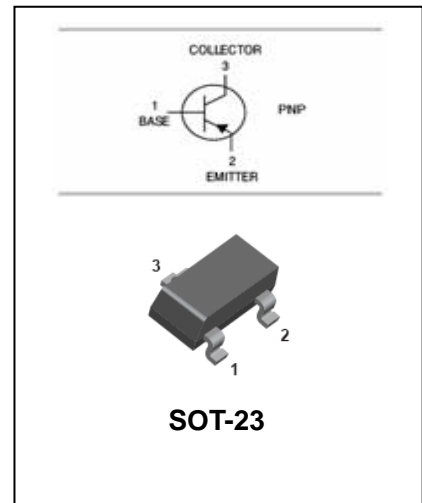
FEATURES

- Low current(max.100mA).
- Low voltage(max.32v).



APPLICATIONS

- This device is designed for general purpose amplifier and switching applications.



ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|----------|--------------|
| BCW61 | BB/BC/BD | SOT-23 |

MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol | Parameter | Value | Unit |
|----------------|----------------------------------|-----------|------|
| V_{CBO} | Collector-Base Voltage | -32 | V |
| V_{CEO} | Collector-Emitter Voltage | -32 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -Continuous | -100 | mA |
| P_D | Total Device Dissipation | 250 | mW |
| T_j, T_{stg} | Junction and Storage Temperature | -65to+150 | °C |

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

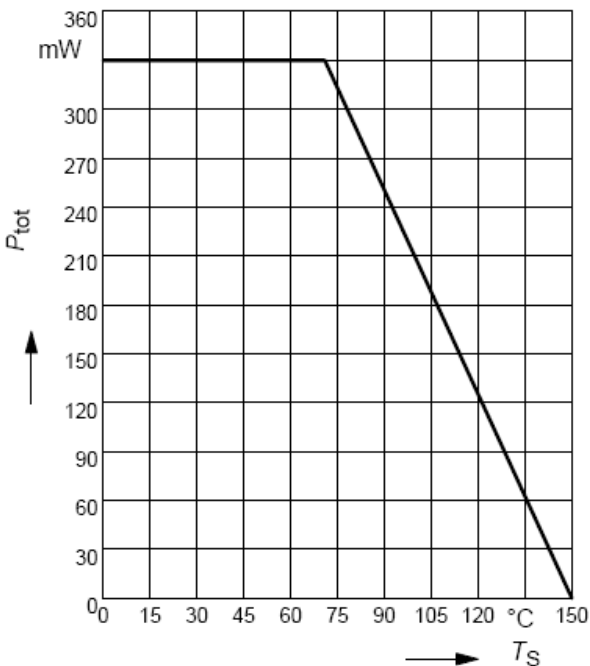
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| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|--|--|-------------------|-------------------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -10\mu A$ $I_E = 0$ | -32 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -10mA$ $I_B = 0$ | -32 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -1\mu A$ $I_C = 0$ | -5 | | μV |
| Collector cut-off current | I_{CBO} | $V_{CB} = -32V$ $I_E = 0$ | | -20 | nA |
| Emitter cut-off current | I_{EBO} | $V_{CB} = -4V$ $I_E = 0$ | | -20 | nA |
| DC current gain | BCW61B BCW61C BCW61D h_{FE} | $V_{CE} = -5V$ $I_C = -2mA$ | 180 250 380 | 310 460 630 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -10mA$ $I_B = -0.25mA$ $I_C = -50mA$ $I_B = -1.25mA$ | -60 -120 | -250 -550 | mV |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -10mA$ $I_B = -0.25mA$ $I_C = -50mA$ $I_B = -1.25mA$ | -600 -0.68 | -850 -1.05 | mV V |
| Transition frequency | f_T | $V_{CE} = -5V$ $I_C = -10mA$ $f = 100MHz$ | 100 | | pF |

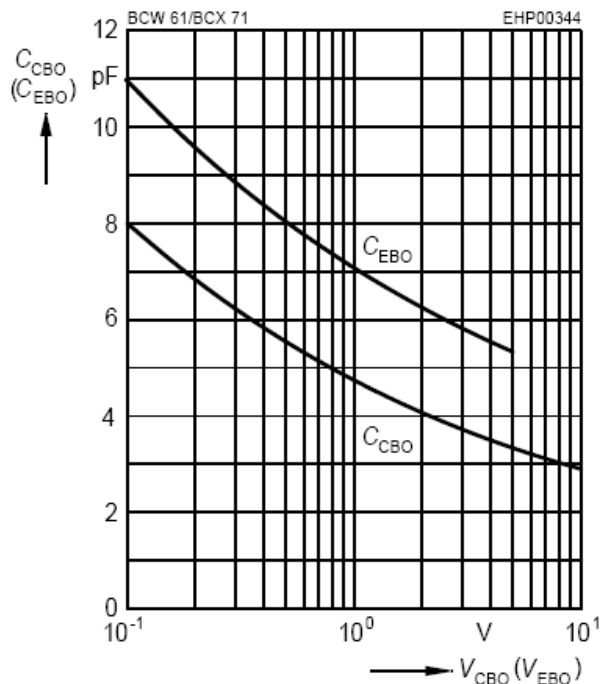
TYPICAL CHARACTERISTICS @ $T_a = 25^\circ C$ unless otherwise specified

Total power dissipation $P_{tot} = f(T_S)$



Collector-base capacitance $C_{CB} = f(V_{CBO})$

Emitter-base capacitance $C_{EB} = f(V_{EBO})$

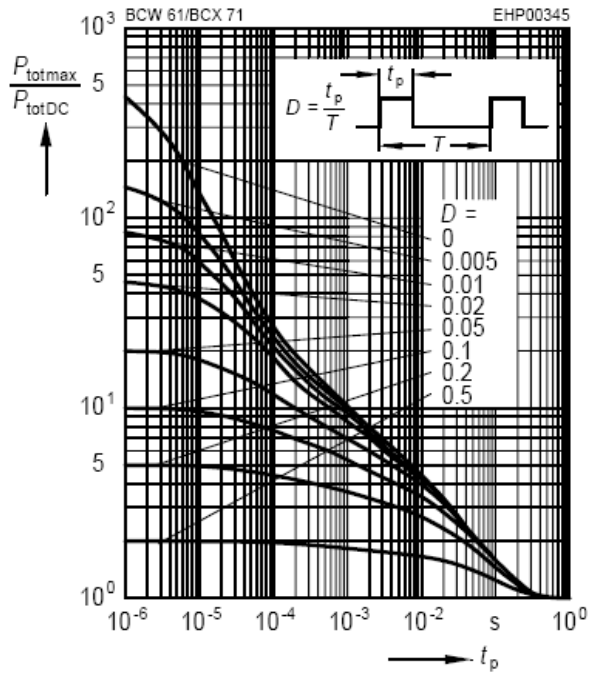


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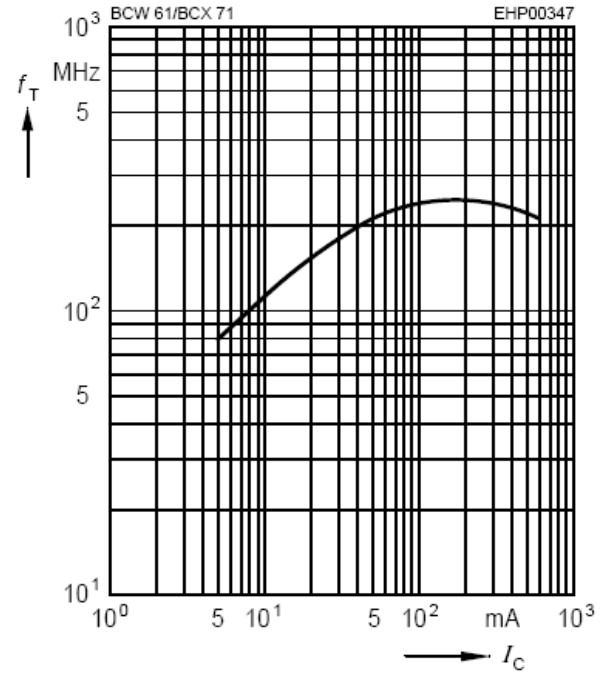
Permissible pulse load

$$P_{\text{totmax}} / P_{\text{totDC}} = f(t_p)$$



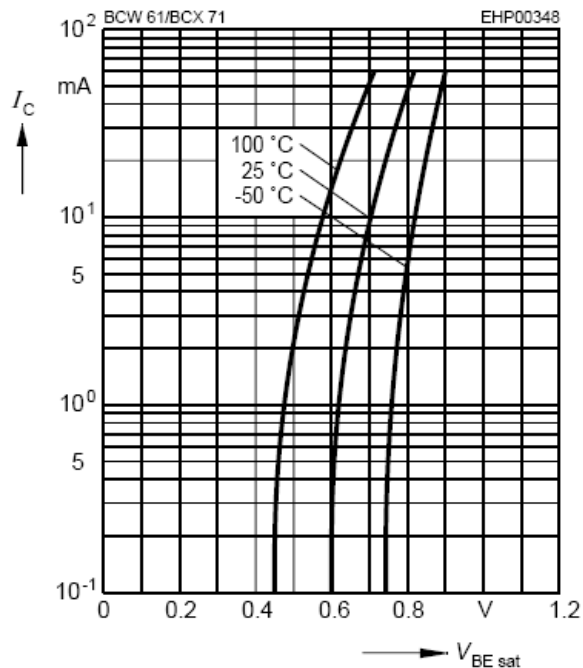
Transition frequency $f_T = f(I_C)$

$$V_{\text{CE}} = 5\text{V}$$



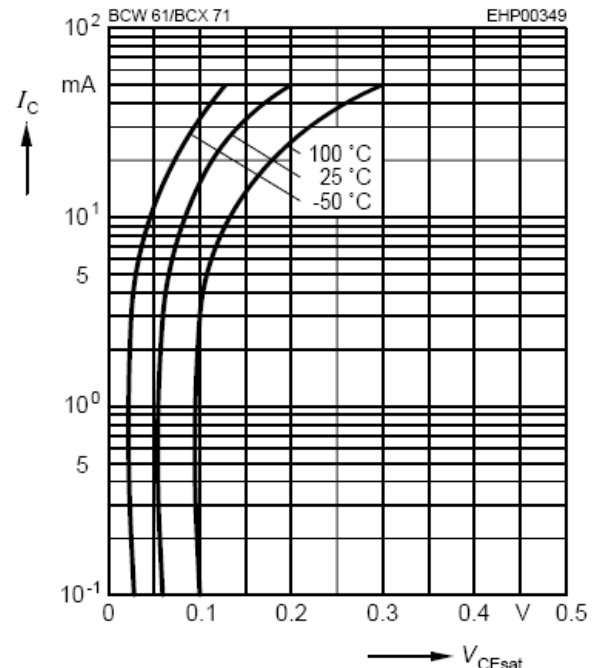
Base-emitter saturation voltage

$$I_C = f(V_{\text{BEsat}}), h_{\text{FE}} = 40$$



Collector-emitter saturation voltage

$$I_C = f(V_{\text{CEsat}}), h_{\text{FE}} = 40$$



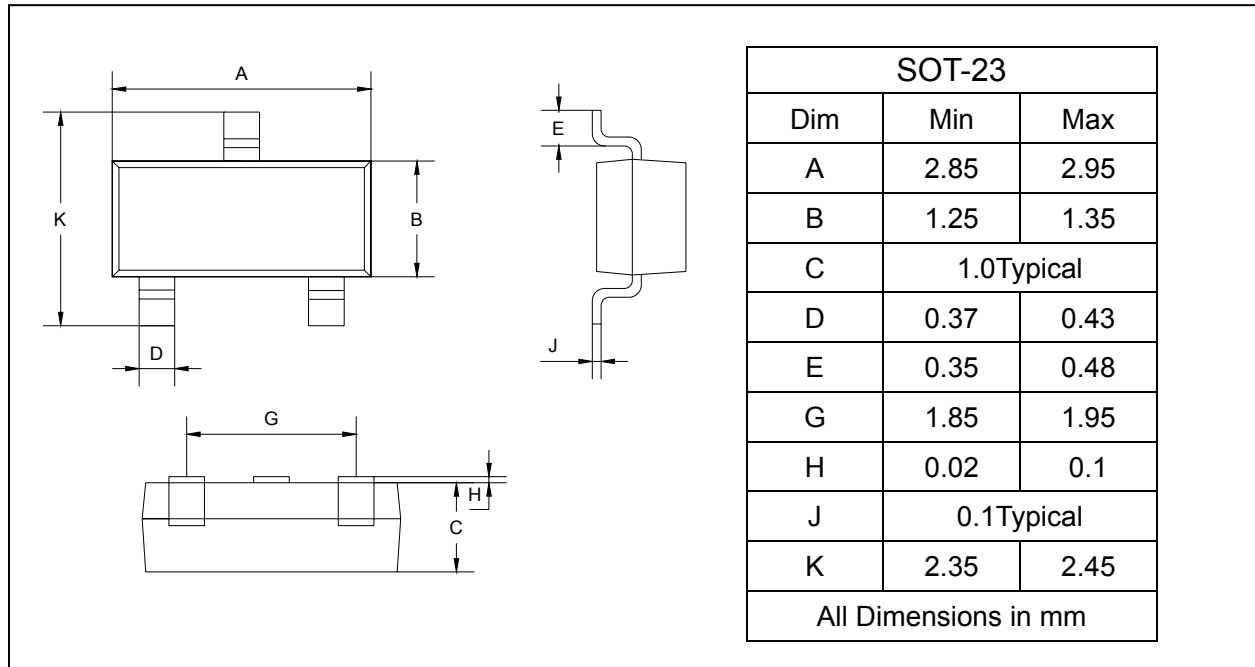
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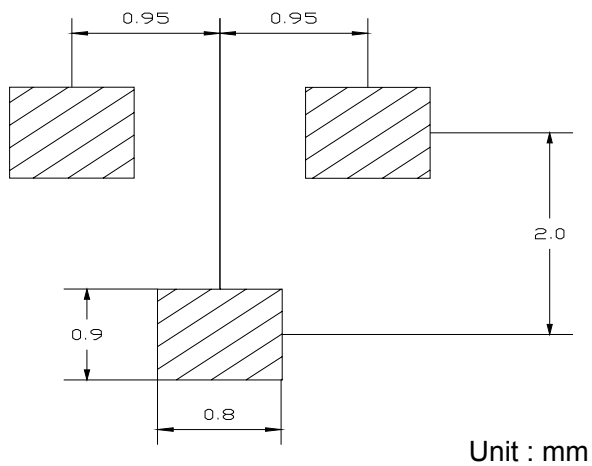
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|--------|---------|----------------|
| BCW61 | SOT-23 | 3000/Tape&Reel |