

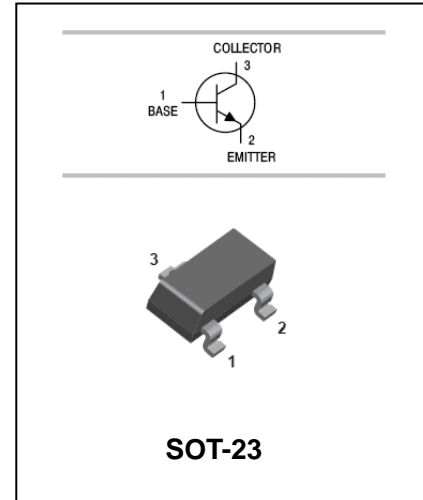


### FEATURES

- For general AF applications.
- High current gain.
- Low collector-emitter saturation voltage.
- Complementary types:BCW67,BCW68(PNP)

### APPLICATIONS

- General purpose medium power amplifier.
- Switching application.



### ORDERING INFORMATION

| Type No.    | Marking  | Package Code |
|-------------|----------|--------------|
| BCW65A/B/C□ | EA/EB/EC | SOT-23       |
| BCW66F/G/H□ | EF/EG/EH | SOT-23       |

□: none is for Lead Free package;"G" is for Halogen Free package.

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol         | Parameter                        | BCW65       | BCW66 | Unit |
|----------------|----------------------------------|-------------|-------|------|
| $V_{CEO}$      | Collector-Emitter Voltage        | 32          | 45    | V    |
| $V_{CBO}$      | Collector-Base Voltage           | 60          | 75    | V    |
| $V_{EBO}$      | Emitter-Base Voltage             | 5           | 5     | V    |
| $I_C$          | Collector Current -Continuous    | 800         |       | mA   |
| $P_C$          | Collector Dissipation            | 330         |       | mW   |
| $T_j, T_{stg}$ | Junction and Storage Temperature | -65 to +150 |       | °C   |

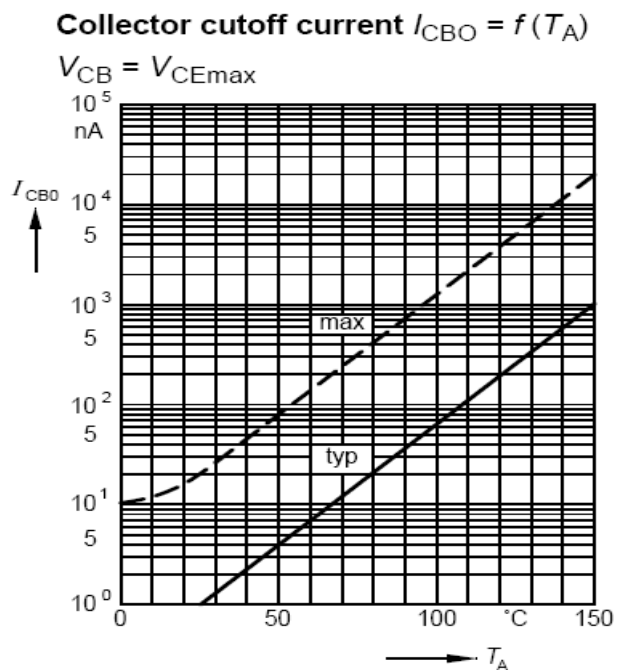
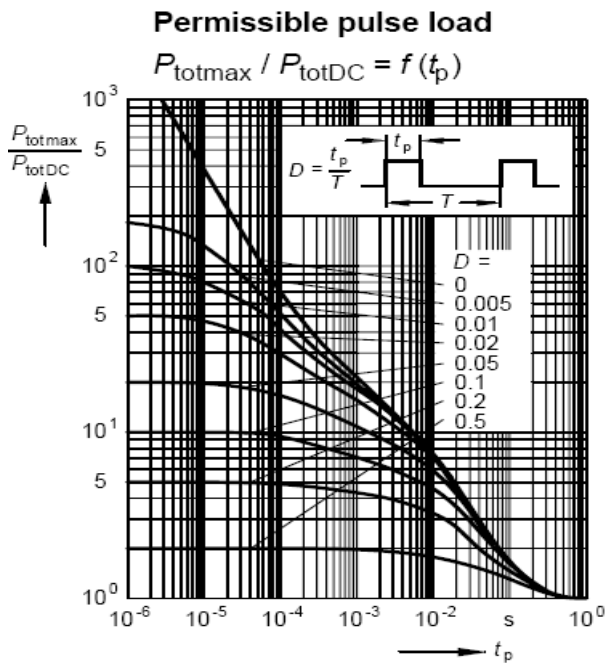
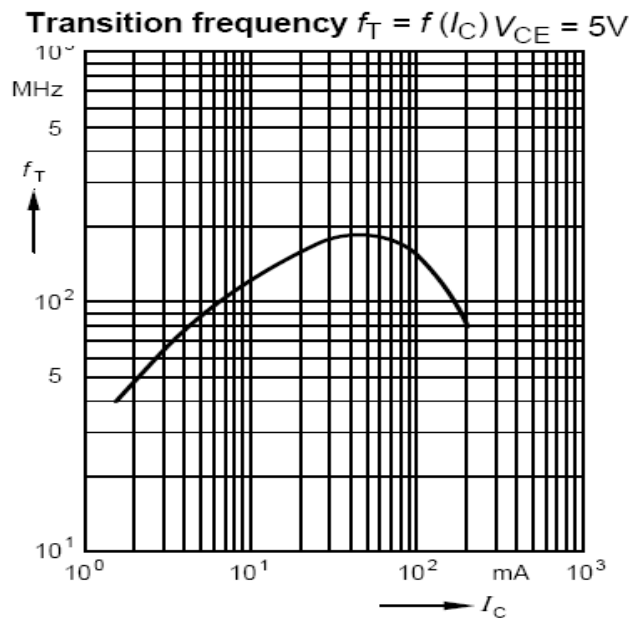
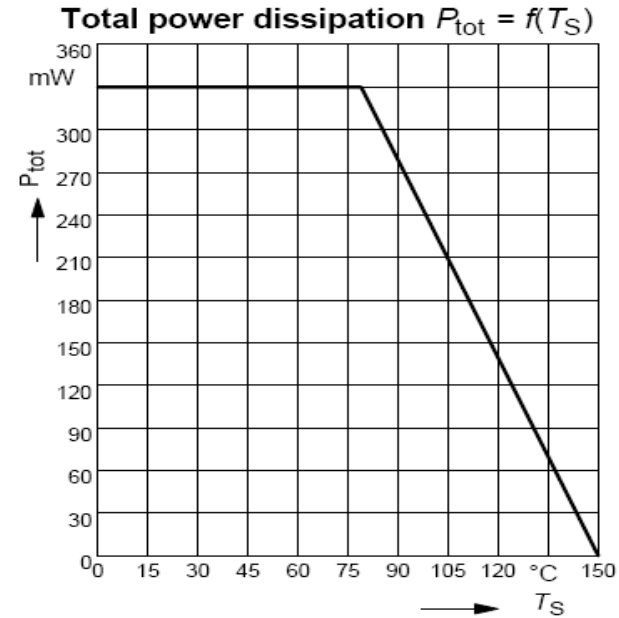


### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter   | Symbol        | Test conditions                                  | MIN               | MAX               | UNIT |
|---|---------------|--|-------------------|-------------------|------|
| Collector-base breakdown voltage<br>BCW65<br>BCW66    | $V_{(BR)CBO}$ | $I_C=10\mu A$ $I_E=0$                            | 60<br>75          |                   | V    |
| Collector-emitter breakdown voltage<br>BCW65<br>BCW66 | $V_{(BR)CEO}$ | $I_C=10mA$ $I_B=0$                               | 32<br>45          |                   | V    |
| Emitter-base breakdown voltage                        | $V_{(BR)EBO}$ | $I_E=10\mu A$ $I_C=0$                            | 5                 |                   | V    |
| Collector cut-off current<br>BCW65<br>BCW66           | $I_{CBO}$     | $V_{CB}=32V$ $I_E=0$<br>$V_{CB}=45V$ $I_E=0$     |                   | 20<br>20          | nA   |
| Emitter cut-off current                               | $I_{EBO}$     | $V_{EB}=4V$ $I_C=0$                              |                   | 20                | nA   |
| DC current gain<br>A/F<br>B/G<br>C/H                  | $h_{FE}$      | $V_{CE}=10V$ $I_C=100\mu A$                      | 35<br>50<br>80    |                   |      |
| DC current gain<br>A/F<br>B/G<br>C/H                  | $h_{FE}$      | $V_{CE}=1V$ $I_C=10mA$                           | 75<br>110<br>180  |                   |      |
| DC current gain<br>A/F<br>B/G<br>C/H                  | $h_{FE}$      | $V_{CE}=1V$ $I_C=100mA$                          | 100<br>160<br>250 | 250<br>400<br>630 |      |
| Collector-emitter saturation voltage                  | $V_{CE(sat)}$ | $I_C=100mA$ $I_B=10mA$<br>$I_C=500mA$ $I_B=50mA$ |                   | 0.3<br>0.7        | V    |
| Base-emitter saturation voltage                       | $V_{BE(sat)}$ | $I_C=100mA$ $I_B=10mA$<br>$I_C=500mA$ $I_B=50mA$ |                   | 1.25<br>2         | V    |
| Transition frequency                                  | $f_T$         | $V_{CE}=5V$ $I_C=50mA$<br>$f=20MHz$              | 170               |                   | MHz  |

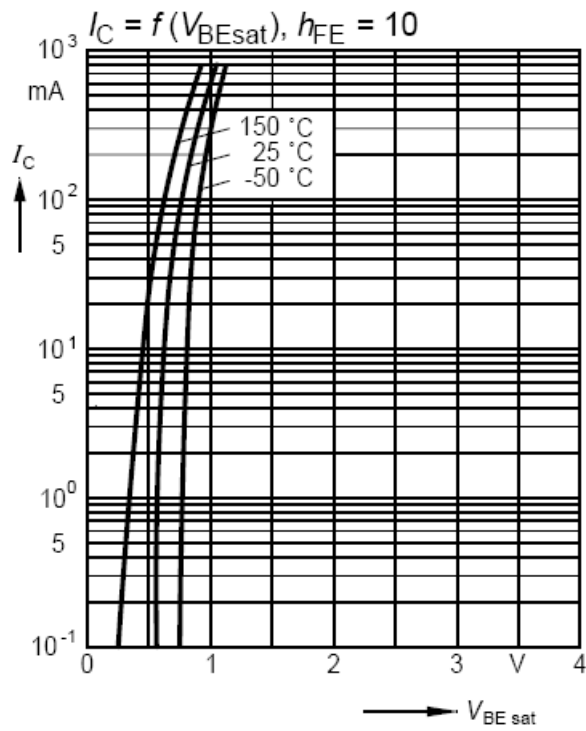


### TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

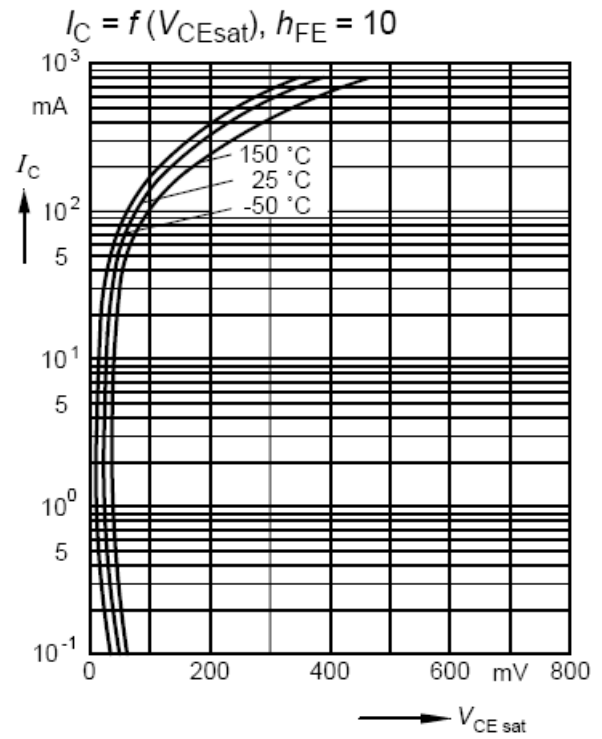




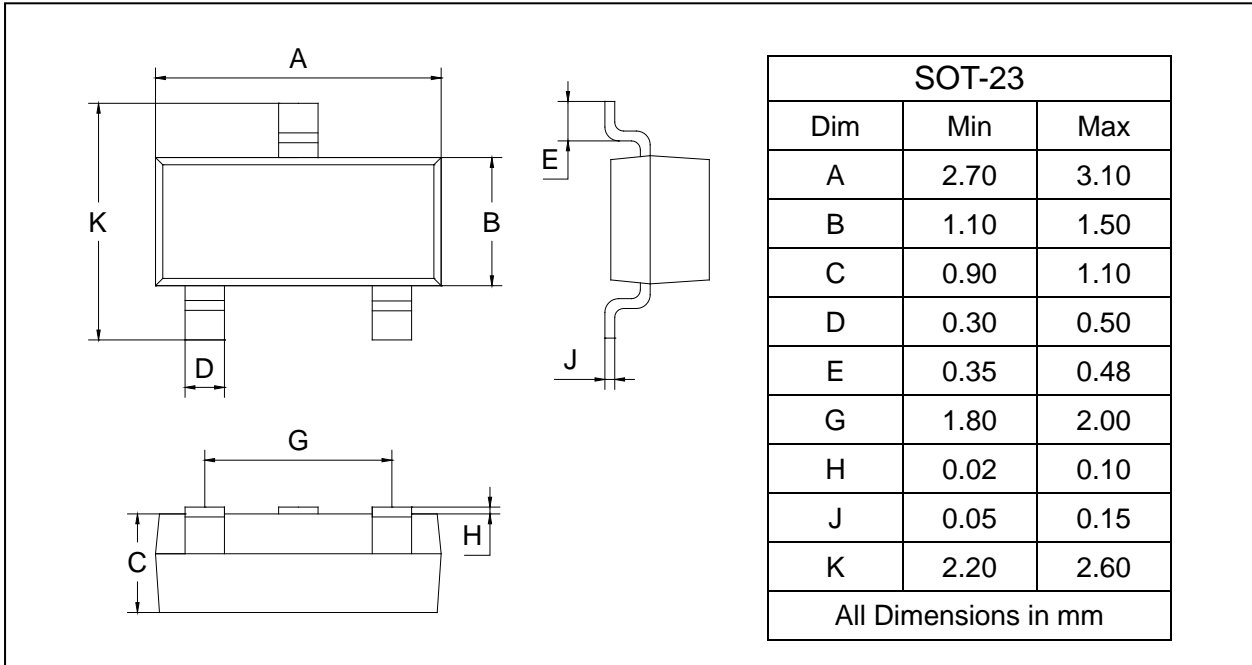
### Base-emitter saturation voltage



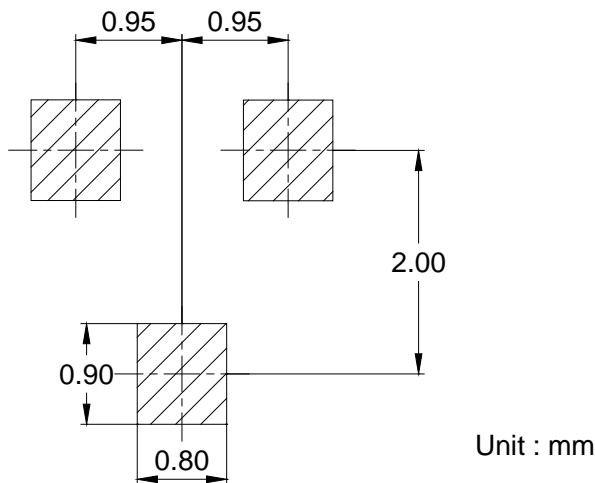
### Collector-emitter saturation voltage



### PACKAGE OUTLINE



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Package | Reel    | Reel Size | Box       | Box Size(mm) | Carton     | Carton Size(mm) |
|---------|---------|-----------|-----------|--------------|------------|-----------------|
| SOT-23  | 3000pcs | 7inch     | 45,000pcs | 203×203×195  | 180,000pcs | 438×438×220     |