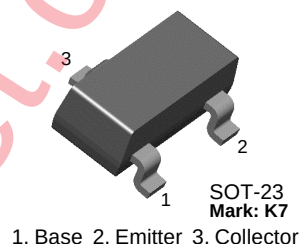


# BCV71

## NPN General Purpose Amplifier

- This device is designed for general purpose applications at collector currents to 300mA.
- Sourced from process 10.



## Absolute Maximum Ratings \* $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter                                        | Value      | Units            |
|----------------|--------------------------------------------------|------------|------------------|
| $V_{CEO}$      | Collector-Emitter Voltage                        | 60         | V                |
| $V_{CBO}$      | Collector-Base Voltage                           | 80         | V                |
| $V_{EBO}$      | Emitter-Base Voltage                             | 5.0        | V                |
| $I_C$          | Collector current (DC)                           | 500        | mA               |
| $T_J, T_{stg}$ | Operating and Storage Junction Temperature Range | -55 ~ +150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- These are state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol                     | Parameter                            | Test Condition                                                                            | Min. | Typ. | Max.      | Units               |
|----------------------------|--------------------------------------|-------------------------------------------------------------------------------------------|------|------|-----------|---------------------|
| <b>Off Characteristics</b> |                                      |                                                                                           |      |      |           |                     |
| $V_{(BR)CBO}$              | Collector-Base Breakdown Voltage     | $I_C = 10\mu\text{A}, I_E = 0$                                                            | 80   |      |           | V                   |
| $V_{(BR)CEO}$              | Collector-Emitter Breakdown Voltage  | $I_C = 2\text{mA}, I_B = 0$                                                               | 60   |      |           | V                   |
| $V_{(BR)EBO}$              | Emitter-Base Breakdown Voltage       | $I_E = 10\mu\text{A}, I_C = 0$                                                            | 5.0  |      |           | V                   |
| $I_{CBO}$                  | Collector Cutoff Current             | $V_{CB} = 20\text{V}, I_E = 0$<br>$V_{CB} = 20\text{V}, I_E = 0, T_a = 100^\circ\text{C}$ |      |      | 100<br>10 | nA<br>$\mu\text{A}$ |
| <b>On Characteristics</b>  |                                      |                                                                                           |      |      |           |                     |
| $h_{FE}$                   | DC Current Gain                      | $I_C = 2.0\text{mA}, V_{CE} = 5.0\text{V}$                                                | 110  |      | 220       |                     |
| $V_{CE(sat)}$              | Collector-Emitter Saturation Voltage | $I_C = 10\text{mA}, I_B = 0.5\text{mA}$                                                   |      |      | 0.25      | V                   |
| $V_{BE(on)}$               | Base-Emitter On Voltage              | $I_C = 2.0\text{mA}, V_{CE} = 5.0\text{V}$                                                | 0.55 |      | 0.7       | V                   |

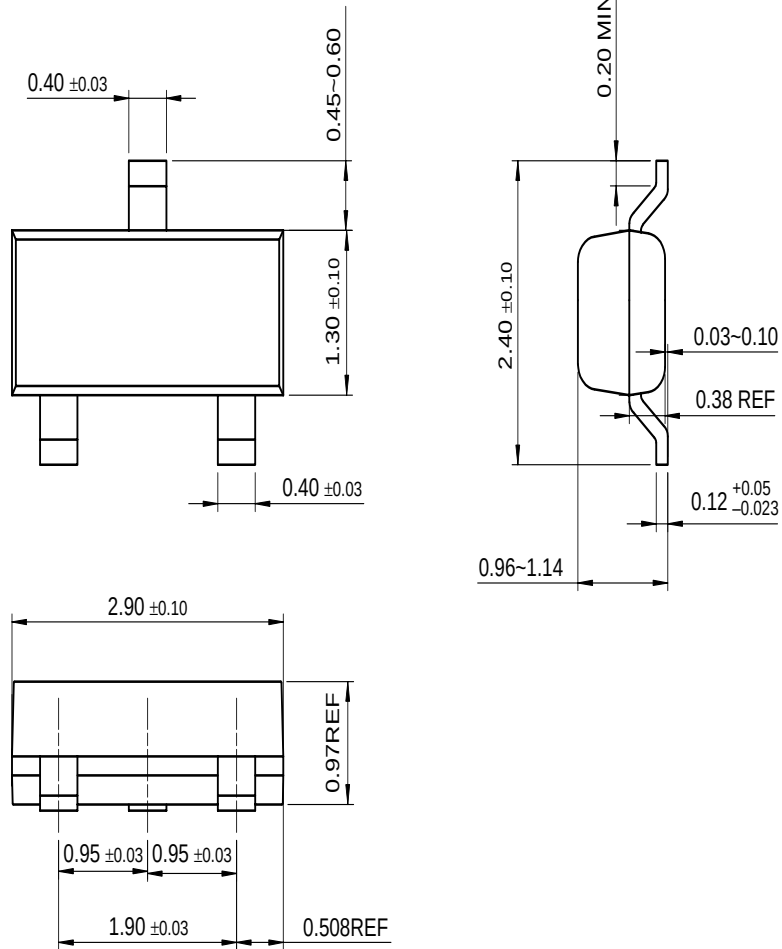
## Thermal Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol          | Parameter                                                   | Max.       | Units                            |
|-----------------|-------------------------------------------------------------|------------|----------------------------------|
| $P_D$           | Total Device Dissipation<br>Derate above $25^\circ\text{C}$ | 350<br>2.8 | mW<br>$\text{mW}/^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 357        | $^\circ\text{C}/\text{W}$        |

Device mounted on FR-4PCB 40mm  $\times$  40mm  $\times$  1.5mm

## Package Dimensions

## SOT-23



Dimensions in Millimeters

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| Bottomless™                          | FASTr™              | LittleFET™         | Power247™           | SuperFET™       |
| CoolFET™                             | FPS™                | MICROCOUPLER™      | PowerSaver™         | SuperSOT™-3     |
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