

## Features:

- High current (500mA)
- Low voltage (45V)

## Applications:

- General purpose amplifiers
- Saturated switching and driver applications
- Complement: BCX17

## Pin Configuration:

1. Base
2. Emitter
3. Collector

## Maximum Ratings

| Parameter                               | Symbol          | Value       | Unit |
|-----------------------------------------|-----------------|-------------|------|
| Collector - Base Voltage                | $V_{CBO}$       | 50          | V    |
| Collector - Emitter Voltage             | $V_{CEO}$       | 45          |      |
| Emitter - Base Voltage                  | $V_{ebo}$       | 5           |      |
| Collector Current Continuous            | $I_C$           | 500         | mA   |
| Collector Current - Peak                | $I_{CM}$        | 1           | A    |
| Total Power Dissipation                 | $P_{TOT}$       | 250         | mW   |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417         | °C/W |
| Junction and Storage Temperature        | $T_j, T_{stg}$  | -65 to +150 | °C   |

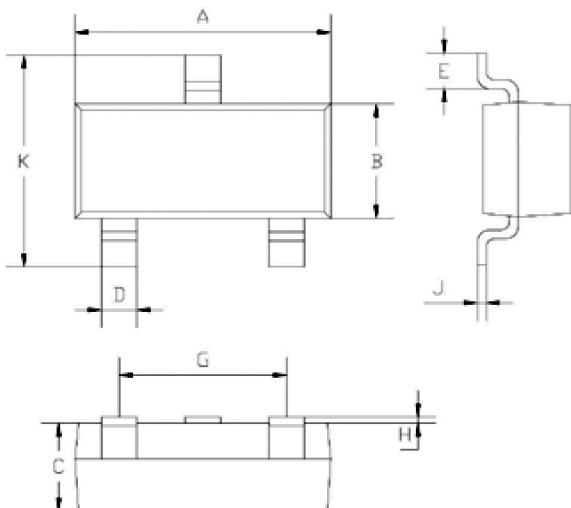
# Silicon Epitaxial Planar Transistor **multicomp** PRO

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

| Parameter                              | Symbol        | Test Conditions                                                                                                                  | Min.            | Typ. | Max. | Unit          |
|----------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------|---------------|
| Collector - Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C = -100\mu\text{A}, I_E = 0$                                                                                                 | 50              |      |      | V             |
| Collector - Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -10\text{mA}, I_B = 0$                                                                                                    | 45              |      |      |               |
| Emitter - Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E = -10\mu\text{A}, I_C = 0$                                                                                                  | 5               |      |      |               |
| Collector Cut-Off Current              | $I_{CBO}$     | $V_{CB} = -20\text{V}, I_E = 0$                                                                                                  |                 |      | 0.1  | $\mu\text{A}$ |
| Emitter Cut-Off Current                | $I_{EBO}$     | $V_{EB} = 5\text{V}, I_C = 0$                                                                                                    |                 |      | 0.1  |               |
| DC Current Gain                        | $h_{FE}$      | $V_{CE} = 1\text{V}, I_C = 100\text{mA}$<br>$V_{CE} = 1\text{V}, I_C = 300\text{mA}$<br>$V_{CE} = 1\text{V}, I_C = 500\text{mA}$ | 100<br>70<br>40 |      | 600  |               |
| Collector - Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$                                                                                        |                 |      | 0.62 | V             |
| Base Emitter Voltage                   | $V_{BE}$      | $I_C = -500\text{mA}, V_{CE} = -2\text{V}$                                                                                       |                 |      | 1.2  |               |
| Transition Frequency                   | $f_T$         | $V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$                                                                       | 100             |      |      | MHz           |

## Package Outline

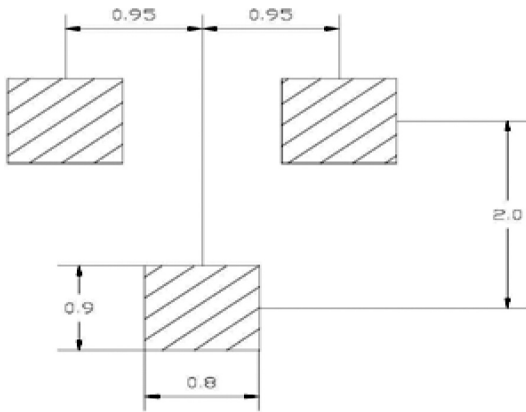
Plastic surface mounted package



| Dimensions | Min.        | Max. |
|------------|-------------|------|
| A          | 2.85        | 2.95 |
| B          | 1.25        | 1.35 |
| C          | 1 Typical   |      |
| D          | 0.4 Typical |      |
| E          | 0.35        | 0.48 |
| G          | 1.85        | 1.95 |
| H          | 0.02        | 0.1  |
| J          | 0.1 Typical |      |
| K          | 2.35        | 2.45 |

Dimensions : Millimetres

## Soldering Footprint



Dimensions : Millimetres

## Part Number Table

| Description                       | Part Number |
|-----------------------------------|-------------|
| Transistor, NPN, 0.5A, 45V, SOT23 | BCX19       |

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