



BCP68

NPN SILICON TRANSISTOR

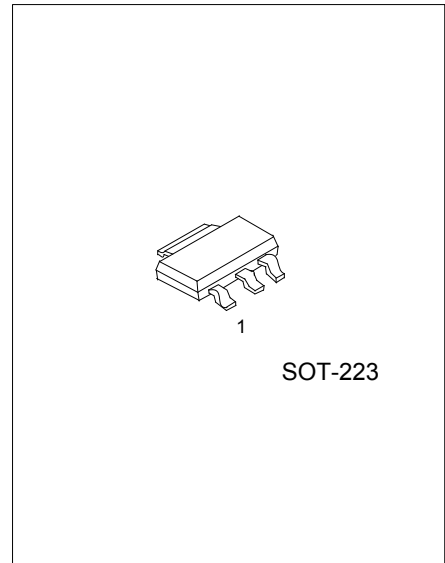
NPN MEDIUM POWER TRANSISTOR

FEATURES

- * High current (max. 1 A)
- * Low voltage (max. 20 V).
- * Complementary to UTC BCP69

APPLICATIONS

- * General purpose switching and amplification under high current conditions.



Lead-free: BCP68L
Halogen-free: BCP68G

ORDERING INFORMATION

| Ordering Number | | | Package | Pin Assignment | | | Packing |
|-----------------|-------------------|-----------------|---------|----------------|---|---|-----------|
| Normal | Lead Free Plating | Halogen Free | | 1 | 2 | 3 | |
| BCP68-xx-AA3-R | BCP68L-xx-AA3-R | BCP68G-xx-AA3-R | SOT-223 | B | C | E | Tape Reel |

| | |
|---|--|
| <p>BCP68L-xx-AA3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating</p> | <p>(1) R: Tape Reel (2) AA3: SOT-223 (3) xx: refer to Classification of hFE (4) L: Lead Free Plating, Blank: Pb/Sn</p> |
|---|--|

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C , unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------------------------|------------------|-----------------|------|
| Collector-Base Voltage (Open Emitter) | V _{CBO} | 32 | V |
| Collector-Emitter Voltage (Open Base) | V _{CEO} | 20 | V |
| Emitter-Base Voltage (Open Collector) | V _{EBO} | 5 | V |
| Collector Current | DC | I _C | 1 |
| | Peak | I _{CM} | 2 |
| Peak Base Current | I _{BM} | 200 | mA |
| Total Power Dissipation (Ta ≤ 25°C) | P _D | 1.35 | W |
| Junction Temperature | T _J | 150 | °C |
| Operating Temperature | T _{OPR} | -45 ~ +150 | °C |
| Storage Temperature | T _{STG} | -65 ~ +150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---|-----------------|---------|------|
| Thermal Resistance From Junction To Ambient | θ _{JA} | 91 | °C/W |

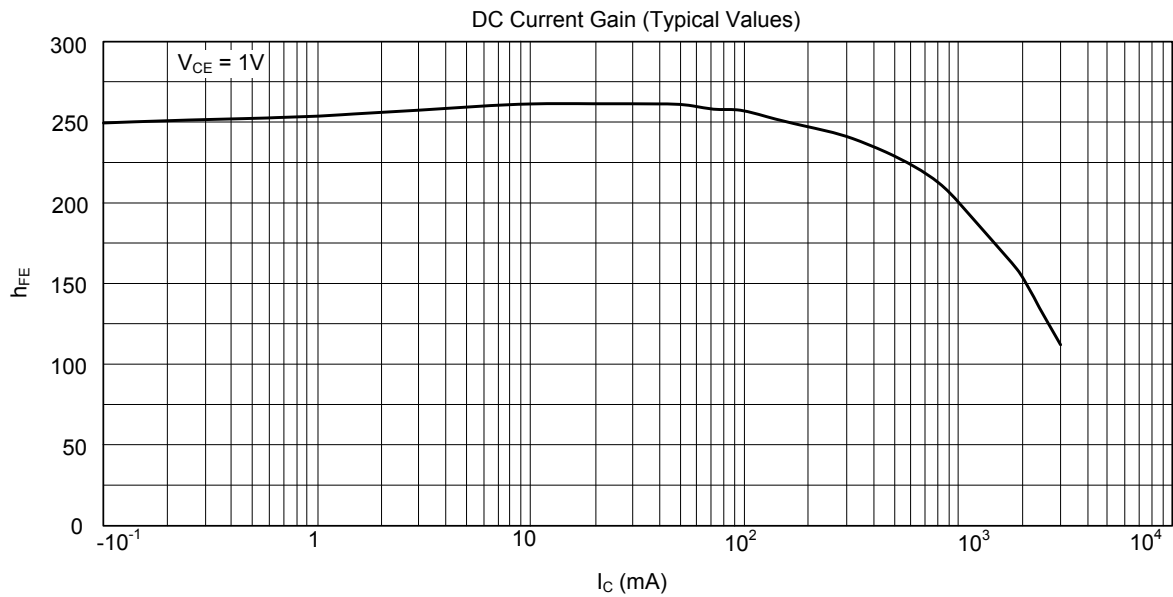
■ ELECTRICAL CHARACTERISTICS (T_J = 25°C , unless otherwise specified.)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--|---------------------------|---|-----|-----|-----|------|
| Collector-Emitter Saturation Voltage | V _{CE(SAT)} | I _C = 1A, I _B = 100mA | | | 500 | mV |
| Base-Emitter Voltage | V _{BE} | I _C = 5mA, V _{CE} = 10V | | 620 | | mV |
| | | I _C = 1A, V _{CE} = 1V | | | 1 | V |
| Collector Cut-off Current | I _{CBO} | I _E = 0, V _{CB} = 25V | | | 100 | nA |
| | | I _E = 0, V _{CB} = 25V, T _J = 150°C | | | 10 | µA |
| Emitter Cut-off Current | I _{EBO} | I _C = 0, V _{EB} = 5V | | | 100 | nA |
| DC Current Gain | h _{FE} | I _C = 5mA, V _{CE} = 10V | 50 | | | |
| | | I _C = 500mA, V _{CE} = 1V | 85 | | 375 | |
| | | I _C = 1A, V _{CE} = 1V | 60 | | | |
| Collector Capacitance | C _C | I _E = i _e = 0, V _{CB} = 5V, f = 1MHz | | 48 | | pF |
| Transition Frequency | f _T | I _C = -10mA, V _{CE} = -5V, f = 100MHz | 40 | | | MHz |
| DC Current Gain Ratio of the Complementary Pairs | $\frac{h_{FE1}}{h_{FE2}}$ | I _C = 0.5A, V _{CE} = 1V | | | 1.6 | |

■ CLASSIFICATION OF h_{FE}

| | | |
|-------|---------|---------|
| RANK | 16 | 25 |
| RANGE | 100~250 | 160~375 |

■ TYPICAL CHARACTERISTIC



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.