

# SOT223 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

**BCP68**

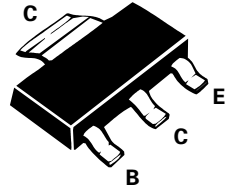
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## FEATURES

- \* Suitable for AF drivers and output stages
- \* High collector current and Low  $V_{CE(sat)}$

COMPLEMENTARY TYPE – BCP69

PARTMARKING DETAIL – BCP68  
BCP68 – 25



## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 25          | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 20          | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | 5           | V           |
| Peak Pulse Current                         | $I_{CM}$       | 2           | A           |
| Continuous Collector Current               | $I_C$          | 1           | A           |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 2           | W           |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER                             | SYMBOL                        | MIN.            | TYP. | MAX.       | UNIT          | CONDITIONS.                                                                     |
|---------------------------------------|-------------------------------|-----------------|------|------------|---------------|---------------------------------------------------------------------------------|
| Collector-Base Breakdown Voltage      | $V_{(BR)CBO}$                 | 25              |      |            | V             | $I_C=10\mu A$                                                                   |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$                 | 20              |      |            | V             | $I_C=30mA$ *                                                                    |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$                 | 5               |      |            | V             | $I_E=10\mu A$                                                                   |
| Collector Cut-Off Current             | $I_{CBO}$                     |                 |      | 100<br>10  | nA<br>$\mu A$ | $V_{CB}=25V$<br>$V_{CB}=25V, T_{amb}=150^{\circ}C$                              |
| Emitter Cut-Off Current               | $I_{EBO}$                     |                 |      | 10         | $\mu A$       | $V_{EB}=5V$                                                                     |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$                 |                 |      | 0.5        | V             | $I_C=1A, I_B=100mA$ *                                                           |
| Base-Emitter Turn-On Voltage          | $V_{BE(on)}$                  |                 | 0.6  | 1.0        | V<br>V        | $I_C=5A, V_{CE}=10V$ *<br>$I_C=1A, V_{CE}=1V$ *                                 |
| Static Forward Current Transfer Ratio | $h_{FE}$<br>BCP68<br>BCP68-25 | 50<br>63<br>160 | 250  | 400<br>400 |               | $I_C=5mA, V_{CE}=10V$ *<br>$I_C=500mA, V_{CE}=1V$ *<br>$I_C=500mA, V_{CE}=1V$ * |
| Transition Frequency                  | $f_T$                         |                 | 100  |            | MHz           | $I_C=100mA, V_{CE}=5V,$<br>$f=100MHz$                                           |

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FMMT449 datasheet.