

# SOT89 NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

## BC868

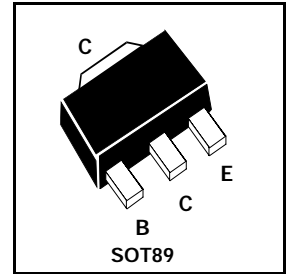
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### FEATURES

- \* SUITABLE FOR GENERAL AF APPLICATIONS AND CLASS B AUDIO OUTPUT STAGES UPTO 3W
- \* HIGH  $h_{FE}$  AND LOW SATURATION VOLTAGE

COMPLEMENTARY TYPE - BC869

PARTMARKING DETAILS- BC868 - CAC  
BC868-16 - CCC  
BC868-25 - CDC



### 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 $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 1           | W           |
| Operating and Storage Temperature Range    | $T_j; T_{stg}$ | -65 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             | $I_C=100\mu A$   |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$ | 20                           |      |                   | V             | $I_C=10mA^*$   |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$ | 5                            |      |                   | V             | $I_E=10\mu A$  |
| Collector Cut-Off Current             | $I_{CBO}$     |                              |      | 10<br>1           | $\mu A$<br>mA | $V_{CB} = 25V$<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          | $V_{BE(on)}$  |                              |      | 1.0               | V             | $I_C=1A, V_{CE}=1V^*$  |
| Static Forward Current Transfer Ratio | $h_{FE}$      | 50<br>85<br>60<br>100<br>160 |      | 375<br>250<br>375 |               | $I_C=5mA, V_{CE}=10V^*$<br>$I_C=500mA, V_{CE}=1V^*$<br>$I_C=1A, V_{CE}=1V^*$<br>$I_C=500mA, V_{CE}=1V^*$<br>$I_C=500mA, V_{CE}=1V^*$ |
| Transition Frequency                  | $f_T$         |                              | 60   |                   | MHz           | $I_C=10mA, V_{CE}=5V$<br>$f = 35MHz$   |
| Output Capacitance                    | $C_{obo}$     |                              | 45   |                   | pF            | $V_{CB}=10V, f=1MHz$   |

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