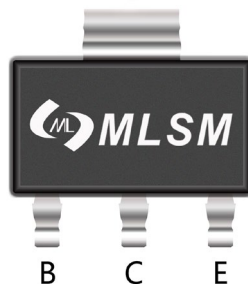


**Features**

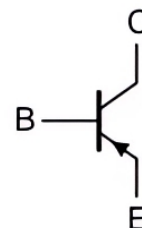
- High Current and Low Voltage
- NPN Complement:BCP68

**Applications**

- General Purpose Switching and Amplification
- Power Applications Such as Audio Output Stages



SOT-223 top view



Schematic diagram



Halogen-Free

**Maximum Ratings(Ta=25°C unless otherwise noted)**

| Symbol          | Parameter                                        | Value    | Unit |
|-----------------|--------------------------------------------------|----------|------|
| $V_{CBO}$       | Collector-Base Voltage                           | -32      | V    |
| $V_{CEO}$       | Collector-Emitter Voltage                        | -20      | V    |
| $V_{EBO}$       | Emitter-Base Voltage                             | -5       | V    |
| $I_C$           | Collector Current -Continuous                    | -1       | A    |
| $P_C$           | Collector Power Dissipation                      | -1       | W    |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient      | 125      | °C/W |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range | -55~+150 | °C   |

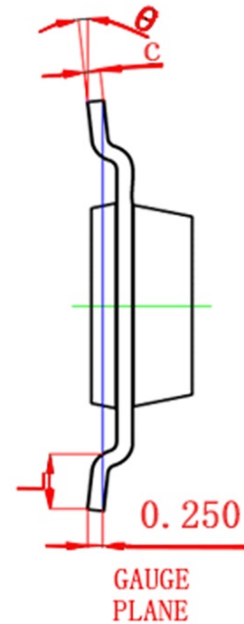
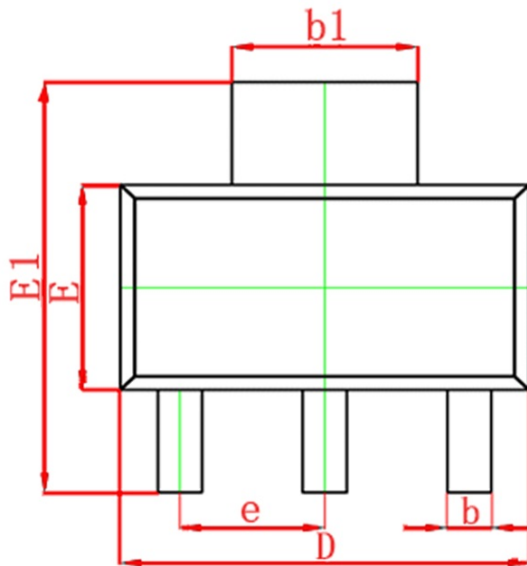
**Ordering Information (Example)**

| Type  | Hfe     | Marking  | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|-------|---------|----------|----------------------|-------------------------|----------------------------|---------------|
| BCP69 | 100-250 | BCP69-16 | 2,500                | 5,000                   | 35,000                     | 13"reel       |
| BCP69 | 160-375 | BCP69-25 | 2,500                | 5,000                   | 35,000                     | 13"reel       |

**Electrical Characteristics (TJ=25°C unless otherwise noted)**

| Symbol        | Parameter                            | Condition                               | Min | Typ | Max   | Unit    |
|---------------|--------------------------------------|-----------------------------------------|-----|-----|-------|---------|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage     | $I_C = -0.1mA, I_E = 0$                 | -32 | --  | --    | V       |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C = -1mA, I_B = 0$                   | -20 | --  | --    | V       |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E = 0.1mA, I_C = 0$                  | -5  | --  | --    | V       |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB} = -25V, I_E = 0$                | --  | --  | -100  | $\mu A$ |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB} = -5V, I_C = 0$                 | --  | --  | -100  | $\mu A$ |
| $h_{FE1}$     | DC current gain                      | $V_{CE} = -1V, I_C = -0.5A$             | 85  | --  | 375   | --      |
| $h_{FE2}$     |                                      | $V_{CE} = -1V, I_C = -1A$               | 60  | --  | --    |         |
| $h_{FE3}$     |                                      | $V_{CE} = -10V, I_C = -5mA$             | 50  | --  | --    |         |
| $h_{FE4}$     |                                      | $V_{CE} = -1.8V, I_C = -10mA$           | 140 | --  | 230   |         |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C = -1A, I_B = -100mA$               | --  | --  | -0.5  | V       |
| $V_{BE1}$     | Base-emitter voltage                 | $V_{CE} = -10V, I_C = -5mA$             | --  | --  | -0.68 | V       |
| $V_{BE2}$     |                                      | $V_{CE} = -1V, I_C = -1A$               | --  | --  | -1    |         |
| $C_{ob}$      | Transition frequency                 | $V_{CB} = -5V, I_E = 0, f = 1MHz$       | --  | 48  | --    | pF      |
| $f_T$         | Transition frequency                 | $V_{CE} = -5V, I_C = -10mA, f = 100MHz$ | 40  | --  | --    | MHz     |

SOT-223 Package information



| Symbol   | Dimensions in Millimeters(mm) |       | Dimensions In Inches |       |
|----------|-------------------------------|-------|----------------------|-------|
|          | Min                           | Max   | Min                  | Max   |
| A        | --                            | 1.800 | --                   | 0.071 |
| A1       | 0.020                         | 0.100 | 0.001                | 0.004 |
| A2       | 1.500                         | 1.700 | 0.059                | 0.067 |
| b        | 0.660                         | 0.840 | 0.026                | 0.033 |
| b1       | 2.900                         | 3.100 | 0.114                | 0.122 |
| c        | 0.230                         | 0.350 | 0.009                | 0.014 |
| D        | 6.300                         | 6.700 | 0.248                | 0.264 |
| E        | 3.300                         | 3.700 | 0.130                | 0.146 |
| E1       | 6.700                         | 7.300 | 0.264                | 0.287 |
| e        | 2.300(BSC)                    |       | 0.091(BSC)           |       |
| L        | 0.750                         | --    | 0.030                | --    |
| $\theta$ | 0°                            | 10°   | 0°                   | 10°   |