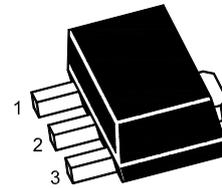


Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

- PNP Complement to BC869U
- High current
- Low voltage



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|---------|------------------|
| V_{CB0} | Collector-Base Voltage | 32 | V |
| V_{CE0} | Collector-Emitter Voltage | 20 | V |
| V_{EB0} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 1 | A |
| P_C | Collector Power Dissipation | 500 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|------|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$ | 32 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=25\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=1\text{V}, I_C=500\text{mA}$ | 85 | | 375 | |
| | $h_{FE(2)}$ | $V_{CE}=1\text{V}, I_C=1\text{A}$ | 60 | | | |
| | $h_{FE(3)}$ | $V_{CE}=10\text{V}, I_C=5\text{mA}$ | 50 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=1\text{A}, I_B=100\text{mA}$ | | | 0.5 | V |
| Base-emitter voltage | V_{BE1} | $V_{CE}=10\text{V}, I_C=5\text{mA}$ | | 0.62 | | V |
| | V_{BE2} | $V_{CE}=1\text{V}, I_C=1\text{A}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 40 | | | MHz |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | BC868-10U | BC868-16U | BC868-25U |
|---------|-----------|-----------|-----------|
| Range | 85-160 | 100-250 | 160-375 |
| Marking | CBC | CCC | CDC |