

RoHS Compliant Product

SOT-89

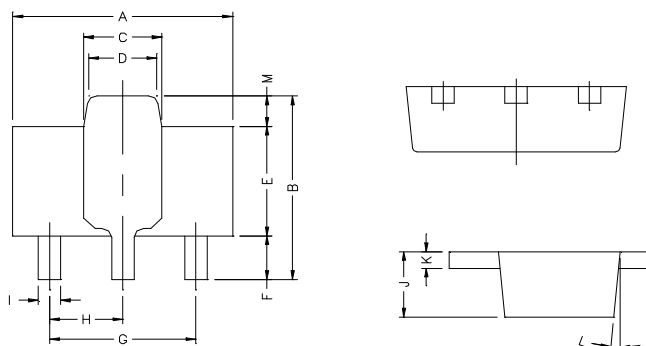
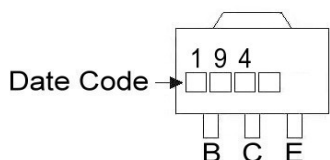
Description

The BCP194 is designed for medium power amplifier applications.

Features

- * 1 Amp Continuous Current
- * 60 Volt V_{CEO}
- * Complementary to BCP195

Marking :



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 4.4 | 4.6 | G | 3.00 | REF. |
| B | 4.05 | 4.25 | H | 1.50 | REF. |
| C | 1.50 | 1.70 | I | 0.40 | 0.52 |
| D | 1.30 | 1.50 | J | 1.40 | 1.60 |
| E | 2.40 | 2.60 | K | 0.35 | 0.41 |
| F | 0.89 | 1.20 | L | 5° TYP. | |
| | | | M | 0.70 REF. | |

Absolute Maximum Ratings at T_A=25°C

| Symbol | Parameter | Value | Units |
|-----------------------------------|----------------------------------|----------|-------|
| V _{CBO} | Collector-Base Voltage | 80 | V |
| V _{CEO} | Collector-Emitter Voltage | 60 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _C | Collector Current (DC) | 1 | A |
| | Collector Current (Pulse) | 2 | |
| I _B | Base Current | 200 | mA |
| P _D | Total Power Dissipation | 1 | W |
| T _J , T _{stg} | Junction and Storage Temperature | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS T_{amb}=25°C unless otherwise specified

| Parameter | Symbol | Min | Typ. | Max | Unit | Test Conditions |
|-------------------------------------|------------------------|-----|------|------|------|---|
| Collector-Base Breakdown Voltage | BV _{CBO} | 80 | - | - | V | I _C =100μA, I _E =0 |
| Collector-Emitter Breakdown Voltage | *BV _{CEO} | 60 | - | - | V | I _C =10mA, I _B =0 |
| Emitter-Base Breakdown Voltage | BV _{EBO} | 5 | - | - | V | I _E =100μA, I _C =0 |
| Collector-Base Cutoff Current | I _{CBO} | - | - | 100 | nA | V _{CB} = 60V, I _E =0 |
| Emitter-Base Cutoff Current | I _{CES} | - | - | 100 | nA | V _{CE} =60V |
| Emitter-Base Cutoff Current | I _{EBO} | - | - | 100 | nA | V _{EB} =4V, I _C =0 |
| Collector Saturation Voltage | *V _{CE(sat)1} | - | - | 0.25 | V | I _C =500mA, I _B =50mA |
| | *V _{CE(sat)2} | - | - | 0.5 | V | I _C =1A, I _B =100mA |
| Base-Emitter Saturation Voltage | *V _{BE(sat)} | - | - | 1.1 | V | I _C =1A, I _B =100mA |
| | *V _{BE(on)} | - | - | 1 | V | I _C =1A, V _{CE} =5V |
| DC Current Gain | *h _{FE1} | 100 | - | - | | V _{CE} = 5V, I _C =1mA |
| | *h _{FE2} | 100 | - | 300 | | V _{CE} = 5V, I _C =500mA |
| | *h _{FE3} | 80 | - | - | | V _{CE} = 5V, I _C =1A |
| | *h _{FE4} | 30 | - | - | | V _{CE} = 5V, I _C =2A |
| Gain-Bandwidth Product | f _T | 150 | - | - | MHz | V _{CE} = 10V, I _C =50mA, f=100MHz |
| Output Capacitance | C _{ob} | - | - | 10 | pF | V _{CB} =10V, f=1MHz, I _E =0 |

* Measured under pulse condition. Pulse width ≤ 300μs, Duty Cycle ≤ 2%

Characteristics Curve

