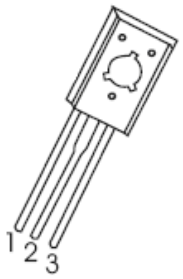
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

# TO-126 Plastic-Encapsulate Transistors

**TO-126**

1. EMITTER
2. COLLECOTR
3. BASE




## 2SC3807 TRANSISTOR (NPN)

### FEATURES

- Low frequency power amplifier
- Large current capacity
- High DC current gain
- Low collector-to-emitter saturation voltage
- High $V_{EBO}$

### MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Emitter Voltage | 30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 25 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 15 | V |
| $I_C$ | Collector Current -Continuous | 2 | A |
| Pc | Power dissipation | 1.2 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55-150 | ℃ |

### ELECTRICAL CHARACTERISTICS ($T_a$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$ =10μA,$I_E$=0 | 30 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$ =1mA,$I_B$=0 | 25 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=10μA ,$I_C$=0 | 15 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=20V,$I_E$=0 | | | 0.1 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=10V,$I_C$=0 | | | 0.1 | μA |
| **DC current gain** | $h_{FE1}$ | $V_{CE}$=5V,$I_C$=0.5A | 800 | | 3200 | |
| | $h_{FE2}$ | $V_{CE}$=5V,$I_C$=1A | 600 | | | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=1A,$I_B$=20mA | | | 0.5 | V |
| **Base-collector saturation voltage** | $V_{BE(sat)}$ | $I_C$=1A,$I_B$=20mA | | | 1.2 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=10V,$I_C$=50mA | | 260 | | MHz |
| **Output capacitance** | $C_{ob}$ | VCB=10V,f=1MHz | | 27 | | pF |
| **Turn-on time** | $t_{on}$ | $I_C$=0.7A, $I_{B1}$=-$I_{B2}$=0.1A<br>$V_{CC}$=10V | | 0.14 | | μs |
| **Storage time** | $t_{stg}$ | | | 1.35 | | μs |
| **Fall time** | $t_f$ | | | 0.1 | | μs |

A,Sep,2011