multicomp



SPC-F005.DWG

REVISIONS

DOC. NO. SPC-F005 • Effective: 7/8/02 • DCP No: 1398

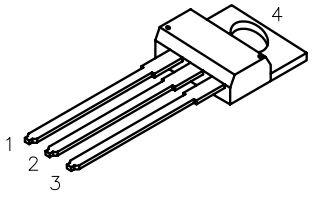
| DCP # | REV | DESCRIPTION | DRAWN | DATE | CHECKD | DATE | APPRVD | DATE |
|---|---|---|---|---|---|---|---|---|
| 1885 | A | RELEASED | BYF | 02/03/06 | HO | 2/6/06 | JWM | 2/6/06 |
| | | | | | | | | |

**Description:** Silicon, TO-220, Plastic, PNP Power Transistor Designed for use in general purpose amplifier and switching applications

RoHS Compliant

**Features:**
- High Current Gain Bandwidth Product $f_T$ 10 MHz (Min) @ $I_C$ 500 mA
- Collector Emitter Sustaining Voltage $V_{CEO}$ 70V (Min.)

**Absolute Maximum Ratings:**
- Collector-Base Voltage, $V_{CBO}$ = 80V
- Collector-Emitter Voltage, $V_{CEO}$ = 70V
- Emitter-Base Voltage, $V_{EBO}$ = 5V
- Continuous Collector Current, $I_C$ = 7A
- Base Current, $I_B$ = 3A
- Total Device Dissipation ($T_C$ = +25°C), $P_D$ = 40W
  Derate above 25°C = 0.32mW/°C
- Operating Junction Temperature Range, $T_J$ = −65°C to +150°C
- Storage Temperature Range, $T_{stg}$ = −65°C to +150°C



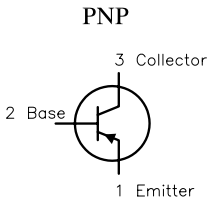

Pin Configuration:
1. Base
2. Collector
3. Emitter
4. Collector

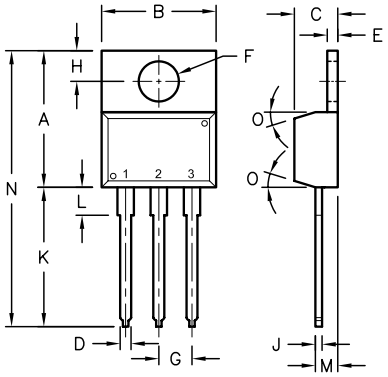
| Dimensions | A | B | C | D | E | F | G | H | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 14.42 | 9.63 | 3.56 | – | 1.15 | 3.75 | 2.29 | 2.54 | – | 12.70 | 2.80 | 2.03 | – | 7° |
| Max. | 16.51 | 10.67 | 4.83 | 0.90 | 1.40 | 3.88 | 2.79 | 3.43 | 0.56 | 14.73 | 4.07 | 2.92 | 31.24 | |

**Electrical Characteristics: ($T_C$= +25°C unless otherwise specified)**

| Parameter | Symbol | Test Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| **OFF Characteristics** | | | | | |
| Collector-Emitter Breakdown Voltage (Note 1) | $V_{(BR)CEO}$ | $I_C$ = 100mA, $I_B$ = 0 | 70 | – | V |
| Collector Cut-Off Current | $I_{CEX}$ | $V_{CE}$ = 80V, $V_{EB(off)}$ = 1.5V | – | 100 | uA |
| | $I_{CEO}$ | $V_{CB}$ = 60V, $I_B$ = 0 | – | 1 | mA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$ = 5V, $I_C$ = 0 | – | 1 | mA |
| **ON Characteristics** | | | | | |
| DC Current Gain (Note 1) | $h_{FE}$ | $V_{CE}$ = 4V, $I_C$ = 2A | 30 | 150 | – |
| | | $V_{CE}$ = 4V, $I_C$ = 7A | 2.3 | – | – |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 7A, $I_B$ = 3A | – | 3.5 | V |
| Base-Emitter On Voltage | VBE(on) | $I_C$ = 7A, $V_{CE}$ = 4V | – | 3 | V |
| **Small-Signal Characteristics** | | | | | |
| Current Gain-Bandwidth Product (Note 2) | $f_T$ | $V_{CE}$ = 4V, $I_C$ = 500mA, f = 1MHz | 10 | – | MHz |
| Output Capacitance | $C_{obo}$ | $V_{CB}$ = 10V, $I_E$ = 0, f = 1MHz | – | 250 | pF |
| Small-Signal Current Gain | $h_{fe}$ | $V_{CE}$ = 4V, $I_C$ = 0.5A, f = 50kHz | 20 | – | – |

Note 1. Pulse Test: Pulse Width ≦ 300μs, Duty Cycle ≦ 2%.
Note 2. ft is defined as the frequency at which |hfe| extrapolates to unity.

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TOLERANCES:
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

| DRAWN BY: | DATE: |
|---|---|
| BASAM YOUSIF | 02/03/06 |
| CHECKED BY: | DATE: |
| HISHAM ODISH | 2/6/06 |
| APPROVED BY: | DATE: |
| JEEF MCVICKER | 2/6/06 |

DRAWING TITLE: General Purpose Power Transistor, Silicon, Plastic , TO-220, PNP

| SIZE | DWG. NO. | ELECTRONIC FILE | REV |
|---|---|---|---|
| A | 2N6107 | 01H1386.DWG | A |

SCALE: NTS | U.O.M.: MILLIMETERS | SHEET: 1 OF 1