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 | EO | 02/03/06 | HO | 2/6/06 | JWM | 2/6/06 |

**Description:** TO-220 PNP silicon plastic transistor Designed for use in high frequency drivers in audio amplifier applications

RoHS Compliant

Features:
- Collector-Emitter Sustaining Voltage, $V_{CEO}$ = 120V
- DC Current Gain Specified to 8 Amperes, $h_{FE}$ = 40 Min. @ $I_C$ = 3A
  $h_{FE}$ = 20 Min. @ $I_C$ = 4A

**Absolute Maximum Ratings:**
- Collector-Base Voltage, $V_{CBO}$ = 120V
- Collector-Emitter Voltage, $V_{CEO}$ = 120V
- Emitter-Base Voltage, $V_{EBO}$ = 5V
- Continuous Collector Current, $I_C$ = 8A
- Base Current, $I_B$ = 2A
- Total Device Dissipation ($T_C$ = +25°C), $P_D$ = 50W
  Derate above 25°C = 0.4W/°C
- Operating Junction Temperature Range, $T_J$ = −65° to +150°C
- Storage Temperature Range, $T_{stg}$ = −65° to +150°C

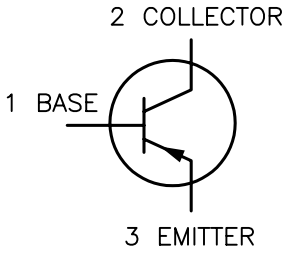
| Dimensions | A | B | C | D | E | F | G | H | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 14.42 | 9.63 | 3.65 | – | 1.15 | 3.75 | 2.29 | 2.54 | – | 12.70 | 2.80 | 2.03 | – | 7° |
| Max. | 16.51 | 10.67 | 4.83 | 0.90 | 1.40 | 3.88 | 2.79 | 3.43 | 0.56 | 14.73 | 4.07 | 2.92 | 31.24 | |

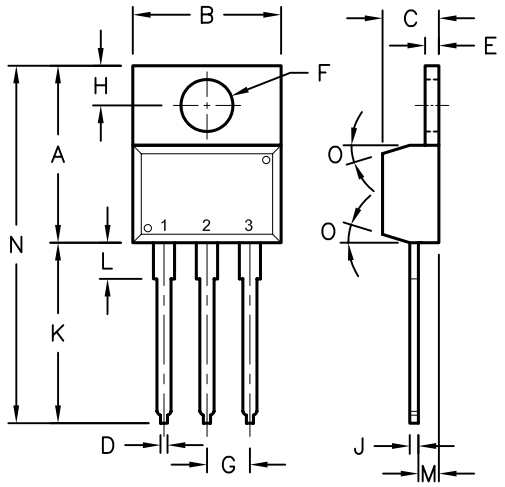
**Electrical Characteristics: ($T_A$ = +25°C unless otherwise specified)**

| Parameter | Symbol | Test Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| **OFF Characteristics** | | | | | |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$ = 10mA, $I_B$ = 0, (Note 1) | 120 | – | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$ = 120V, $I_E$ = 0 | – | 10 | µA |
| | $I_{CEO}$ | $V_{CB}$ = 120V, $I_B$ = 0 | – | 0.1 | mA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$ = 5V, $I_C$ = 0 | – | 10 | uA |
| **ON Characteristics** | | | | | |
| DC Current Gain (Note 1) | $h_{FE}$ | $V_{CE}$ = 2V, $I_C$ = 0.1A | 40 | – | – |
| | | $V_{CE}$ = 2V, $I_C$ = 2A | 40 | – | – |
| | | $V_{CE}$ = 2V, $I_C$ = 3A | 40 | – | – |
| | | $V_{CE}$ = 2V, $I_C$ = 4A | 20 | – | – |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 1A, $I_B$ = 0.1A, (Note 1) | – | 0.5 | V |
| Base-Emitter On Voltage | $V_{BE(on)}$ | $I_C$ = 1A, $V_{CE}$ = 2V, (Note 1) | – | 1 | V |
| **Small-Signal Characteristics (Note 2)** | | | | | |
| Current Gain-Bandwidth Product | $f_T$ | $V_{CE}$ = 20V, $I_C$ = 20mA, f = 100MHz | 30 | – | MHz |

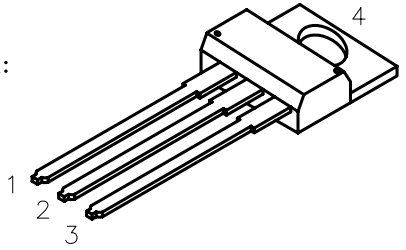
Note 1. Pulse Test: Pulse Width ≦ 300µs, Duty Cycle ≦ 2%.
Note 2. $f_T$ is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

PNP




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






TOLERANCES:

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

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

DRAWING TITLE: Transistor, Silicon, TO-220, PNP

| SIZE | DWG. NO. | ELECTRONIC FILE | REV |
|---|---|---|---|
| A | MJE15029 | 01H0841.DWG | A |

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