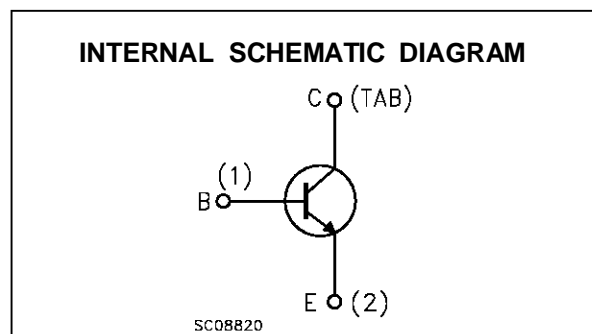
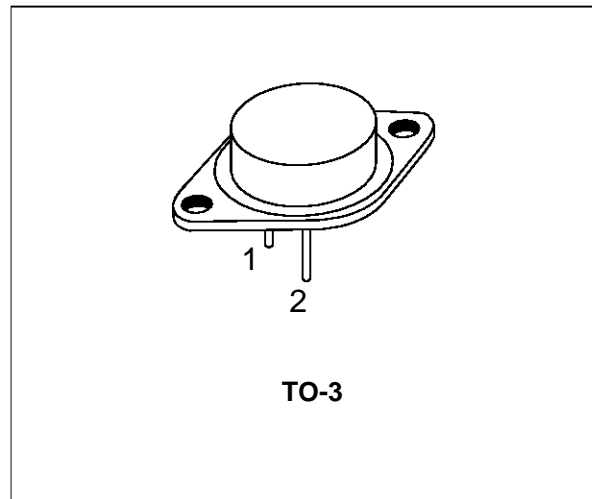


HIGH POWER NPN SILICON TRANSISTOR

■ SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The 2N3771, 2N3772 are silicon epitaxial-base NPN transistors mounted in Jedec TO-3 metal case. They are intended for linear amplifiers and inductive switching applications.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | Unit |
|-----------|--|------------|--------|------------|
| | | 2N3771 | 2N3772 | |
| V_{CEO} | Collector-Base Voltage ($I_E = 0$) | 40 | 60 | V |
| V_{CEV} | Collector-Emitter Voltage ($R_{BE} = 100\Omega$) | 50 | 80 | V |
| V_{CBO} | Collector-Emitter Voltage ($I_B = 0$) | 50 | 100 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 5 | 7 | V |
| I_C | Collector Current | 30 | 30 | A |
| I_{CM} | Collector Peak Current | 30 | 30 | A |
| I_B | Base Current | 7.5 | 5 | A |
| I_{BM} | Base Peak Current | 15 | 15 | A |
| P_{tot} | Total Dissipation at $T_c = 25^\circ C$ | 150 | | W |
| T_{stg} | Storage Temperature | -65 to 200 | | $^\circ C$ |
| T_j | Max. Operating Junction Temperature | 200 | | $^\circ C$ |

2N3771/2N3772

THERMAL DATA

| | | | | |
|-----------------------|----------------------------------|-----|------|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 1.17 | °C/W |
|-----------------------|----------------------------------|-----|------|------|

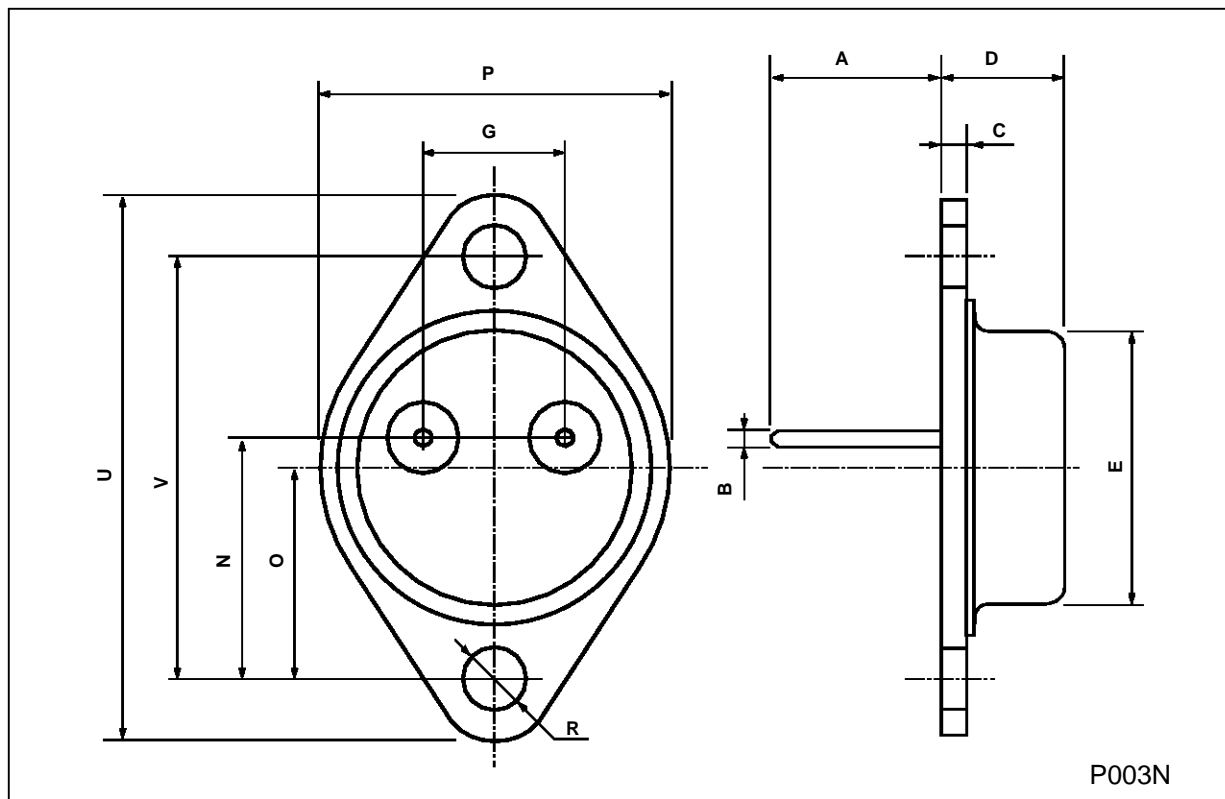
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|------------------------|---|--|----------|------|--------------------|------------------|
| I _{CEV} | Collector Cut-off Current (V _{BE} = -1.5V) | for 2N3771 V _{CB} = 50 V for 2N3772 V _{CB} = 100 V for ALL V _{CB} = 30 V T _j = 150 °C | | | 2 5 10 | mA mA mA |
| I _{CEO} | Collector Cut-off Current (I _B = 0) | for 2N3771 V _{CB} = 30 V for 2N3772 V _{CB} = 50 V | | | 10 10 | mA mA |
| I _{CBO} | Collector Cut-off Current (I _E = 0) | for 2N3771 V _{CB} = 50 V for 2N3772 V _{CB} = 100 V | | | 4 5 | mA mA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | for 2N3771 V _{CB} = 5 V for 2N3772 V _{CB} = 7 V | | | 5 5 | mA mA |
| V _{CEO(sus)*} | Collector-Emitter Sustaining Voltage | I _C = 0.2 A for 2N3771 for 2N3772 | 40 60 | | | V V |
| V _{CEV(sus)*} | Collector-Emitter Sustaining Voltage | I _C = 0.2 A R _{BE} = 100 Ω V _{EB} = -1.5V for 2N3771 for 2N3772 | 50 80 | | | V V |
| V _{CER(sus)*} | Collector-Emitter Sustaining Voltage | I _C = 0.2 A R _{BE} = 100 Ω for 2N3771 for 2N3772 | 45 70 | | | V V |
| V _{CE(sat)*} | Collector-Emitter Saturation Voltage | for 2N3771 I _C = 15 A I _B = 1.5 A I _C = 30 A I _B = 6 A for 2N3772 I _C = 10 A I _B = 1 A I _C = 20 A I _B = 4 A | | | 2 4 1.4 4 | V V V V |
| V _{BE*} | Base-Emitter Voltage | for 2N3771 I _C = 15 A V _{CE} = 4 V for 2N3772 I _C = 10 A V _{CE} = 4 A | | | 2.7 2.7 | V V |
| h _{FE*} | DC Current Gain | for 2N3771 I _C = 15 A V _{CE} = 4 V I _C = 30 A V _{CE} = 4 V for 2N3772 I _C = 10 A V _{CE} = 4 V I _C = 20 A V _{CE} = 4 V | 15 5 | | 60 60 | |
| h _{FE} | Small Signal Current Gain | I _C = 1 A V _{CE} = 4 V f = 1KHz | 40 | | | |
| f _T | Transition frequency | I _C = 1 A V _{CE} = 4 V f = 50KHz | 0.2 | | | MHz |
| I _{s/b*} | Second Breakdown Collector Current | V _{CE} = 25 V t = 1 s (non repetitive) | 6 | | | A |

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

TO-3 (H) MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|------|-------|-------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | | 11.7 | | | 0.460 | |
| B | 0.96 | | 1.10 | 0.037 | | 0.043 |
| C | | | 1.70 | | | 0.066 |
| D | | | 8.7 | | | 0.342 |
| E | | | 20.0 | | | 0.787 |
| G | | 10.9 | | | 0.429 | |
| N | | 16.9 | | | 0.665 | |
| P | | | 26.2 | | | 1.031 |
| R | 3.88 | | 4.09 | 0.152 | | 0.161 |
| U | | | 39.50 | | | 1.555 |
| V | | 30.10 | | | 1.185 | |



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