



TIP35C TIP36B/TIP36C

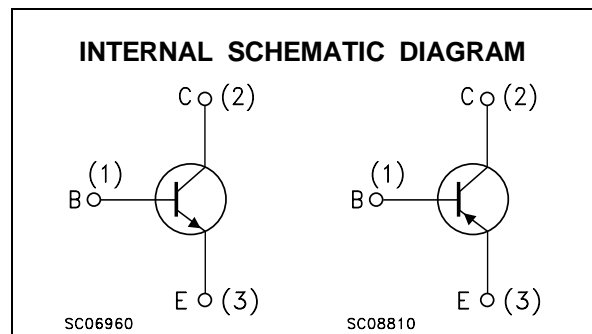
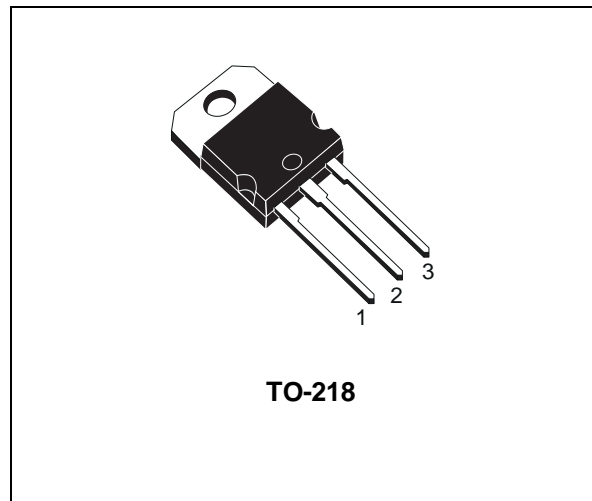
COMPLEMENTARY SILICON HIGH POWER TRANSISTORS

- STMicroelectronic PREFERRED SALESTYPES

DESCRIPTION

The TIP35C is a silicon Epitaxial-Base NPN transistor mounted in TO-218 plastic package. It is intended for use in power amplifier and switching applications.

The complementary PNP type is TIP36C. Also TIP36B is a PNP type.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | Unit |
|-----------|---|------------|--------|------------|
| | | NPN | TIP35C | |
| | | PNP | TIP36C | |
| V_{CBO} | Collector-Base Voltage ($I_E = 0$) | 80 | 100 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | 80 | 100 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 5 | | V |
| I_C | Collector Current | 25 | | A |
| I_{CM} | Collector Peak Current | 50 | | A |
| I_B | Base Current | 5 | | A |
| P_{tot} | Total Dissipation at $T_{case} \leq 25^\circ C$ | 125 | | W |
| T_{stg} | Storage Temperature | -65 to 150 | | $^\circ C$ |
| T_j | Max. Operating Junction Temperature | 150 | | $^\circ C$ |

For PNP types voltage and current values are negative.

TIP35C / TIP36B / TIP36C

THERMAL DATA

| | | | | |
|-----------------------|----------------------------------|-----|---|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 1 | °C/W |
|-----------------------|----------------------------------|-----|---|------|

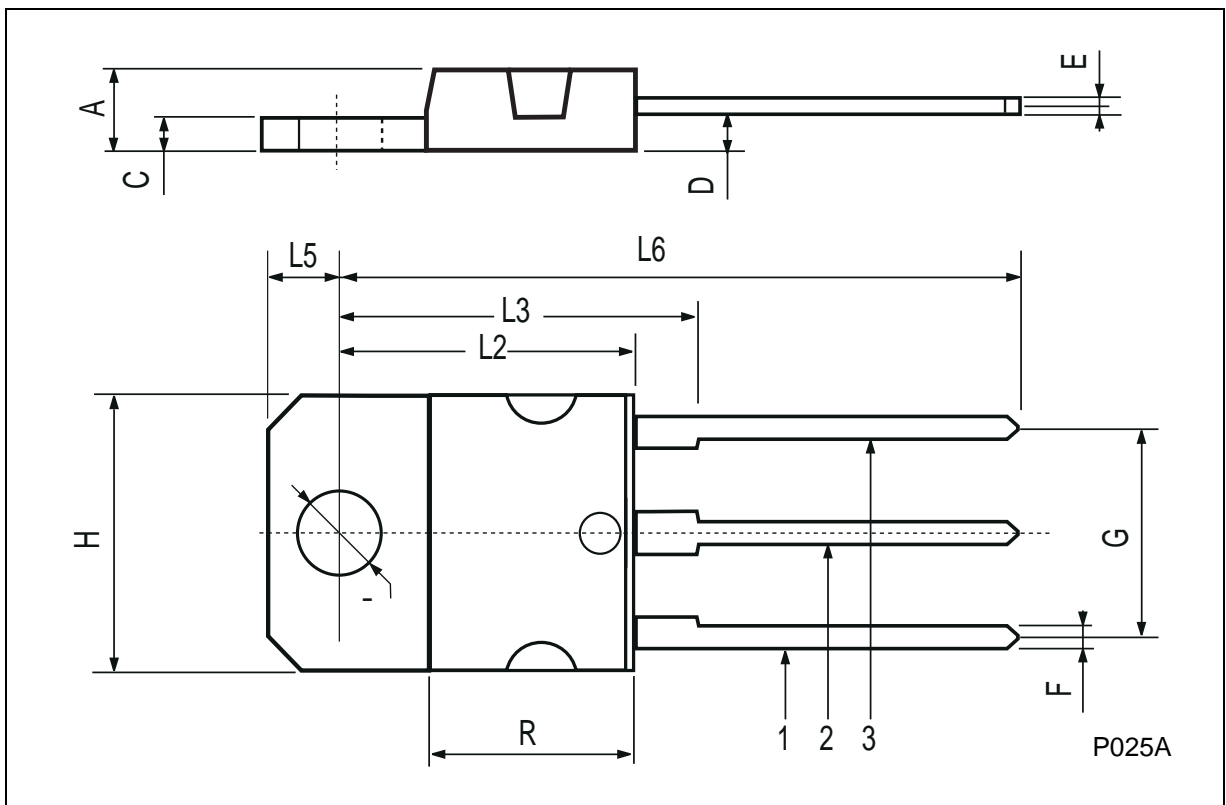
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|---|---|-----------|------|----------|--------|
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = 60 V | | | 1 | mA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EB} = 5 V | | | 1 | mA |
| I _{CES} | Collector Cut-off Current (V _{BE} = 0) | V _{CE} = Rated V _{CEO} | | | 0.7 | mA |
| V _{CEO(sus)} * | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = 30 mA for TIP36B for TIP35C/36C | 80 100 | | | V V |
| h _{FE} * | DC Current Gain | I _C = 1.5 A V _{CE} = 4 V I _C = 15 A V _{CE} = 4 V | 25 10 | | 50 | |
| V _{CE(sat)} * | Collector-Emitter Saturation Voltage | I _C = 15 A I _B = 1.5 A I _C = 25 A I _B = 5 A | | | 1.8 4 | V |
| V _{BE(on)} * | Base-Emitter Voltage | I _C = 15 A V _{CE} = 4 V I _C = 25 A V _{CE} = 4 V | | | 2 4 | V V |
| f _T | Transition Frequency | I _C = 1 A V _{CE} = 10 V f = 1 MHz | 3 | | | MHz |
| h _{fe} | Small Signal Current Gain | I _C = 1 A V _{CE} = 10 V f = 1 KHz | 25 | | | |

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %
For PNP types voltage and current values are negative.

TO-218 (SOT-93) MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|------|------|------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.7 | | 4.9 | 0.185 | | 0.193 |
| C | 1.17 | | 1.37 | 0.046 | | 0.054 |
| D | | 2.5 | | | 0.098 | |
| E | 0.5 | | 0.78 | 0.019 | | 0.030 |
| F | 1.1 | | 1.3 | 0.043 | | 0.051 |
| G | 10.8 | | 11.1 | 0.425 | | 0.437 |
| H | 14.7 | | 15.2 | 0.578 | | 0.598 |
| L2 | - | | 16.2 | - | | 0.637 |
| L3 | | 18 | | | 0.708 | |
| L5 | 3.95 | | 4.15 | 0.155 | | 0.163 |
| L6 | | 31 | | | 1.220 | |
| R | - | | 12.2 | - | | 0.480 |
| ∅ | 4 | | 4.1 | 0.157 | | 0.161 |



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