

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- MONOLITHIC DARLINGTON CONFIGURATION
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

APPLICATIONS

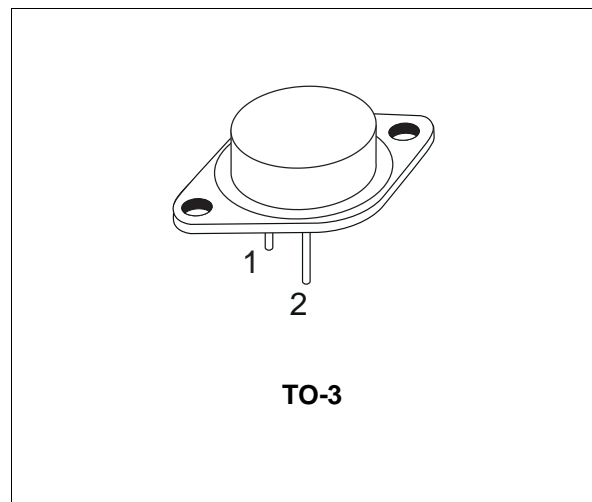
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

DESCRIPTION

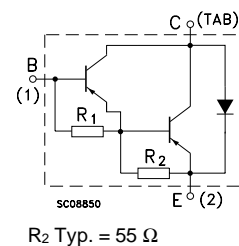
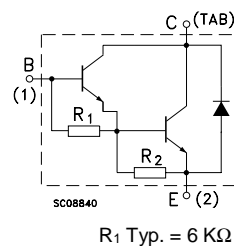
The MJ4035 is silicon epitaxial-base NPN power transistor in monolithic Darlington configuration mounted in Jedec TO-3 metal case.

It is intended for use in general purpose and amplifier applications.

The complementary PNP type is the MJ4032.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | Unit |
|------------------|--|-------|------------|------|
| | | PNP | MJ4032 | |
| | | NPN | MJ4035 | |
| V _{CBO} | Collector-Base Voltage (I _E = 0) | | 100 | V |
| V _{CEO} | Collector-Emitter Voltage (I _B = 0) | | 100 | V |
| V _{EBO} | Emitter-Base Voltage (I _C = 0) | | 5 | V |
| I _C | Collector Current | | 16 | A |
| I _B | Base Current | | 0.5 | A |
| P _{tot} | Total Dissipation at T _c ≤ 25 °C | | 150 | W |
| T _{stg} | Storage Temperature | | -65 to 200 | °C |
| T _j | Max. Operating Junction Temperature | | 200 | °C |

For PNP types voltage and current values are negative.

MJ4032 / MJ4035

THERMAL DATA

| | | | | |
|----------------|----------------------------------|-----|------|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 1.17 | $^{\circ}C/W$ |
|----------------|----------------------------------|-----|------|---------------|

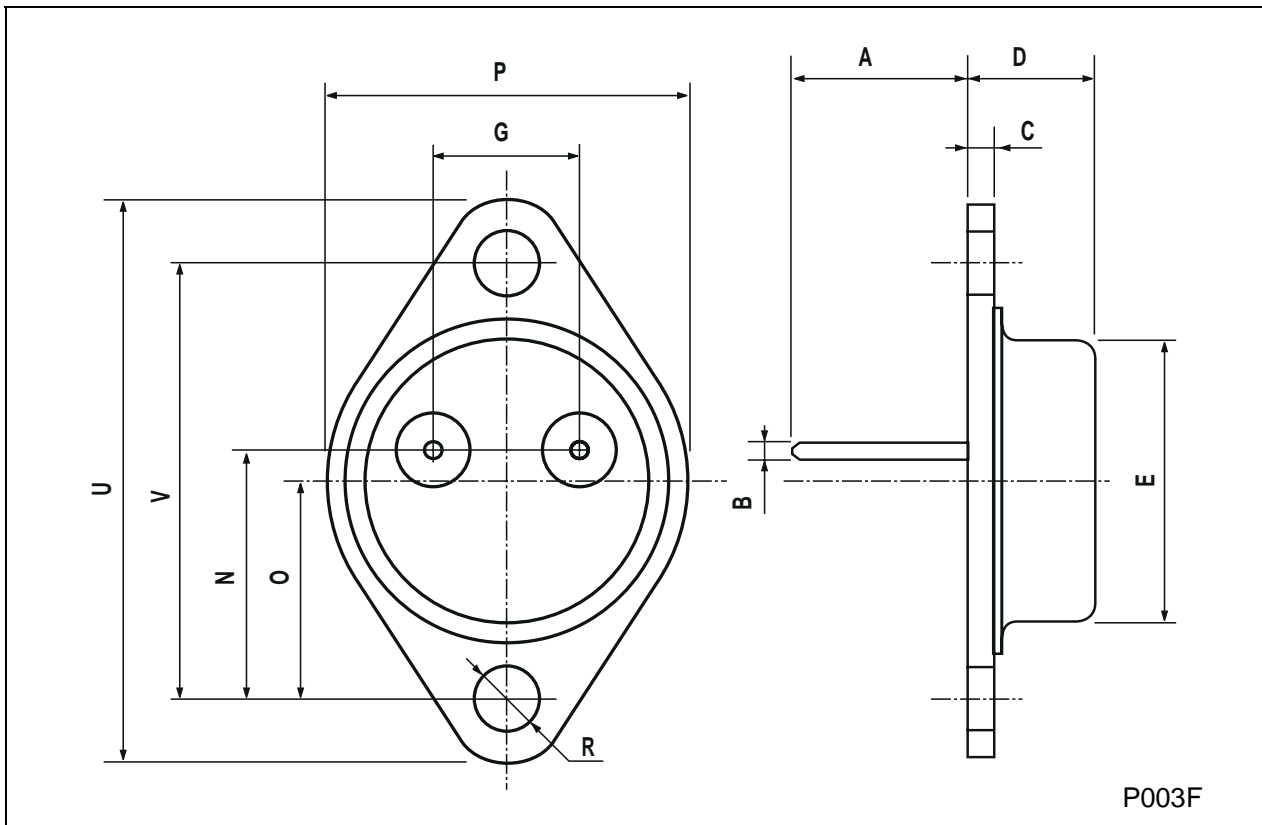
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|---|--|------|------|----------|----------|
| I_{CER} | Collector Cut-off Current ($R_{BE} = 1K\Omega$) | $V_{CE} = 100 V$ $V_{CE} = 100 V \quad T_C = 150^{\circ}C$ | | | 1 5 | mA mA |
| I_{CEO} | Collector Cut-off Current ($I_B = 0$) | $V_{CE} = 50 V$ | | | 3 | mA |
| I_{EBO} | Emitter Cut-off Current ($I_C = 0$) | $V_{EB} = 5 V$ | | | 5 | mA |
| $V_{(BR)CEO}^*$ | Collector-Emitter Breakdown Voltage | $I_C = 100 mA$ | 100 | | | V |
| $V_{CE(sat)}^*$ | Collector-Emitter Saturation Voltage | $I_C = 10 A \quad I_B = 40 mA$ $I_C = 16 A \quad I_B = 80 mA$ | | | 2.5 4 | V V |
| V_{BE}^* | Base-Emitter Voltage | $I_C = 10 A \quad V_{CE} = 3 V$ | | | 3 | V |
| h_{FE}^* | DC Current Gain | $I_C = 10 A \quad V_{CE} = 3 V$ | 1000 | | | |

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %
For PNP type voltage and current values are negative.

TO-3 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|-------|------|-------|-------|------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 11.00 | | 13.10 | 0.433 | | 0.516 |
| B | 0.97 | | 1.15 | 0.038 | | 0.045 |
| C | 1.50 | | 1.65 | 0.059 | | 0.065 |
| D | 8.32 | | 8.92 | 0.327 | | 0.351 |
| E | 19.00 | | 20.00 | 0.748 | | 0.787 |
| G | 10.70 | | 11.10 | 0.421 | | 0.437 |
| N | 16.50 | | 17.20 | 0.649 | | 0.677 |
| P | 25.00 | | 26.00 | 0.984 | | 1.023 |
| R | 4.00 | | 4.09 | 0.157 | | 0.161 |
| U | 38.50 | | 39.30 | 1.515 | | 1.547 |
| V | 30.00 | | 30.30 | 1.187 | | 1.193 |



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