

PNP POWER DARLINGTON TRANSISTOR

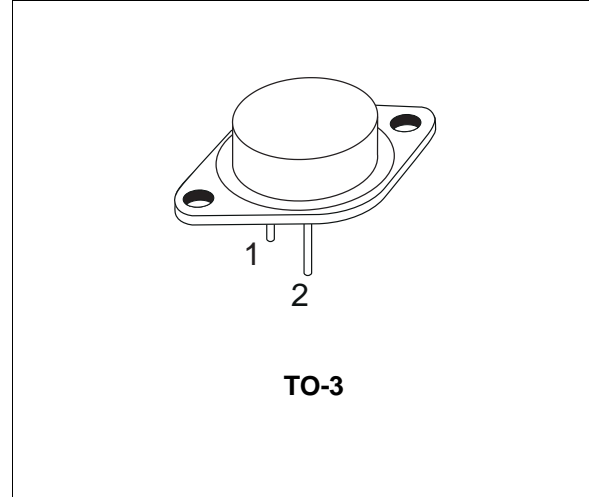
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

APPLICATIONS

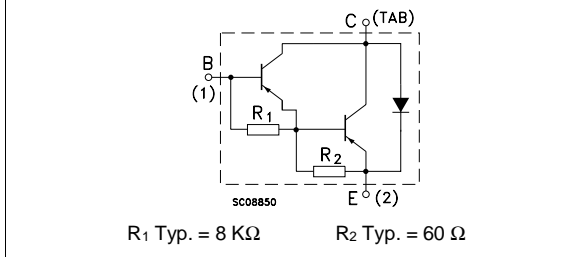
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The FW26025A1 is a silicon Epitaxial-Base PNP power transistor in monolithic Darlington configuration mounted in Jedec TO-3 metal case. It is intended for general purpose amplifier and low frequency switching applications.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|------------------|------------------------------------------------|------------|------|
| 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 | 20 | A |
| I _{CM} | Collector Peak Current | 40 | A |
| I _B | Base Current | 0.5 | A |
| P _{tot} | Total Dissipation at T _c ≤ 25 °C | 160 | W |
| T _{stg} | Storage Temperature | -65 to 200 | °C |
| T _j | Max. Operating Junction Temperature | 200 | °C |

THERMAL DATA

| | | | | |
|----------------|----------------------------------|-----|------|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 1.09 | $^{\circ}C/W$ |
|----------------|----------------------------------|-----|------|---------------|

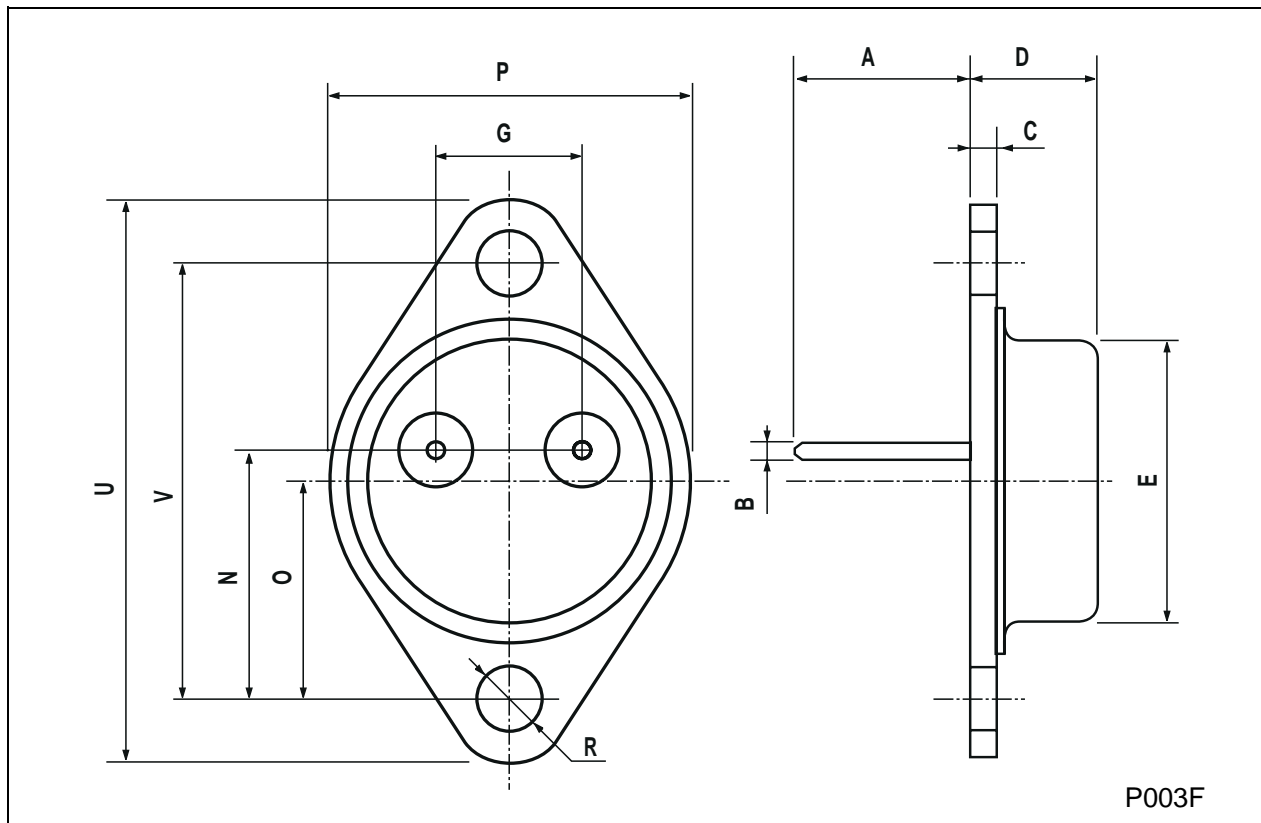
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------|------|----------|----------|
| I_{CEV} | Collector Cut-off Current ($V_{BE} = -1.5V$) | $V_{CE} = 100 V$ $V_{CE} = 100 V \quad T_C = 150^{\circ}C$ | | | 0.5 5 | mA mA |
| I_{CEO} | Collector Cut-off Current ($I_B = 0$) | $V_{CE} = 50 V$ | | | 1 | mA |
| I_{EBO} | Emitter Cut-off Current ($I_C = 0$) | $V_{EB} = 5 V$ | | | 2 | mA |
| $V_{CEO(sus)*}$ | Collector-Emitter Sustaining Voltage ($I_B = 0$) | $I_C = 2 mA$ $I_C = 100 mA$ | 90 100 | | | V V |
| $V_{CE(sat)*}$ | Collector-Emitter Saturation Voltage | $I_C = 10 A \quad I_B = 40 mA$ $I_C = 20 A \quad I_B = 200 mA$ | | | 2 3 | V V |
| $V_{BE(sat)*}$ | Base-Emitter Saturation Voltage | $I_C = 20 A \quad I_B = 200 mA$ | | | 4 | V |
| V_{BE*} | Base-Emitter Voltage | $I_C = 10 A \quad V_{CE} = 3 V$ | | | 2.8 | V |
| h_{FE*} | DC Current Gain | $I_C = 2 A \quad V_{CE} = 3 V$ $I_C = 10 A \quad V_{CE} = 3 V$ $I_C = 30 A \quad V_{CE} = 3 V$ | 5000 750 200 | | 18000 | |
| h_{fe} | Small Signal Current Gain | $I_C = 3 A \quad V_{CE} = 10 V \quad f = 1KHz$ | 300 | | | |
| C_{CBO} | Collector Base Capacitance | $I_E = 0 \quad V_{CB} = 10 V \quad f = 100KHz$ | | | 600 | pF |

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %

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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