

TBD675, 677, 679, 681



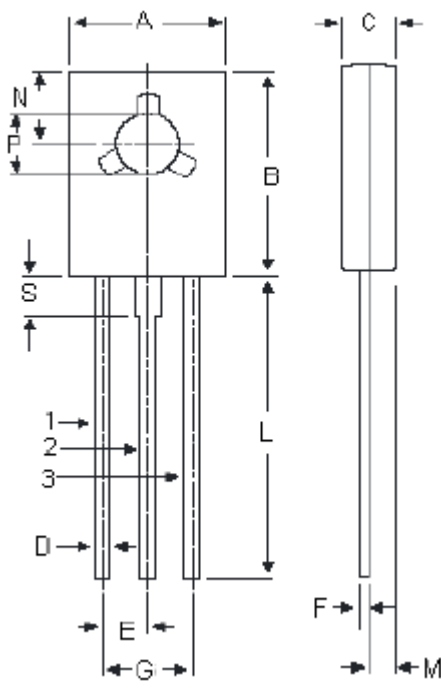
NPN Power Darlington Transistors

Feature:

- NPN Plastic Power Darlington Transistors.



TO-126 Plastic Package

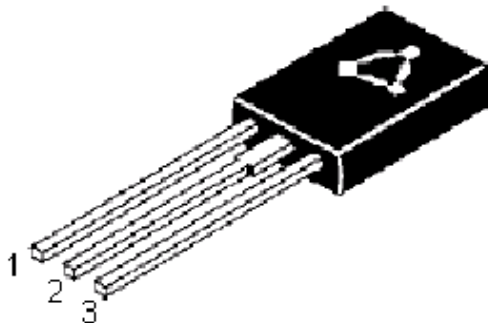


| Dimensions | Minimum | Maximum |
|------------|----------------|---------|
| A | 7.4 | 7.8 |
| B | 10.5 | 10.8 |
| C | 2.4 | 2.7 |
| D | 0.7 | 0.9 |
| E | 2.25 (Typical) | |
| F | 0.49 | 0.75 |
| G | 4.5 (Typical) | |
| L | 15.7 (Typical) | |
| M | 1.27 (Typical) | |
| N | 3.75 (Typical) | |
| P | 3.0 | 3.2 |
| S | 2.5 (Typical) | |

Dimensions : Millimetres

Pin Configuration:

1. Emitter
2. Collector
3. Base



TBD675, 677, 679, 681



NPN Power Darlington Transistors

Absolute Maximum Ratings

| Parameter | Symbol | TBD675 | TBD677 | TBD679 | TBD681 | Unit |
|--|----------------|-------------|--------|--------|--------|----------------------|
| Collector Base Voltage | V_{CBO} | 45 | 60 | 80 | 100 | V |
| Collector Emitter Voltage | V_{CEO} | | | | | |
| Emitter Base Voltage | V_{EBO} | 5.0 | | | | |
| Collector Current | I_C | 4.0 | | | | A |
| Base Current | I_B | 0.1 | | | | |
| Total Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C | P_D | 1.25 | | | | W |
| Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate above 25°C | | 10 | | | | mW/ $^\circ\text{C}$ |
| Operating and Storage Junction Temperature Range | T_j, T_{stg} | -55 to +150 | | | | $^\circ\text{C}$ |
| Thermal Resistance | | | | | | |
| Junction to Case | $R_{th(j-c)}$ | 3.13 | | | | $^\circ\text{C/W}$ |
| Junction to Ambient in Free Air | $R_{th(j-a)}$ | 100 | | | | |

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless specified otherwise)

| Parameter | Symbol | Test Condition | Minimum | Maximum | Unit |
|--------------------------------------|------------------------|---|-----------------------|------------|---------------------|
| Collector Emitter Voltage | V_{CEO}^* | $I_C = 50\text{mA}, I_B = 0$ TBD675 TBD677 TBD679 TBD681 | 45 60 80 100 | - | V |
| Collector Cut off Current | I_{CEO} I_{CBO} | $V_{CE} = \text{Half Rated } V_{CEO}, I_B = 0$ $V_{CB} = \text{Rated } V_{CBO}, I_E = 0$ | - | 500 0.2 | μA mA |
| | I_{CBO} | $V_{CB} = \text{Rated } V_{CBO}, I_E = 0$ $T_C = 100^\circ\text{C}$ | - | 2.0 | mA |
| Emitter Cut off Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | - | 2.0 | mA |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}^*$ | $I_C = 1.5\text{A}, I_B = 6\text{mA}$ | - | 2.5 | V |
| Base Emitter On Voltage | $V_{EB(on)}^*$ | $I_C = 1.5\text{A}, V_{CE} = 3\text{V}$ | - | 2.5 | |
| DC Current Gain | h_{FE}^* | $I_C = 1.5\text{A}, V_{CE} = 3\text{V}$ | 750 | - | - |
| Small Signal Current Gain | $ h_{fe} $ | $I_C = 1.5\text{A}, V_{CE} = 3\text{V}$ $f = 1\text{MHz}$ | 1.0 | - | - |

*Pulse Test : Pulse Width = $\leq 300\mu\text{s}$, Duty Cycle = $\leq 2\%$.



TBD675, 677, 679, 681



NPN Power Darlington Transistors

Specifications

| V_{CEO} maximum (V) | V_{CBO} maximum (V) | I_C (av) maximum (A) | h_{FE} minimum at $I_C = 1.5A$ | Package | Type | Part Number |
|-----------------------------|-----------------------------|------------------------------|--|---------|------|-------------|
| 45 | | 4 | 750 | TO-126 | NPN | TBD675 |
| 60 | | | | | | TBD677 |
| 80 | | | | | | TBD679 |
| 100 | | | | | | TBD681 |



TBD675, 677, 679, 681



NPN Power Darlington Transistors

Notes:

International Sales Offices:



AUSTRALIA - Farnell
Tel No: ++61 1300 361 005
Fax No: ++61 1300 361 225



FINLAND - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ITALY - Farnell
Tel No: ++39 02 93 995 200
Fax No: ++39 02 93 995 300



SPAIN - Farnell
Tel No: 901 20 20 80
Fax No: 901 20 20 90



AUSTRIA - Farnell
Tel No: ++43 662 2180 680
Fax No: ++43 662 2180 670



FRANCE - Farnell
Tel No: ++33 474 68 99 99
Fax No: ++33 474 68 99 90



MALAYSIA - Farnell-Newark
Tel No: ++60 3 7873 8000
Fax No: ++60 3 7873 7000



SWEDEN - Farnell
Tel No: ++46 8 730 50 00
Fax No: ++46 8 83 52 62



BELGIUM - Farnell
Tel No: ++32 3 475 2810
Fax No: ++32 3 227 3648



GERMANY - Farnell
Tel No: ++49 89 61 39 39 39
Fax No: ++49 89 613 59 01



NETHERLANDS - Farnell
Tel No: ++31 30 241 7373
Fax No: ++31 30 241 7333



SWITZERLAND - Farnell
Tel No: ++44 204 64 64
Fax No: ++44 204 64 54



BRAZIL - Farnell-Newark
Tel No: ++55 11 4066 9400
Fax No: ++55 11 4066 9410



HONG KONG - Farnell-Newark
Tel No: ++852 2268 9888
Fax No: ++852 2268 9899



NEW ZEALAND - Farnell
Tel No: 0800 90 80 80
Fax No: 0800 90 80 81



UK - Farnell
Tel No: ++44 8701 200 200
Fax No: ++44 8701 200 201



CHINA - Farnell-Newark
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022



HUNGARY - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



NORWAY - Farnell
Tel No: 800 146 70
Fax No: 800 146 76



UK - CPC
++44 8701 202 530
++44 8701 202 531



CZECH REPUBLIC - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



INDIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



PORTUGAL - Farnell
Tel No: ++34 93 475 8804
Fax No: ++34 93 474 5288



USA - Newark
Tel No: 800 463 9275



DENMARK - Farnell
Tel No: ++45 44 53 66 44
Fax No: ++45 44 53 66 06



IRELAND - Farnell
Tel No: ++353 1 830 9277
Fax No: ++353 1 830 9016



RUSSIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



EXPORT - Farnell
Tel No: ++44 8701 200 208
Fax No: ++44 8701 200 209

For enquiries from all other markets



ESTONIA - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ISRAEL - Farnell
Tel No: ++180 937 0015
Fax No: ++180 937 0014



SINGAPORE - Farnell-Newark
Tel No: ++65 6788 0200
Fax No: ++65 6788 0300

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.

