

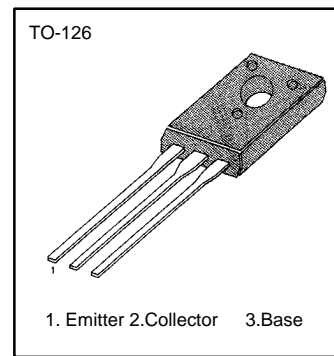
BD675A/677A/679A/681 NPN EPITAXIAL SILICON TRANSISTOR

MEDIUM POWER DARLINGTON TR MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

- Complement to BD676A, BD678A, BD680A and BD682 respectively

ABSOLUTE MAXIMUM RATINGS

| Characteristic | Symbol | Rating | Unit |
|--|-----------|-----------|------------------|
| Collector Base Voltage :BD675A | V_{CBO} | 45 | V |
| : BD677A | | 60 | V |
| : BD679A | | 80 | V |
| : BD681 | | 100 | V |
| Collector Emitter Voltage : BD675A | V_{CEO} | 45 | V |
| : BD677A | | 60 | V |
| : BD679A | | 80 | V |
| : BD681 | | 100 | V |
| Emitter Base Voltage | V_{EBO} | 5 | V |
| Collector Current (DC) | I_C | 4 | A |
| Collector Current (Pulse) | I_C | 6 | A |
| Base Current | I_B | 100 | mA |
| Collector Dissipation ($T_C=25^\circ\text{C}$) | P_C | 40 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55 ~ 150 | $^\circ\text{C}$ |



ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--|----------------|---|-----|-----|-----|---------------|
| *Collector Emitter Sustaining Voltage : BD675A | $V_{CEO(sus)}$ | $I_C = 50\text{mA}, I_B = 0$ | 45 | | | V |
| : BD677A | | | 60 | | | V |
| : BD679A | | | 80 | | | V |
| : BD681 | | | 100 | | | V |
| Collector Base Voltage : BD675A | I_{CBO} | $V_{CB} = 45\text{V}, I_E = 0$ | | | 200 | μA |
| : BD677A | | $V_{CB} = 60\text{V}, I_E = 0$ | | | 200 | μA |
| : BD679A | | $V_{CB} = 80\text{V}, I_E = 0$ | | | 200 | μA |
| : BD681 | | $V_{CB} = 100\text{V}, V_{BE} = 0$ | | | 200 | μA |
| Collector Cutoff Current : BD675A | I_{CEO} | $V_{CE} = 45\text{V}, V_{BE} = 0$ | | | 500 | μA |
| : BD677A | | $V_{CE} = 60\text{V}, V_{BE} = 0$ | | | 500 | μA |
| : BD679A | | $V_{CE} = 80\text{V}, V_{BE} = 0$ | | | 500 | μA |
| : BD681 | | $V_{CE} = 100\text{V}, V_{BE} = 0$ | | | 500 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | | | 2 | mA |
| *DC Current Gain : BD675A/677A/679A | h_{FE} | $V_{CE} = 3\text{V}, I_C = 2\text{A}$ | 750 | | | |
| : BD681 | | $V_{CE} = 3\text{V}, I_C = 1.5\text{A}$ | 750 | | | |
| *Collector Emitter Saturation Voltage : | $V_{CE(sat)}$ | $I_C = 2\text{A}, I_B = 40\text{mA}$ | | | 2.8 | V |
| : BD675A/677A/679A | | $I_C = 1.5\text{A}, I_B = 30\text{mA}$ | | | 2.5 | V |
| : BD681 | $V_{BE(on)}$ | $V_{CE} = 3\text{V}, I_C = 2\text{A}$ | | | 2.5 | V |
| *Base Emitter On Voltage : BD675A/677A/679A | | $V_{CE} = 3\text{V}, I_C = 1.5\text{A}$ | | | 2.5 | V |
| : BD681 | | | | | | |

* Pulse Test: PW=300 μs , duty Cycle=1.5% Pulsed

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|--------------------------|------------------------|---|
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