

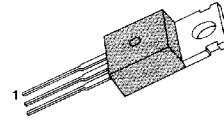
MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS
LOW SATURATION VOLTAGE

- Complement to BD534, BD536 and BD538 respectively

ABSOLUTE MAXIMUM RATINGS

| Characteristic | Symbol | Rating | Unit |
|--|-----------|-----------|------------------|
| Collector Emitter Voltage : BD533 | V_{CBO} | 45 | V |
| : BD535 | | 60 | V |
| : BD537 | | 80 | V |
| Collector Emitter Voltage : BD533 | V_{CES} | 45 | V |
| : BD535 | | 60 | V |
| : BD537 | | 80 | V |
| Collector Emitter Voltage : BD533 | V_{CEO} | 45 | V |
| : BD535 | | 60 | V |
| : BD537 | | 80 | V |
| Emitter Base Voltage | V_{EBO} | 5 | V |
| Collector Current (DC) | I_C | 8 | A |
| Emitter Current | I_E | 8 | A |
| Base Current | I_B | 1 | A |
| Collector Dissipation ($T_C=25^\circ\text{C}$) | P_C | 50 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -65 ~ 150 | $^\circ\text{C}$ |

TO-220



1.Base 2.Collector 3.Emitter

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

| Characteristic | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector Cutoff Current : BD533 | I_{CBO} | $V_{CB} = 45\text{V}, I_E = 0$ | | | 100 | μA |
| : BD535 | | $V_{CB} = 60\text{V}, I_E = 0$ | | | 100 | μA |
| : BD537 | | $V_{CB} = 80\text{V}, I_E = 0$ | | | 100 | μA |
| Collector Cutoff Current : BD533 | I_{CES} | $V_{CE} = 45\text{V}, V_{BE} = 0$ | | | 100 | μA |
| : BD535 | | $V_{CE} = 60\text{V}, V_{BE} = 0$ | | | 100 | μA |
| : BD537 | | $V_{CE} = 80\text{V}, V_{BE} = 0$ | | | 100 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | | | 1 | mA |
| *DC Current Gain : BD533/535 | h_{FE} | $V_{CE} = 5\text{V}, I_C = 10\text{mA}$ | 20 | | | |
| : BD537 | | | 15 | | | |
| : ALL DEVICE | | $V_{CE} = 2\text{V}, I_C = 500\text{mA}$ | 40 | | | |
| : BD533/535 | | $V_{CE} = 2\text{V}, I_C = 2\text{A}$ | 25 | | | |
| : BD537 | | | 15 | | | |
| h_{FE} Groups J : ALL DEVICE | h_{FE} | $V_{CE} = 2\text{V}, I_C = 2\text{A}$ | 30 | | 75 | |
| K : ALL DEVICE | | $V_{CE} = 2\text{V}, I_C = 3\text{A}$ | 15 | | | |
| | | $V_{CE} = 2\text{V}, I_C = 2\text{A}$ | 40 | | 100 | |
| | | $V_{CE} = 2\text{V}, I_C = 3\text{A}$ | 20 | | | |
| *Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 2\text{A}, I_B = 0.2\text{A}$ | | | 0.8 | V |
| | | $I_C = 6\text{A}, I_B = 0.6\text{A}$ | | 0.8 | | V |
| *Base Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = 2\text{V}, I_C = 2\text{A}$ | | | 1.5 | V |
| Transition Frequency | f_T | $V_{CE} = 1\text{V}, I_C = 500\text{mA}$ | 3 | 12 | | MHz |

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

