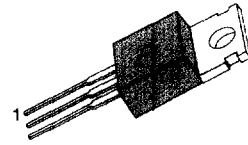


MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS
LOW SATURATION VOLTAGE

• Complement to BD534, BD536 and BD538 respectively

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS

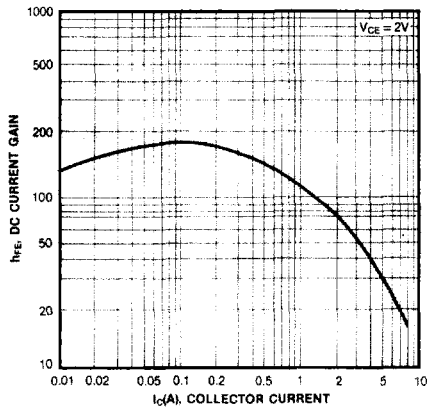
| Characteristic | Symbol | Rating | Unit |
|--------------------------------------------|-----------|-----------|------------|
| Collector Emitter Voltage : BD533 | V_{CBO} | 45 | V |
| : BD535 | | 60 | V |
| : BD537 | | 80 | V |
| Collector Emitter Voltage : BD533 | V_{CES} | 45 | V |
| : BD535 | | 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 ($T_C=25^\circ C$) | P_C | 50 | W |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Storage Temperature | T_{STG} | -65 ~ 150 | $^\circ C$ |

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

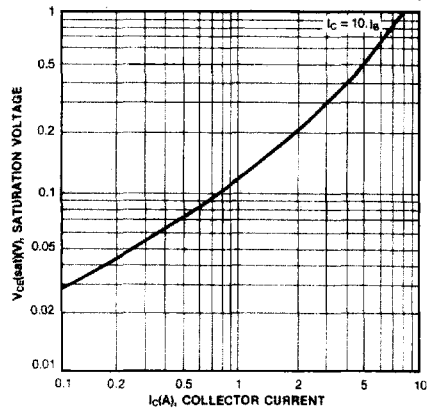
| Characteristic | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------------------|---------------|----------------------------|-----|-----|-----|---------|
| Collector Cutoff Current : BD533 | I_{CBO} | $V_{CB} = 45V, I_E = 0$ | | | 100 | μA |
| : BD535 | | $V_{CB} = 60V,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

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

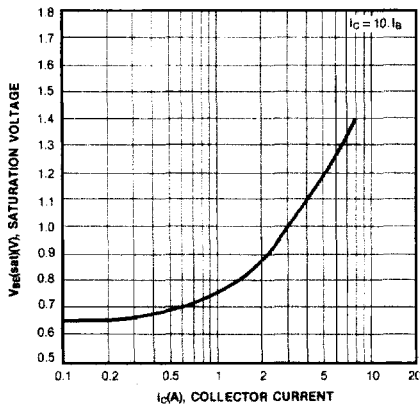
DC CURRENT GAIN



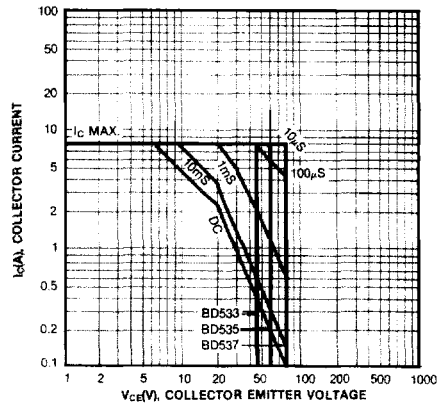
COLLECTOR EMITTER SATURATION VOLTAGE



BASE EMITTER SATURATION VOLTAGE



SAFE OPERATING AREA



POWER DERATING

