

NPN Epitaxial Silicon Transistor

BC337

Features

- Switching and Amplifier Applications
- Suitable for AF-Driver Stages and Low-Power Output Stages
- Complement to BC327/BC328

ABSOLUTE MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted.)

| Symbol | Parameter | Value | Unit |
|-----------|---------------------------|-------------|------------------|
| V_{CES} | Collector-Emitter Voltage | 50 | V |
| V_{CEO} | Collector-Emitter Voltage | 45 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current (DC) | 800 | mA |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -55 to +150 | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

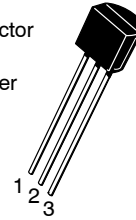
THERMAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted.) (Note 1)

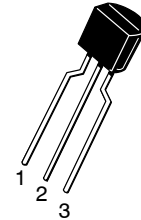
| Symbol | Characteristic | Value | Unit |
|-----------------|--|------------|----------------------------|
| P_D | Power Dissipation Derate Above 25°C | 625 5.0 | mW mW/ $^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 200 | $^\circ\text{C}/\text{W}$ |

1. PCB size: FR-4, 76 mm \times 114 mm \times 1.57 mm (3.0 inch \times 4.5 inch \times 0.062 inch) with minimum land pattern size.

1. Collector
2. Base
3. Emitter

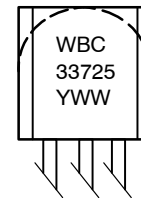


TO-92 3
CASE 135AN



TO-92 3 LF
CASE 135AR

MARKING DIAGRAM



WBC = Assembly Location
33725 = Specific Device Code
Y = Year
WW = Work Week

ORDERING INFORMATION

| Device | Package | Shipping [†] |
|------------|-------------------------|-------------------------|
| BC33740BU | TO-92 3 (Pb-Free) | 10,000 Units / BLKBG |
| BC33725BU | TO-92 3 (Pb-Free) | 10,000 Units / BLKBG |
| BC33716BU | TO-92 3 (Pb-Free) | 10,000 Units / BLKBG |
| BC33740TA | TO-92 3 LF (Pb-Free) | 2,000 Units / FNFLD |
| BC33725TA | TO-92 3 LF (Pb-Free) | 2,000 Units / FNFLD |
| BC33725TAR | TO-92 3 LF (Pb-Free) | 2,000 Units / FNFLD |
| BC33716TA | TO-92 3 LF (Pb-Free) | 2,000 Units / FNFLD |
| BC33725TF | TO-92 3 LF (Pb-Free) | 2,000 / Tape & Reel |
| BC33725TFR | TO-92 3 LF (Pb-Free) | 2,000 / Tape & Reel |
| BC33716TFR | TO-92 3 LF (Pb-Free) | 2,000 / Tape & Reel |

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

BC337

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|----------------------|--------------------------------------|---|-----|-----|-----|------|
| BV _{CEO} | Collector–Emitter Breakdown Voltage | I _C = 10 mA, I _B = 0 | 45 | – | – | V |
| BV _{CES} | Collector–Emitter Breakdown Voltage | I _C = 0.1 mA, V _{BE} = 0 | 50 | – | – | V |
| BV _{EBO} | Emitter–Base Breakdown Voltage | I _E = 0.1 mA, I _C = 0 | 5 | – | – | V |
| I _{CES} | Collector Cut–Off Current | V _{CE} = 45 V, I _B = 0 | – | 2 | 100 | nA |
| h _{FE1} | DC Current Gain | V _{CE} = 1 V, I _C = 100 mA | 100 | – | 630 | |
| h _{FE2} | | V _{CE} = 1 V, I _C = 300 mA | 60 | – | | |
| V _{CE(sat)} | Collector–Emitter Saturation Voltage | I _C = 500 mA, I _B = 50 mA | – | – | 0.7 | V |
| V _{BE(on)} | Base–Emitter On Voltage | V _{CE} = 1 V, I _C = 300 mA | – | – | 1.2 | V |
| f _T | Current Gain Bandwidth Product | V _{CE} = 5 V, I _C = 10 mA, f = 50 MHz | – | 100 | – | MHz |
| C _{ob} | Output Capacitance | V _{CB} = 10 V, I _E = 0, f = 1 MHz | – | 12 | – | pF |

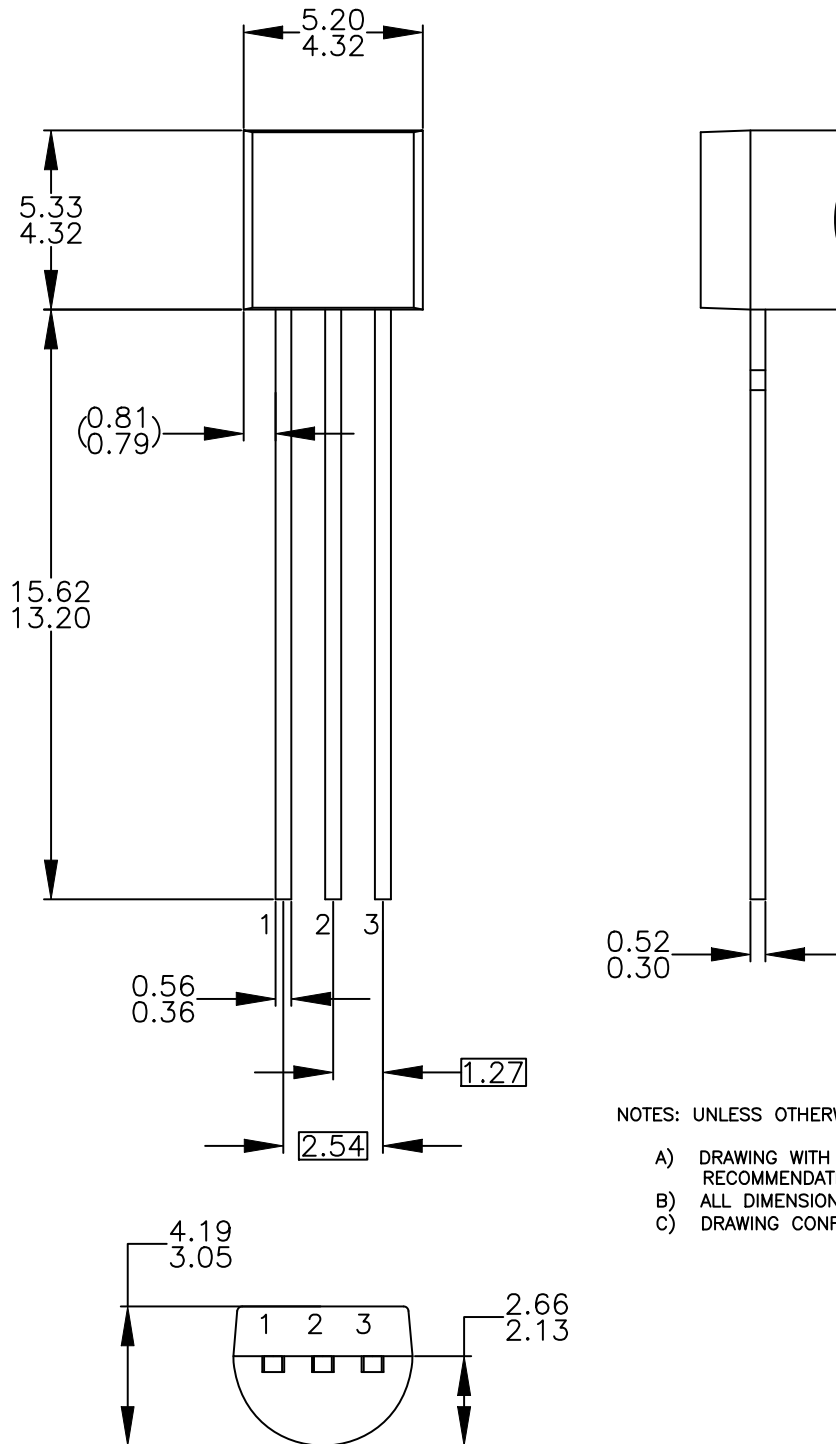
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

h_{FE} Classification

| Classification | 16 | 25 | 40 |
|------------------|-----------|-----------|-----------|
| h _{FE1} | 100 ~ 250 | 160 ~ 400 | 250 ~ 630 |
| h _{FE2} | 60 ~ | 100 ~ | 170 ~ |

TO-92 3 4.825x4.76
CASE 135AN
ISSUE O

DATE 31 JUL 2016



NOTES: UNLESS OTHERWISE SPECIFIED

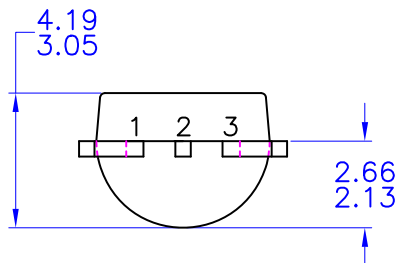
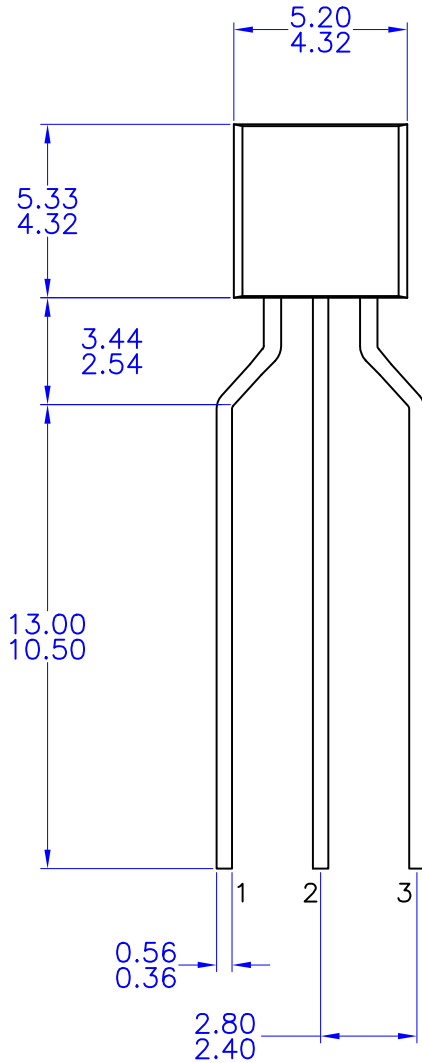
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