



# TR BD137-16;CDIL;TO126;tranzystor; NPN;1.5A;60V;12.5W;>50MHz;Pbf



## **Dane techniczne:**

Nazwa: BD137-16

Typ tranzystora: bipolarny

Kierunek przewodnictwa: NPN

Prąd kolektora: 1.5A

Napięcie kolektor-emiter: 60V

Moc: 12.5W

Obudowa: TO126

Częstotliwość: >50MHz

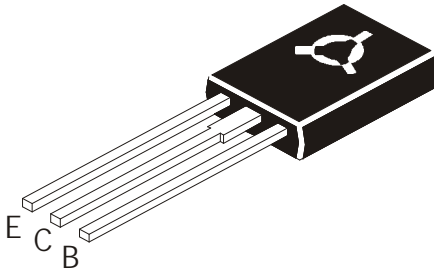
Montaż: przewlekany (THT)

Producent: CDIL

**NPN EPITAXIAL SILICON POWER TRANSISTORS**

**BD135 BD137  
BD139**

**TO126  
Plastic Package**



**Designed for use as Audio Amplifier and Drivers Utilizing**

**Complementary BD136, BD138, BD140**

**ABSOLUTE MAXIMUM RATINGS**

| DESCRIPTION                                      | SYMBOL         | BD135        | BD137 | BD139 | UNIT            |
|--|----------------|--------------|-------|-------|-----------------|
| Collector -Emitter Voltage                       | $V_{CEO}$      | 45           | 60    | 80    | V               |
| Collector -Emitter Voltage ( $R_{BE}=1kW$ )      | $V_{CER}$      | 45           | 60    | 100   | V               |
| Collector -Base Voltage                          | $V_{CBO}$      | 45           | 60    | 100   | V               |
| Emitter Base Voltage                             | $V_{EBO}$      | 5.0          |       |       | V               |
| Collector Current                                | $I_C$          | 1.5          |       |       | A               |
| Collector Peak Current                           | $I_{CM}$       | 2.0          |       |       | A               |
| Base Current                                     | $I_B$          | 0.5          |       |       | A               |
| Power Dissipation @ $T_a=25^{\circ}C$            | $P_D$          | 1.25         |       |       | W               |
| Derate above $25^{\circ}C$                       |                | 10           |       |       | mW/ $^{\circ}C$ |
| Power Dissipation @ $T_c=25^{\circ}C$            | $P_D$          | 12.5         |       |       | W               |
| Derate above $25^{\circ}C$                       |                | 100          |       |       | mW/ $^{\circ}C$ |
| Power Dissipation @ $T_c=70^{\circ}C$            | $P_D$          | 8.0          |       |       | W               |
| Operating And Storage Junction Temperature Range | $T_j, T_{stg}$ | - 55 to +150 |       |       | $^{\circ}C$     |

**THERMAL CHARACTERISTICS**

|                                 |               |     |               |
|---------------------------------|---------------|-----|---------------|
| Junction to Ambient in free air | $R_{th(j-a)}$ | 100 | $^{\circ}C/W$ |
| Junction to Case                | $R_{th(j-c)}$ | 10  | $^{\circ}C/W$ |

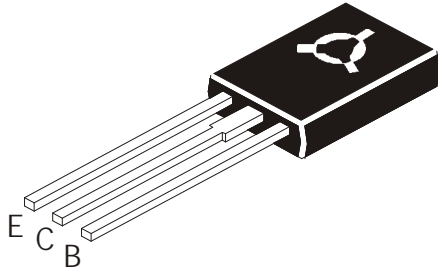
**ELECTRICAL CHARACTERISTICS ( $T_c=25^{\circ}C$  unless specified otherwise)**

| DESCRIPTION                          | SYMBOL           | TEST CONDITION                        | MIN | MAX | UNIT    |
|--------------------------------------|------------------|---------------------------------------|-----|-----|---------|
| Collector Emitter Sustaining Voltage | * $V_{CEO(sus)}$ | $I_C=30mA, I_B=0$                     |     |     |         |
|                                      |                  | <b>BD135</b>                          | 45  |     | V       |
|                                      |                  | <b>BD137</b>                          | 60  |     | V       |
|                                      |                  | <b>BD139</b>                          | 80  |     | V       |
| Collector Cut off Current            | $I_{CBO}$        | $V_{CB}=30V, I_E=0$                   |     | 0.1 | $\mu A$ |
|                                      |                  | $V_{CB}=30V, I_E=0, T_c=125^{\circ}C$ |     | 10  | $\mu A$ |
| Emitter Cut off Current              | $I_{EBO}$        | $V_{EB}=5V, I_C=0$                    |     | 10  | $\mu A$ |
| DC Current Gain                      | * $h_{FE}$       | $I_C=0.005A, V_{CE}=2V$               | 25  |     |         |
|                                      |                  | $I_C=0.15A, V_{CE}=2V$                | 40  | 250 |         |
|                                      |                  | $I_C=0.5A, V_{CE}=2V$                 | 25  |     |         |

\*Pulse test:- Pulse width=300ms, duty cycle=2%

# NPN EPITAXIAL SILICON POWER TRANSISTORS

**BD135 BD137  
BD139**



**TO126  
Plastic Package**

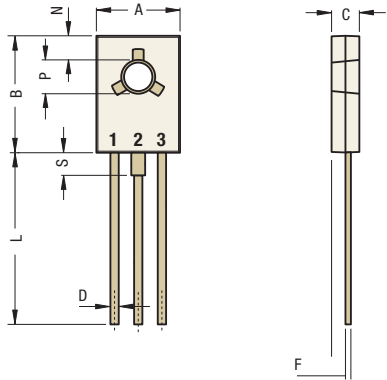
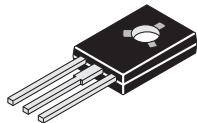
## ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

| DESCRIPTION                          | SYMBOL           | TEST CONDITION                           | MIN | MAX | UNIT |
|--------------------------------------|------------------|--|-----|-----|------|
| DC Current Gain                      | * $h_{FE}$ Group | $I_C=0.15\text{A}$ , $V_{CE}=2\text{V}$  |     |     |      |
|                                      |                  | - 6                                      | 40  | 100 |      |
|                                      |                  | - 10                                     | 63  | 160 |      |
|                                      |                  | - 16                                     | 100 | 250 |      |
|                                      |                  | - 25                                     | 160 | 400 |      |
| Collector Emitter Saturation Voltage | * $V_{CE(sat)}$  | $I_C=0.5\text{A}$ , $I_B=0.05\text{A}$   |     | 0.5 | V    |
| Base Emitter On Voltage              | * $V_{BE(on)}$   | * $I_C=0.5\text{A}$ , $V_{CE}=2\text{V}$ |     | 1.0 | V    |

\*Pulse test:- Pulse width=300ms, duty cycle=2%

**TO126  
Plastic Package**

**TO-126  
Leaded Plastic  
Package**

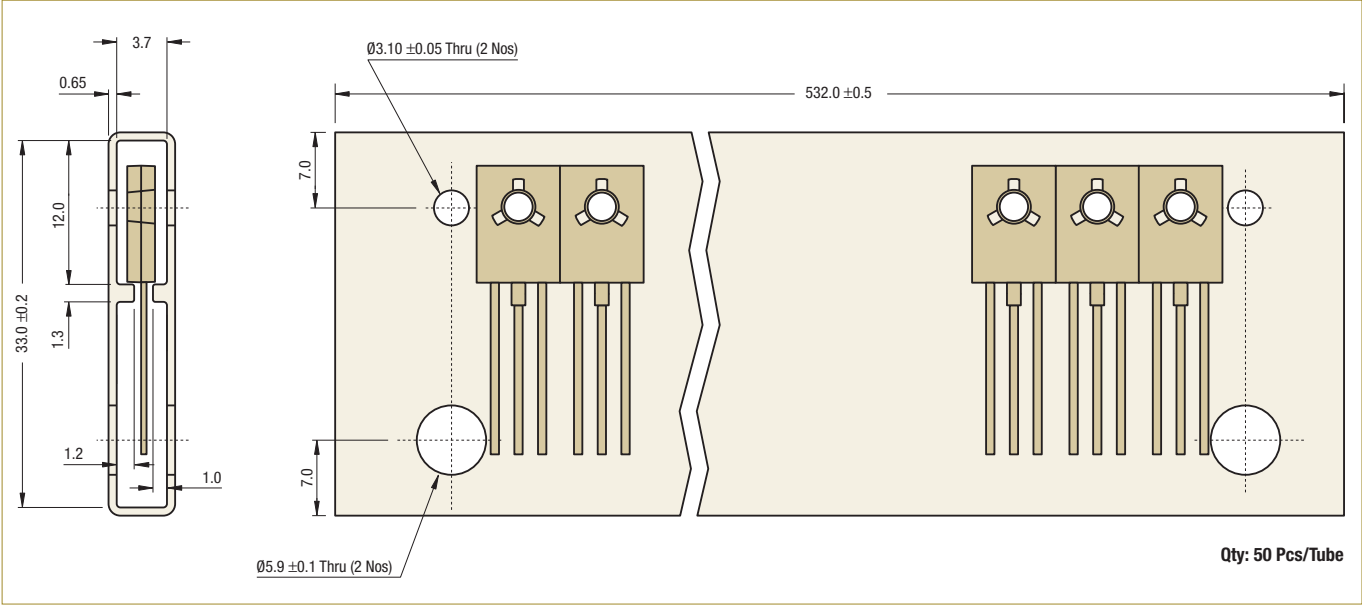


| DIM | Min   | Max   |
|-----|-------|-------|
| A   | 7.12  | 8.38  |
| B   | 10.16 | 11.43 |
| C   | 2.29  | 3.04  |
| D   | 0.64  | 0.88  |
| E   | 2.040 | 2.285 |
| F   | 0.39  | 0.63  |

| DIM | Min   | Max   |
|-----|-------|-------|
| G   | 4.07  | 5.08  |
| L   | 15.00 | 16.63 |
| M   | 0.89  | 1.65  |
| N   | 3.31  | 4.44  |
| P   | 2.54  | 3.30  |
| S   | —     | 2.54  |

Pin Configurations  
Pin 1: Emitter Pin 2: Collector Pin 3: Base

**TO-126 Series Packaging Tube**



**Packaging Specifications ...**

T & A: Tape and Ammo Pack; T & R: Tape and Reel; Bulk: Loose in Poly Bags; Tube: Tube and Carton; K: 1,000

| Package / Case Type | Packaging Type | Inner Carton        |     |                     |                   | Outer Carton |                     |                   |
|---------------------|----------------|---------------------|-----|---------------------|-------------------|--------------|---------------------|-------------------|
|                     |                | Std. Packing Qty    | Qty | Size L x W x H (cm) | Gross Weight (Kg) | Qty          | Size L x W x H (cm) | Gross Weight (Kg) |
| TO-126              | Bulk           | 2,000               | 2K  | 19 x 19 x 8         | 1.4               | 20K          | 46 x 38 x 22        | 15.6              |
|                     | Tube           | 1,000 (50 pcs/tube) | 1K  | 55 x 8 x 10         | 1.5               | 10K          | 55 x 35 x 27        | 16.3              |

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

**Disclaimer**

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