

## / Descriptions

Silicon NPN transistor in a TO-126F Plastic Package.

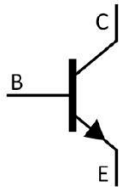
## / Features

Low saturation voltage, excellent  $h_{FE}$  linearity and high  $h_{FE}$ .

## / Applications

Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver.

## / Equivalent Circuit



## / Pinning



PIN1 Emitter      PIN 2 Collector      PIN 3 Base

## / $h_{FE}$ Classifications & Marking

| $h_{FE}$ Classifications<br>Symbol | R      | Q       | P       | E       |
|------------------------------------|--------|---------|---------|---------|
| $h_{FE}$ Range                     | 60~120 | 100~200 | 160~320 | 200~400 |

/ Absolute Maximum Ratings( $T_a=25^\circ\text{C}$ )

| Parameter                      | Symbol                      | Rating  | Unit             |
|--------------------------------|-----------------------------|---------|------------------|
| Collector to Base Voltage      | $V_{CBO}$                   | 40      | V                |
| Collector to Emitter Voltage   | $V_{CEO}$                   | 30      | V                |
| Emitter to Base Voltage        | $V_{EBO}$                   | 5.0     | V                |
| Collector Current - Continuous | $I_C$                       | 3.0     | A                |
| Collector Power Dissipation    | $P_C$                       | 1.0     | W                |
|                                | $P_C(T_C=25^\circ\text{C})$ | 10      | W                |
| Junction Temperature           | $T_J$                       | 150     | $^\circ\text{C}$ |
| Storage Temperature Range      | $T_{stg}$                   | -55~150 | $^\circ\text{C}$ |

/ Electrical Characteristics( $T_a=25^\circ\text{C}$ )

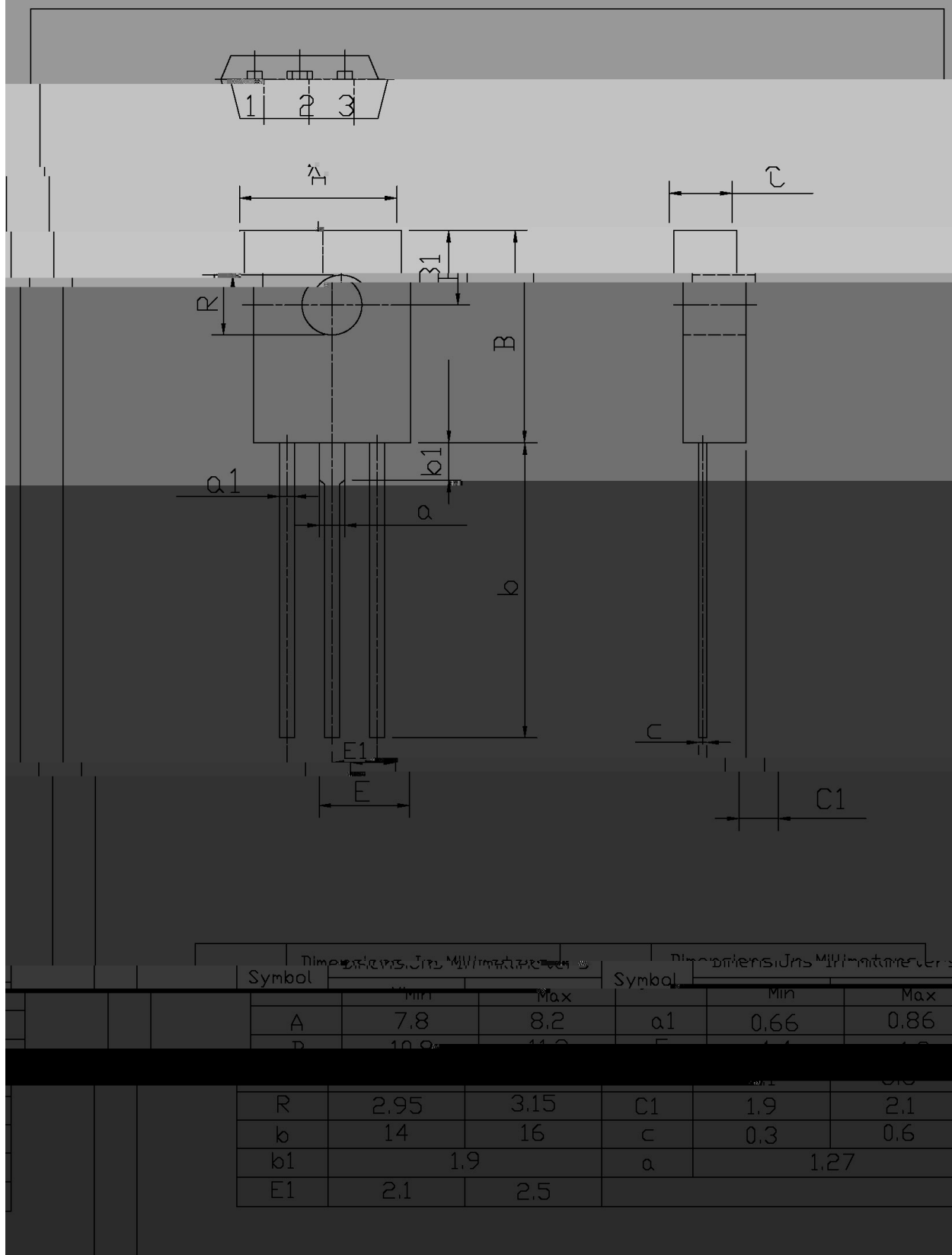
| Parameter                               | Symbol        | Test Conditions                               | Min | Typ | Max | Unit          |
|-----------------------------------------|---------------|-----------------------------------------------|-----|-----|-----|---------------|
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=30\text{V}$ $I_E=0$                   |     |     | 1.0 | $\mu\text{A}$ |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=3.0\text{V}$ $I_C=0$                  |     |     | 1.0 | $\mu\text{A}$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=2.0\text{V}$ $I_C=1.0\text{A}$        | 60  | 160 | 400 |               |
|                                         | $h_{FE(2)}$   | $V_{CE}=2.0\text{V}$ $I_C=20\text{mA}$        | 30  | 150 |     |               |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=2.0\text{A}$ $I_B=0.2\text{A}$           |     | 0.3 | 0.5 | V             |
| Base to Emitter Voltage                 | $V_{BE(sat)}$ | $I_C=2.0\text{A}$ $I_B=0.2\text{A}$           |     | 1.0 | 2.0 | V             |
| Transition Frequency                    | $f_T$         | $V_{CE}=5.0\text{V}$ $I_C=0.1\text{A}$        |     | 90  |     | MHz           |
| Collector output capacitance            | $C_{ob}$      | $V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_E=0$ |     | 45  |     | pF            |



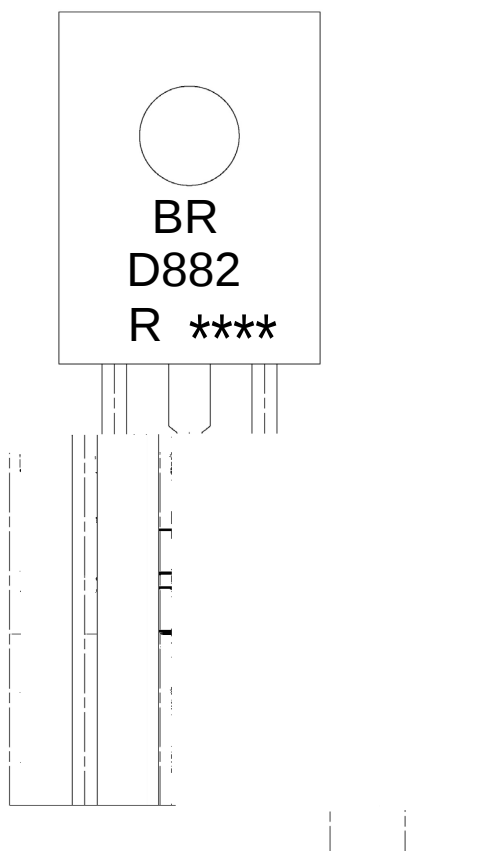
/ Package Dimensions

TO-18

单位: mm



/ Marking Instructions



Note:

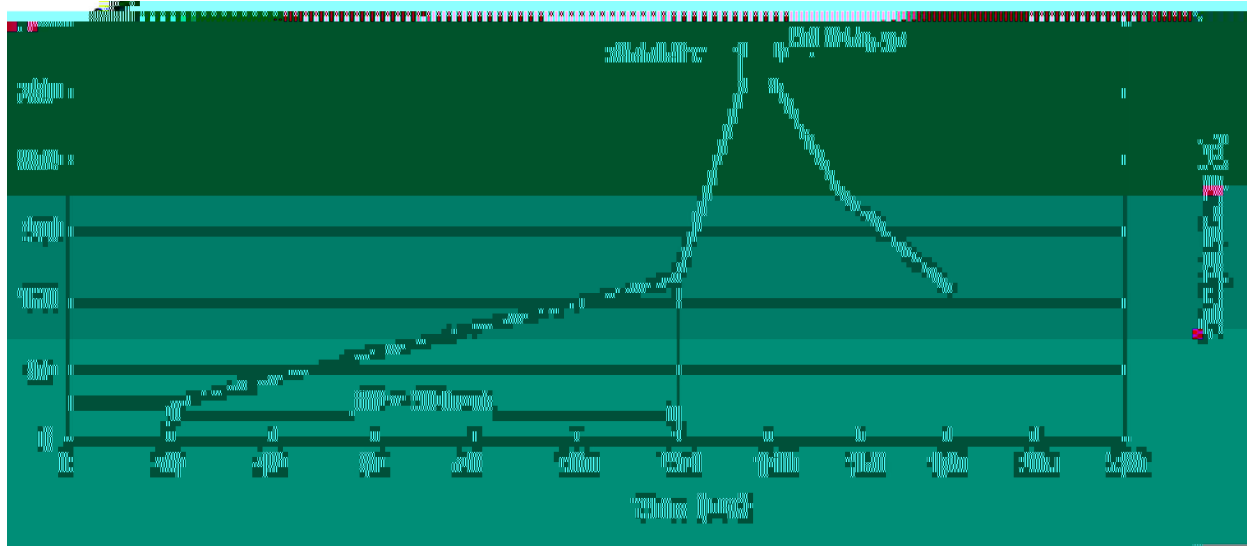
BR: Company Code

D882: Product Type Code.

R:  $h_{FE}$  Classifications Symbol

\*\*\*\*: Lot No. Code, code change with Lot No.

( ) / Temperature Profile for Dip Soldering(Pb-Free)



Note:

1                      25    150                      60    90sec;

1.Preheating:25~150