

/ Descriptions

TO-252 PNP Silicon PNP transistor in a TO-252 Plastic Package.

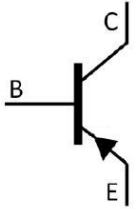
/ Features

β , h_{FE}
Low saturation voltage, excellent h_{FE} linearity and high h_{FE} , Halogen-free Product.

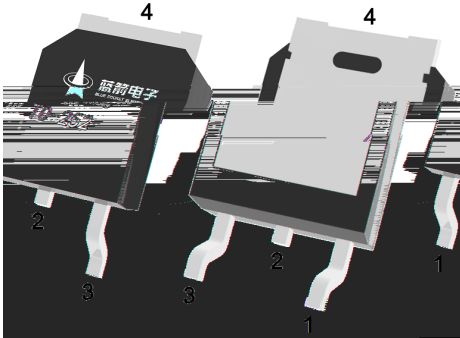
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2,4 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

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

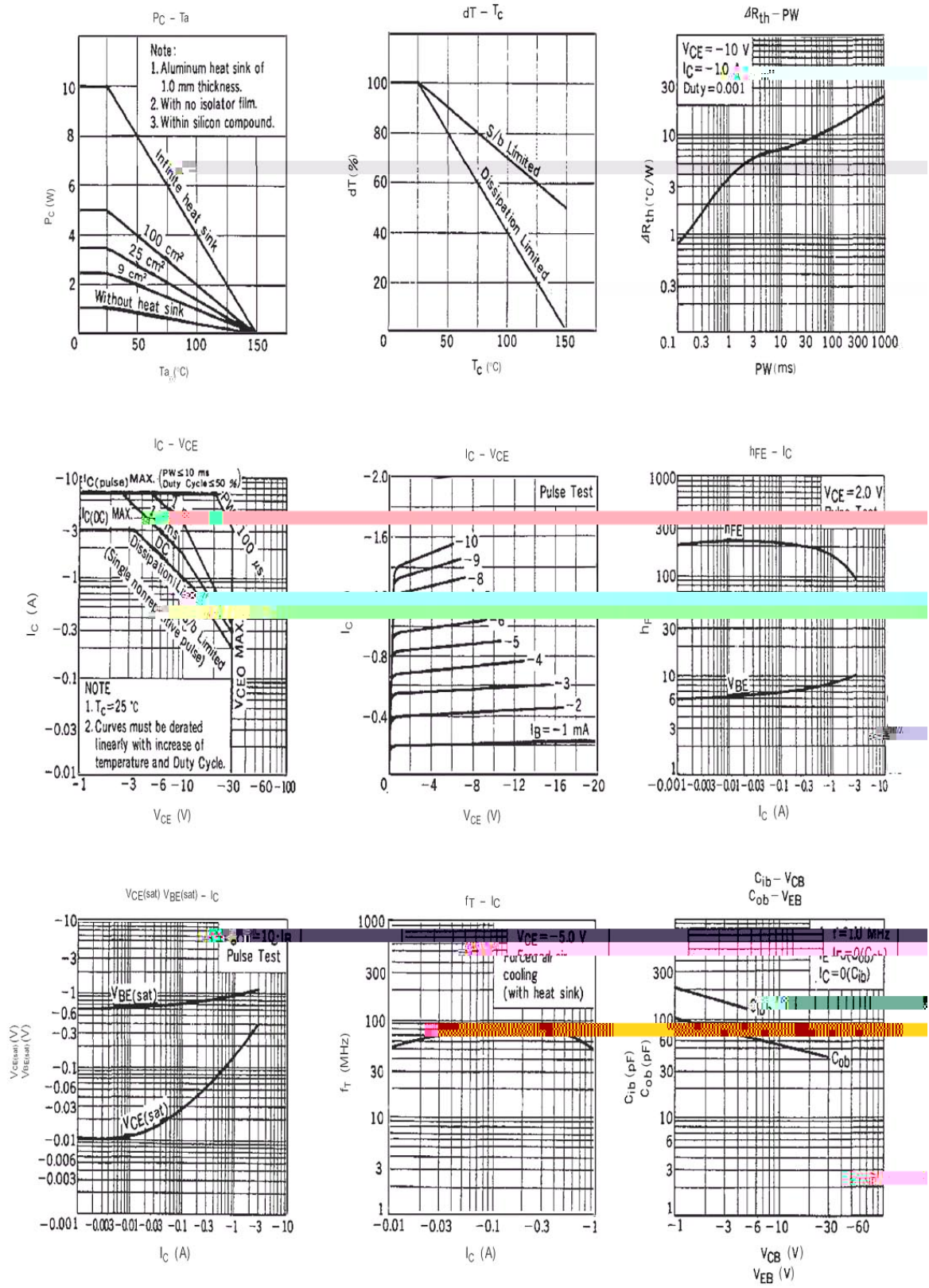
/ Absolute Maximum Ratings(Ta=25)

| Parameter | Symbol | Rating | Unit |
|--------------------------------|--------------------------------------|---------|------|
| Collector to Base Voltage | V _{CB0} | -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) | 10 | W |
| Junction Temperature | T _j | 150 | |
| Storage Temperature Range | T _{stg} | -55 150 | |

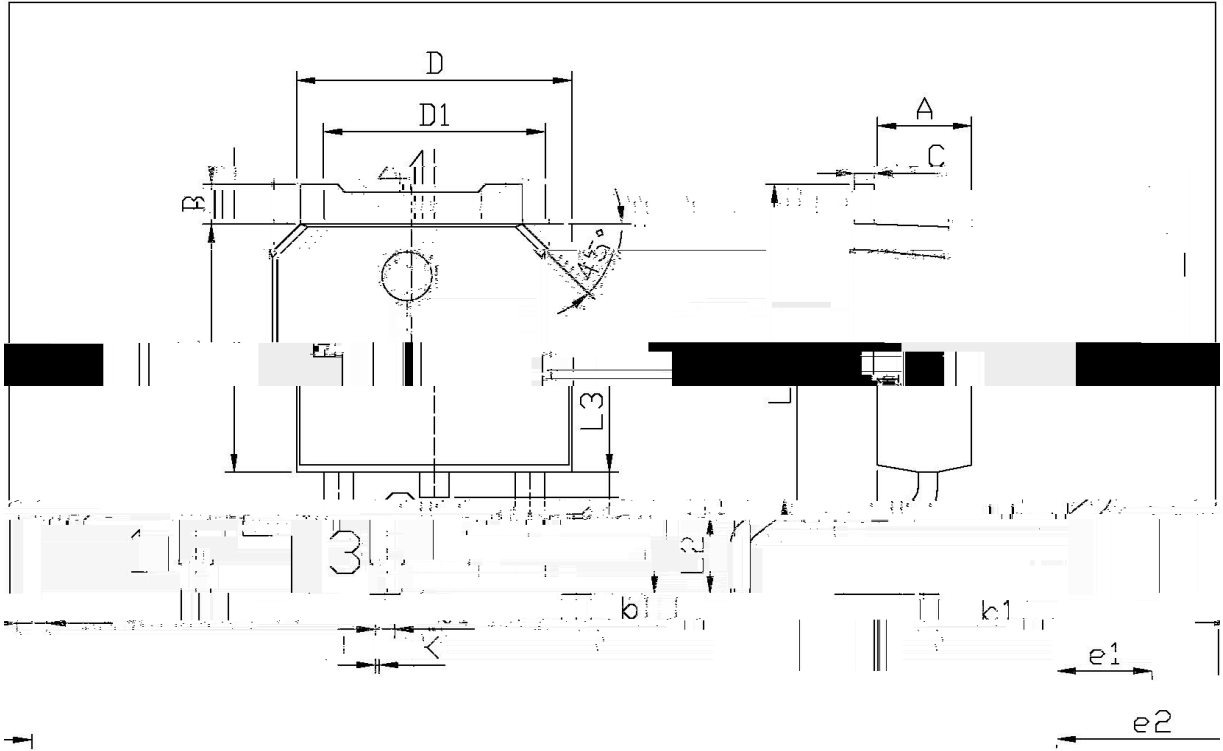
/ Electrical Characteristics(Ta=25)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|----------------------|--|------|------|------|------|
| Collector to Base Breakdown Voltage | V _{CB0} | I _C =-100μA I _E =0 | -40 | | | V |
| Collector to Emitter Breakdown Voltage | V _{CEO} | I _C =-1mA I _B =0 | -30 | | | V |
| Emitter to Base Breakdown Voltage | V _{EBO} | I _E =-10μA I _C =0 | -5.0 | | | V |
| Collector Cut-Off Current | I _{CB0} | V _{CB} =-30V I _E =0 | | | -1.0 | μA |
| Emitter Cut-Off Current | I _{EBO} | V _{EB} =-3.0V I _C =0 | | | -1.0 | μA |
| DC Current Gain | h _{FE(1)} | V _{CE} =-2.0V I _C =-1.0A | 60 | 160 | 400 | |
| | h _{FE(2)} | V _{CE} =-2.0V I _C =-20mA | 30 | 220 | | |
| Collector to Emitter Saturation Voltage | V _{CE(sat)} | I _C =-2.0A I _B =-0.2A | | -0.3 | -0.5 | V |
| Base to Emitter Saturation Voltage | V _{BE(sat)} | I _C =-2.0A I _B =-0.2A | | -1.0 | -2.0 | V |
| Transition Frequency | f _T | I _C =-1.0A V _{CE} =-5.0V | | 80 | | MHz |
| Collector output capacitance | C _{ob} | V _{CB} =-10V f=1.0MHz I _E =0 | | 55 | | pF |

/ Electrical Characteristic Curve



/ Package Dimensions



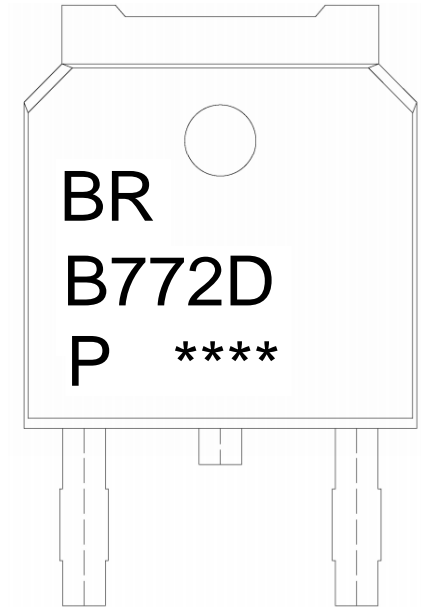
单位: mm

| Symbol | Dimensions In Millimeters | | Symbol | Dimensions In Millimeters | |
|--------|---------------------------|------|--------|---------------------------|-------|
| | Min | Max | | Min | Max |
| A | 2.20 | 2.40 | B | 0.95 | 1.25 |
| B | 0.95 | 1.25 | C | 0.70 | 0.90 |
| C | 0.70 | 0.90 | b1 | 0.45 | 0.55 |
| D | 6.45 | 6.75 | L1 | 1.20 | 1.30 |
| D1 | 5.50 | 5.60 | L2 | 0.60 | 0.90 |
| D2 | 5.50 | 5.60 | L3 | 0.15 | 0.55 |
| D3 | 0.60 | 0.90 | K | 9.85 | 10.35 |
| D4 | 0.60 | 0.90 | e1 | 3.40 | 3.70 |
| D5 | 0.60 | 0.90 | e2 | 3.40 | 3.70 |

252

TO-18

/ Marking Instructions



BR

B772D

P: h_{FE}

Note:

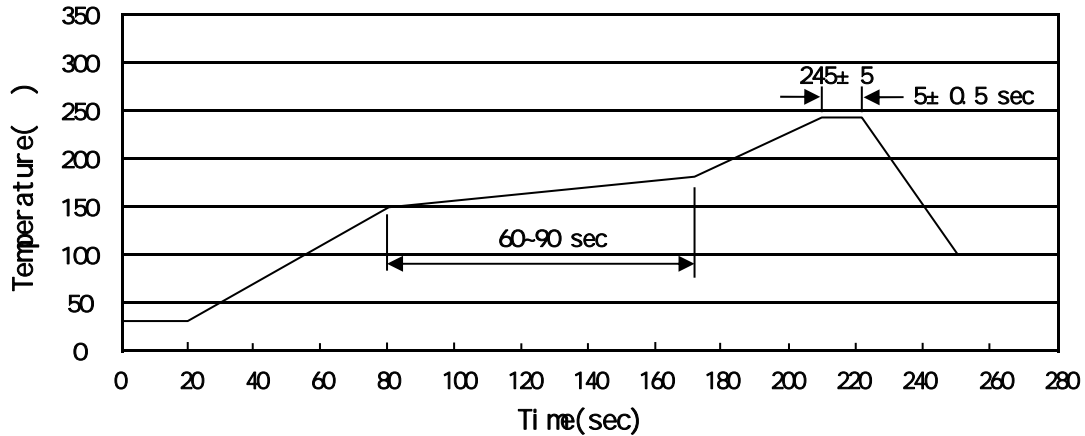
BR: Company Code

B772D: Product Type

P: h_{FE} Classifications Symbol

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-------|----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | | 5±0.5 | sec; | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units | | | | | Dimension (unit mm ³) | | |
|--------------|-------|---|-------|---|--------|-----------------------------------|-----|---------------------------|
| | | | | | | | | |
| TO-252 | 2,500 | 2 | 5,000 | 6 | 30,000 | 13 | ×16 | 360×360×50 380×335×366 |

/ TUBE

| Package Type | Units | | | | | Dimension (unit mm ³) | | |
|--------------|-------|----|-------|---|--------|-----------------------------------|------------|-------------|
| | | | | | | | | |
| TO-251/252 | 75 | 48 | 3,600 | 5 | 18,000 | 526×20.5×5.25 | 555×164×50 | 575×290×180 |

/ Notices