## / Descriptions

Silicon NPN transistor in a TO-220F Plastic Package.

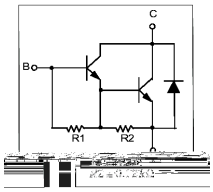
## / Features

Complement to TIP127F.

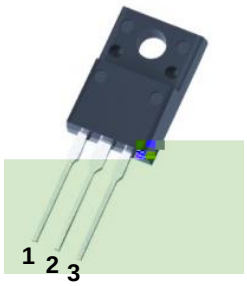
## / Applications

Medium power linear switching applications.

## / Equivalent Circuit




## / Pinning




PIN1 Base PIN 2 Collector PIN 3 Emitter

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

See Marking Instructions.

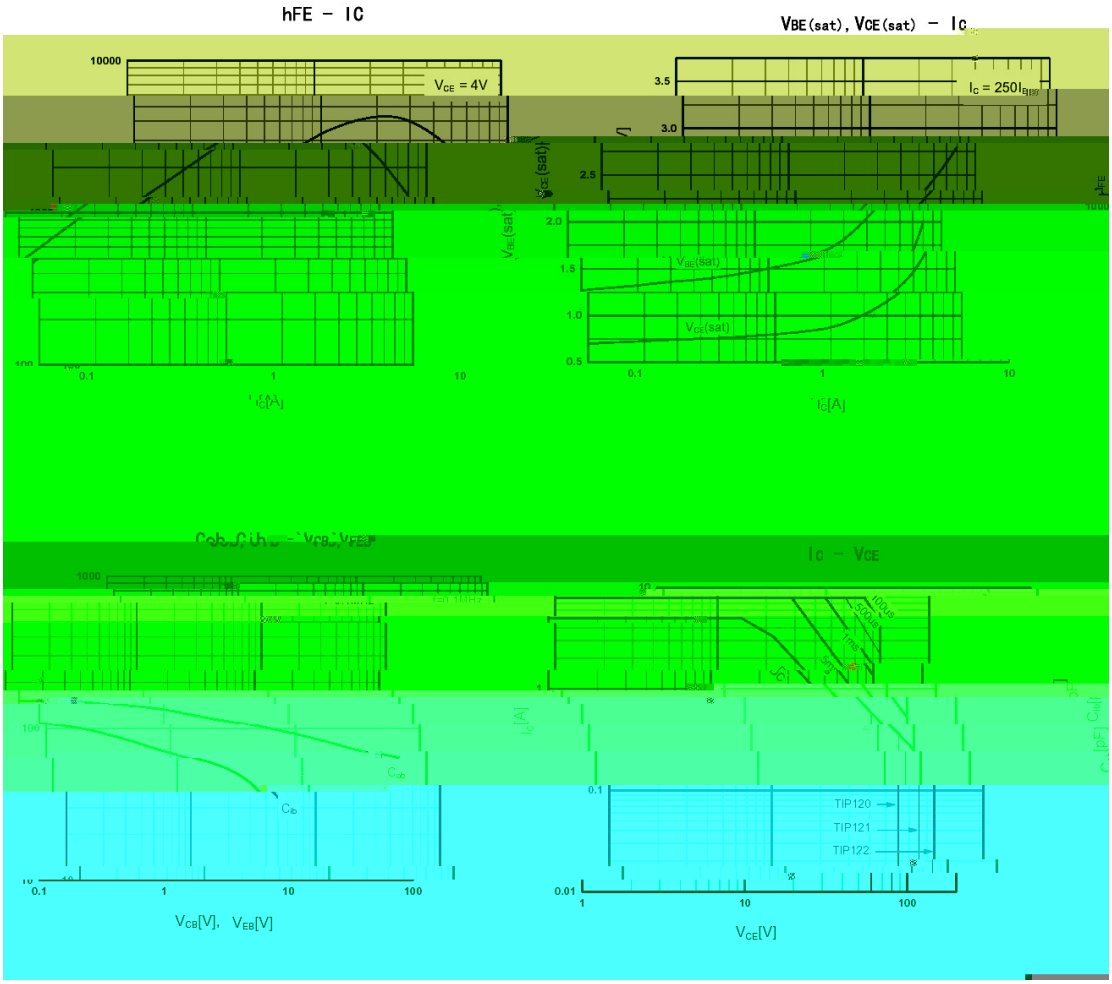
## / Absolute Maximum Ratings(Ta=25 )

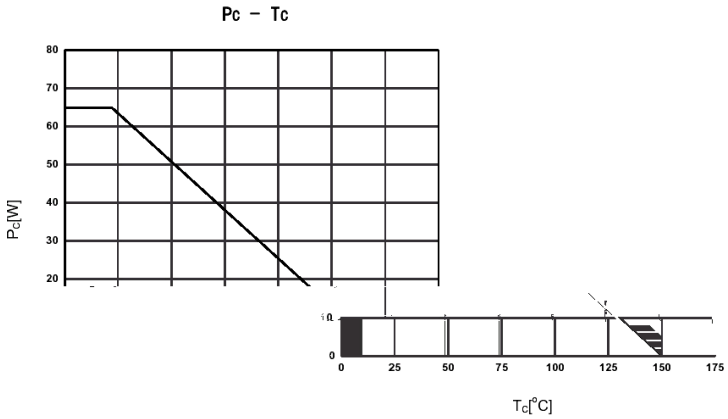
| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | 100 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | 100 | V |
| Emitter to Base Voltage | $V_{EBO}$ | 5.0 | V |
| Collector Current - Continuous | $I_C$ | 5.0 | A |
| Collector Current – Continuous(Pulse) | $I_{CP}$ | 8.0 | A |
| Base Current | $I_B$ | 120 | mA |
| Collector Power Dissipation | $P_C$ | 2.0 | W |
| | $P_C$(Tc=25 ) | 60 | W |
| Junction Temperature | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |

## / Electrical Characteristics(Ta=25 )

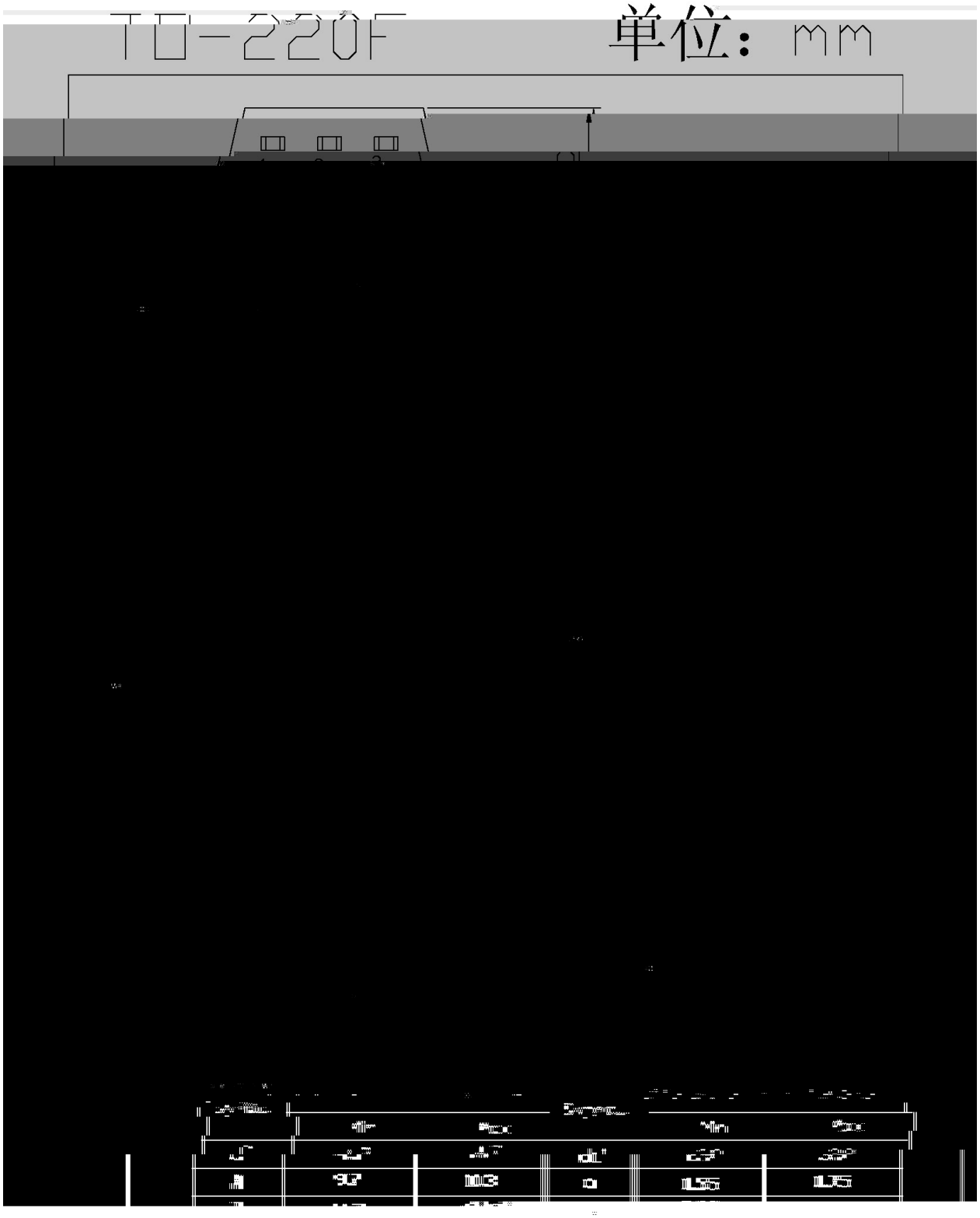
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector to Emitter Breakdown Voltage | $V_{CEO}$ | $I_C$=100mA $I_B$=0 | 100 | | | V |
| Collector Cut-Off Current | $I_{CEO}$ | $V_{CE}$=50V $I_B$=0 | | | 0.5 | mA |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=100V $I_E$=0 | | | 0.2 | mA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=5.0V $I_C$=0 | | | 2.0 | mA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=3.0V $I_C$=0.5A | 1000 | | | |
| | $h_{FE(2)}$ | $V_{CE}$=3.0V $I_C$=3.0A | 1000 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C$=3.0A $I_B$=12mA | | | 2.0 | V |
| | $V_{CE(sat)(2)}$ | $I_C$=5.0A $I_B$=20mA | | | 4.0 | V |
| Base to Emitter Voltage | $V_{BE}$ | $I_C$=3.0A $V_{CE}$=3.0V | | | 2.5 | V |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$=10V $I_E$=0 f=0.1MHz | | | 200 | pF |

## / Electrical Characteristic Curve

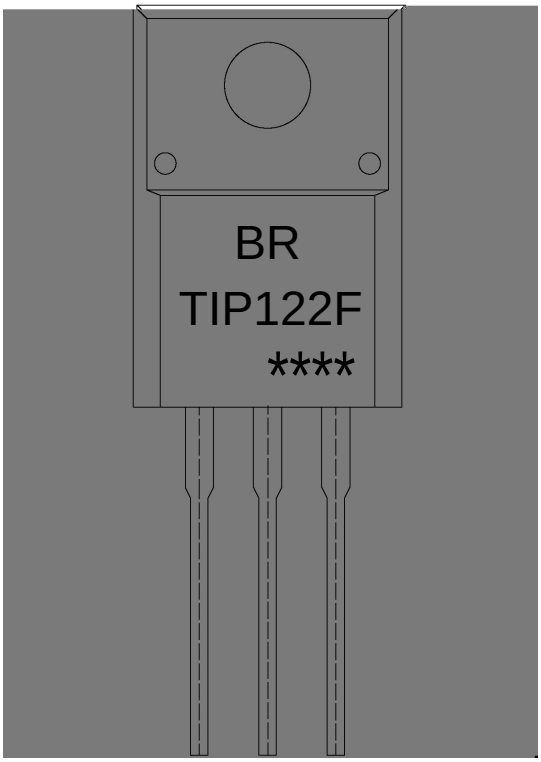


## / Package Dimensions



## / Marking Instructions




BR

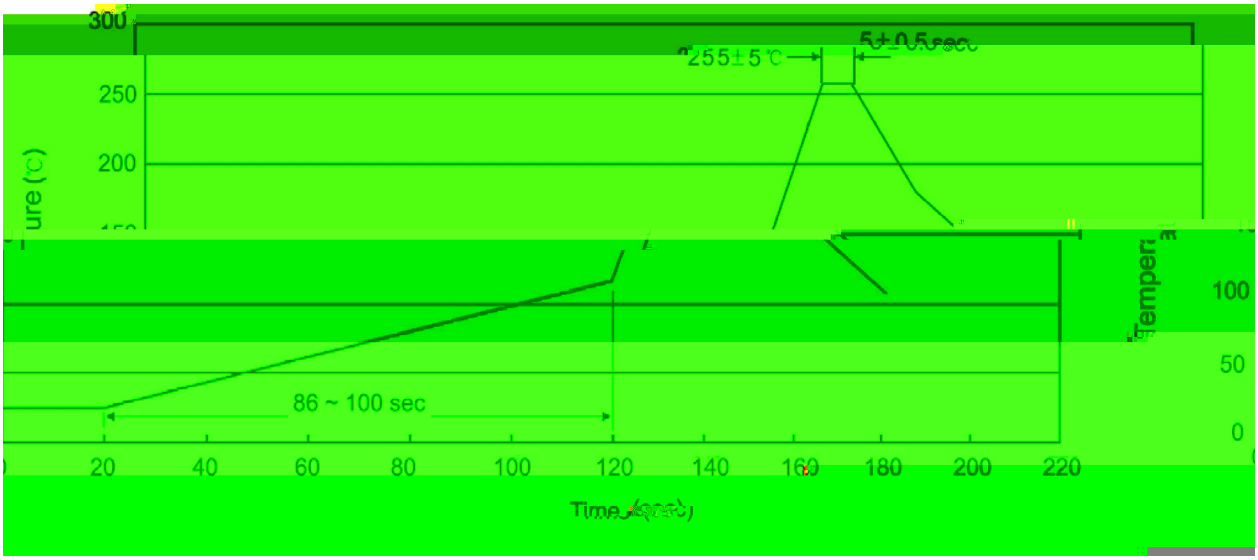
TIP122F

****

Note:

| | |
|---|---|
| BR: | Company Code. |
| TIP122F: | Product Type Code. |
| ****: | 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 , Time:60~90sec. | |
| 2 | 255 | 5 | 5 0.5sec; | 2.Peak Temp.:255 5 , Duration:5 0.5sec. | |
| 3 | | 2 10 /sec. | | 3. Cooling Speed: 2~10 /sec. | |

## / Resistance to Soldering Heat Test Conditions

| | | | | |
|---|---|---|---|---|
| 270 5 | 10 1 sec. | Temp:270±5 | Time:10±1 sec | |

## / Packaging SPEC.

### / BULK

| Package Type | Units | | | | | Dimension | | (unit mm3) |
|---|---|---|---|---|---|---|---|---|
| | Units/Bag / | Bags/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Bag | Inner Box | Outer Box |
| TO-220F | 200 | 10 | 2,000 | 5 | 10,000 | 135×190 | 237×172×102 | 560×245×195 |

### / TUBE

| Package Type | Units | | | | | Dimension | | (unit mm3) |
|---|---|---|---|---|---|---|---|---|
| | Units/Tube / | Tubes/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Tube | Inner Box | Outer Box |
| TO-220F | 50 | 20 | 1,000 | 5 | 5,000 | 532×31.4×5.5 | 5ref1 24.9 | |