

## / Descriptions

TO-92(R)      NPN      Silicon NPN transistor in a TO-92(R) Plastic Package.

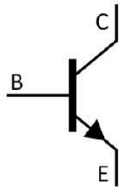
## / Features

, BC328  
 High current, complementary pair with BC328.

## / Applications

General purpose and switching.

## / Equivalent Circuit



## / Pinning



PIN1   Emitter      PIN 2   Base      PIN 3   Collector

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

|                                    |         |         |         |
|------------------------------------|---------|---------|---------|
| $h_{FE}$ Classifications<br>Symbol | 16      | 25      | 40      |
| $h_{FE}$ Range                     | 100~250 | 160~400 | 250~600 |

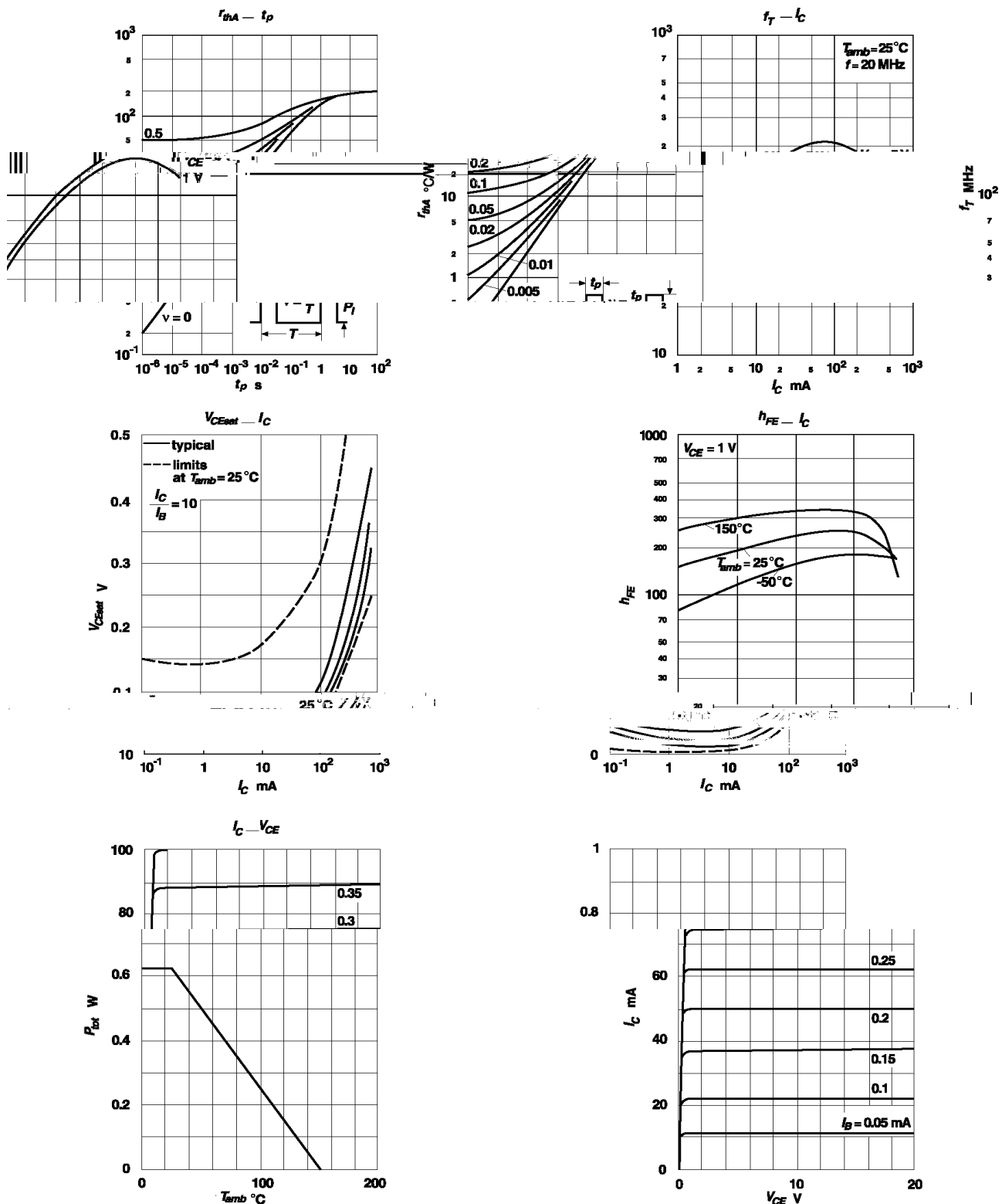
### / Absolute Maximum Ratings(Ta=25 )

| Parameter                      | Symbol    | Rating  | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$ | 30      | V    |
| Collector to Emitter Voltage   | $V_{CEO}$ | 25      | V    |
| Emitter to Base Voltage        | $V_{EBO}$ | 5.0     | V    |
| Collector Current - Continuous | $I_C$     | 800     | mA   |
| Emitter Current - Continuous   | $I_E$     | -800    | mA   |
| Collector Power Dissipation    | $P_C$     | 625     | mW   |
| Junction Temperature           | $T_j$     | 150     |      |
| Storage Temperature Range      | $T_{stg}$ | -55~150 |      |

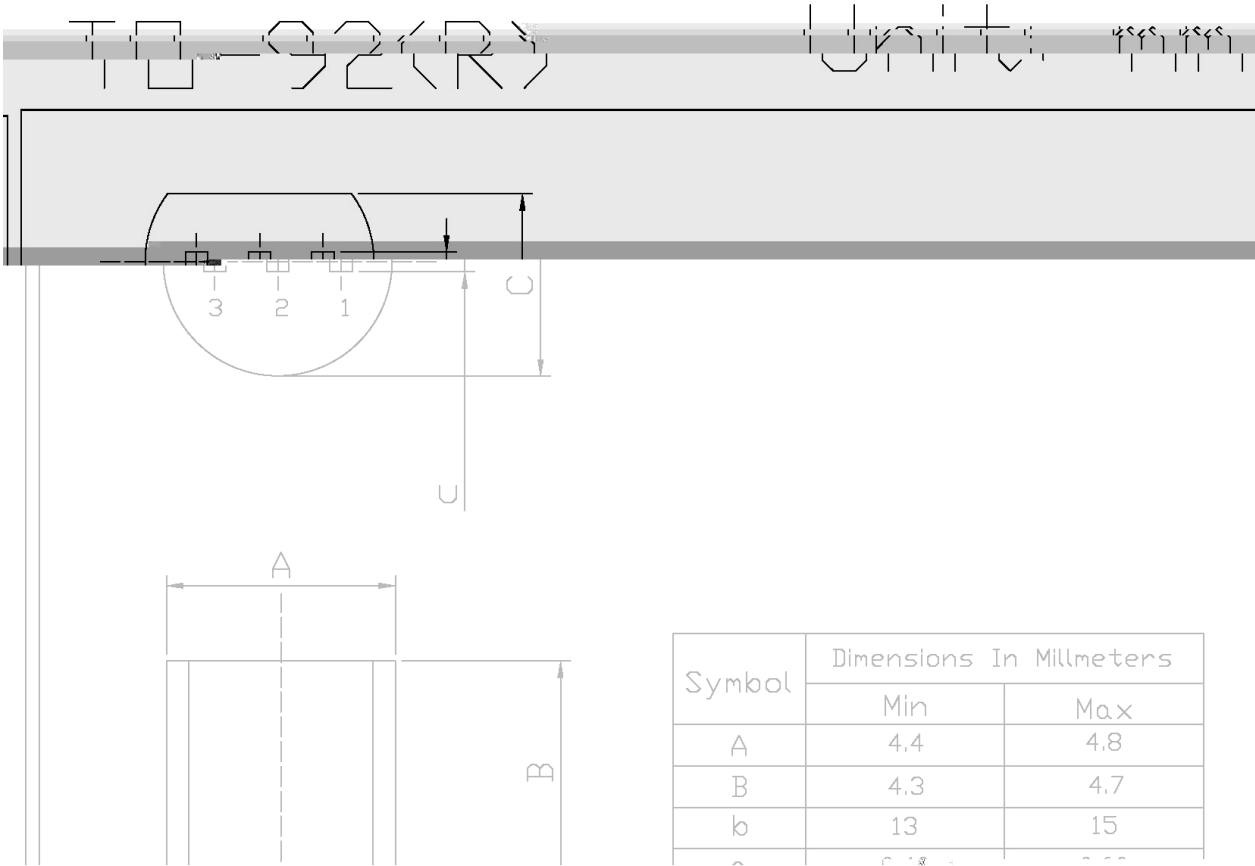
### / Electrical Characteristics(Ta=25 )

| Parameter                               | Symbol        | Test Conditions                        | Min | Typ | Max | Unit    |
|-----------------------------------------|---------------|----------------------------------------|-----|-----|-----|---------|
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=25V$ $I_E=0$                   |     |     | 0.1 | $\mu A$ |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=1.0V$ $I_C=100mA$              | 100 |     | 600 |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=500mA$ $I_B=50mA$                 |     |     | 0.7 | V       |
| Base to Emitter On Voltage              | $V_{BE(ON)}$  | $V_{CE}=1.0V$ $I_C=300mA$              |     |     | 1.2 | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=5.0V$ $I_C=10mA$<br>$f=100MHz$ |     | 100 |     | MHz     |
| Collector output capacitance            | $C_c$         | $V_{CB}=10V$ $f=1.0MHz$                |     | 12  |     | pF      |

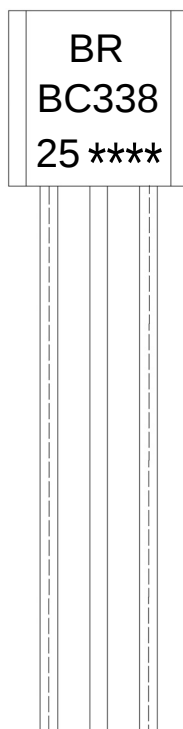
## / Electrical Characteristic Curve



/ Package Dimensions



**/ Marking Instructions**



BR

BC338

25:  $h_{FE}$

\*\*\*\*

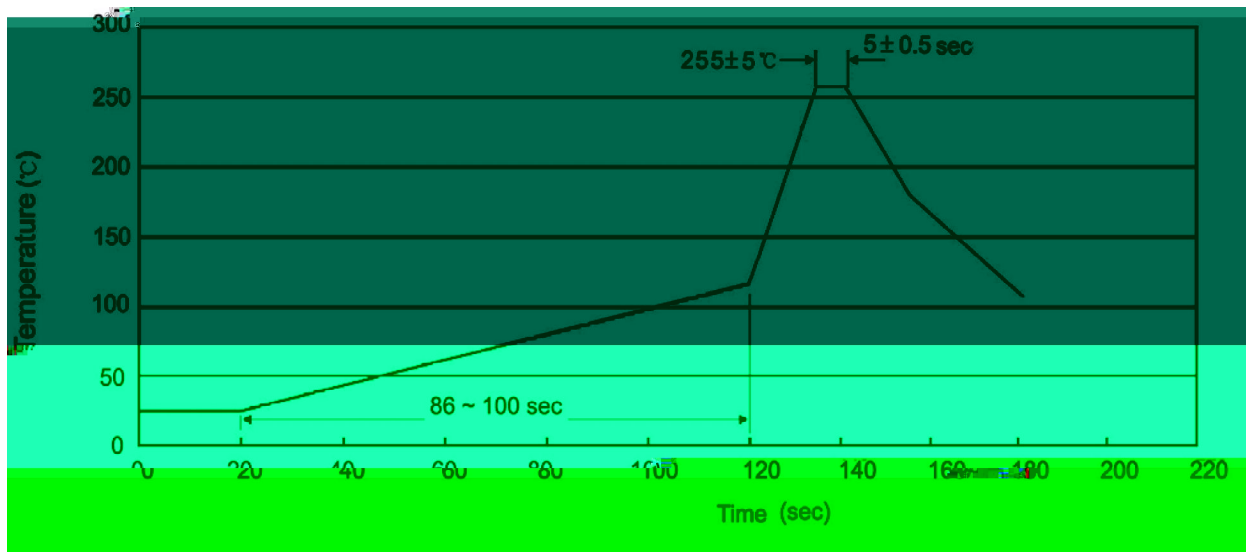
Note:

BR: Company Code.

BC338: Product Type.

25:  $h_{FE}$  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 , 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<br>/ | Bags/Inner Box<br>/ | Units/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Bag                  | Inner Box   | Outer Box   |
| TO-92        | 1,000          | 10                  | 10,000               | 5                          | 50,000               | 135×190              | 237×172×102 | 560×245×195 |
|              | 1,000          | 10                  | 10,000               | 10                         | 100,000              | 135×190              | 237×172×102 | 560×245×375 |

**/ AMMO**

| Package Type | Units           |                     |                     |                            |                      | Dimension (unit mm3) |                            |
|--------------|-----------------|---------------------|---------------------|----------------------------|----------------------|----------------------|----------------------------|
|              | Units/tape<br>/ | Tape/Inner Box<br>/ | Rows/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Inner Box            | Outer Box                  |
| TO-92        | 3,000           | 1                   | 120                 | 10                         | 30,000               | 328×230×42           | 480×346×235<br>547×407×268 |

**/ Notices**