

## / Descriptions

Silicon NPN transistor in a TO-92 Plastic Package.

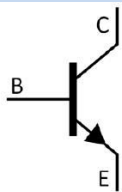
## / Features

Complement to KSA642,  $P_C=400\text{mW}$ .

## / Applications

Low frequency power amplifier.

## / Equivalent Circuit



## / Pinning



PIN1 Collector      PIN 2 Base      PIN 3 Emitter

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

| $h_{FE}$ Classifications<br>Symbol | O      | Y       | G       |
|------------------------------------|--------|---------|---------|
| $h_{FE}$ Range                     | 70~140 | 120~240 | 200~400 |

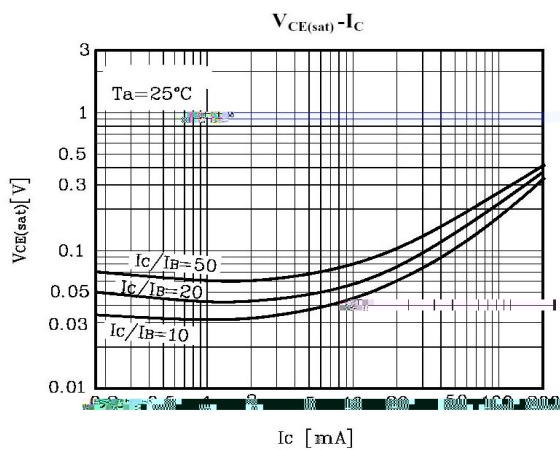
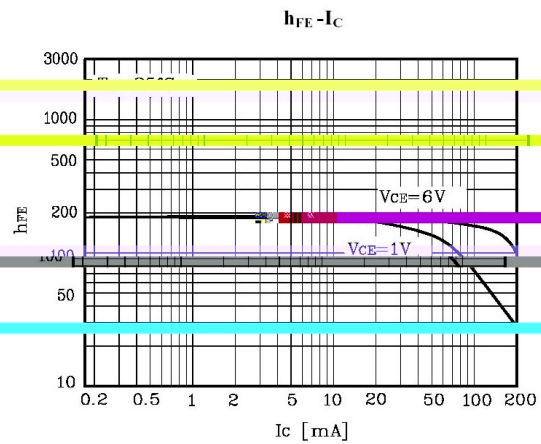
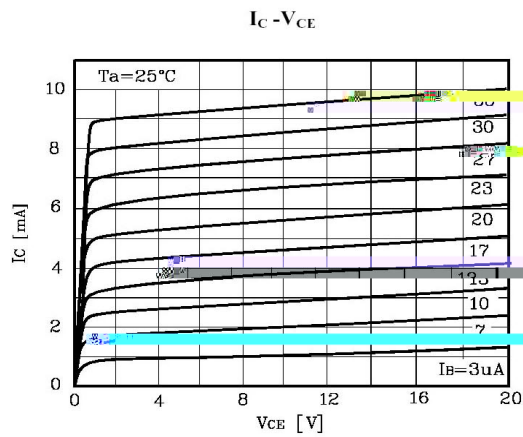
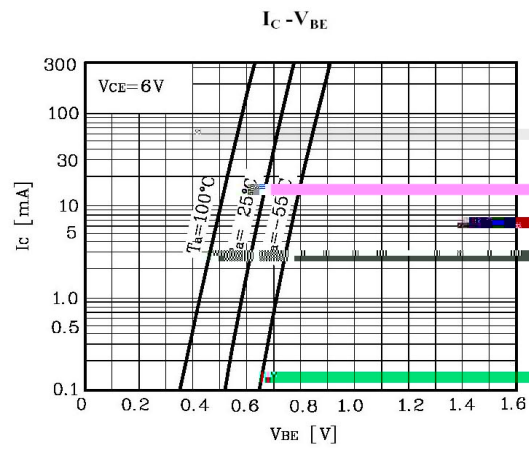
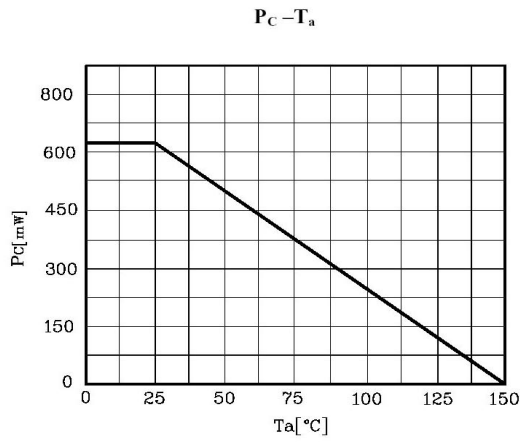
**/ Absolute Maximum Ratings(Ta=25 )**

| 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 | $I_C$     | 300     | mA   |
| Collector Power Dissipation    | $P_C$     | 400     | 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 to Base Breakdown Voltage    | $V_{CBO}$     | $I_C=100\text{ A}$ $I_E=0$             | 30  |      |     | V    |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$     | $I_C=10\text{mA}$ $I_B=0$              | 25  |      |     | V    |
| Emitter to Base Breakdown Voltage      | $V_{EBO}$     | $I_E=-10\text{ A}$ $I_C=0$             | 5.0 |      |     | V    |
| Collector Cut-Off Current              | $I_{CBO}$     | $V_{CB}=25\text{V}$ $I_E=0$            |     |      | 0.1 | A    |
| Emitter Cut-Off Current                | $I_{EBO}$     | $V_{EB}=3.0\text{V}$ $I_C=0$           |     |      | 0.1 | A    |
| DC Current Gain                        | $h_{FE}$      | $V_{CE}=1.0\text{V}$ $I_C=50\text{mA}$ | 70  |      | 400 |      |
| Collector-Emitter Saturation Voltage   | $V_{CE(sat)}$ | $I_C=300\text{mA}$ $I_B=30\text{mA}$   |     | 0.14 | 0.4 | V    |

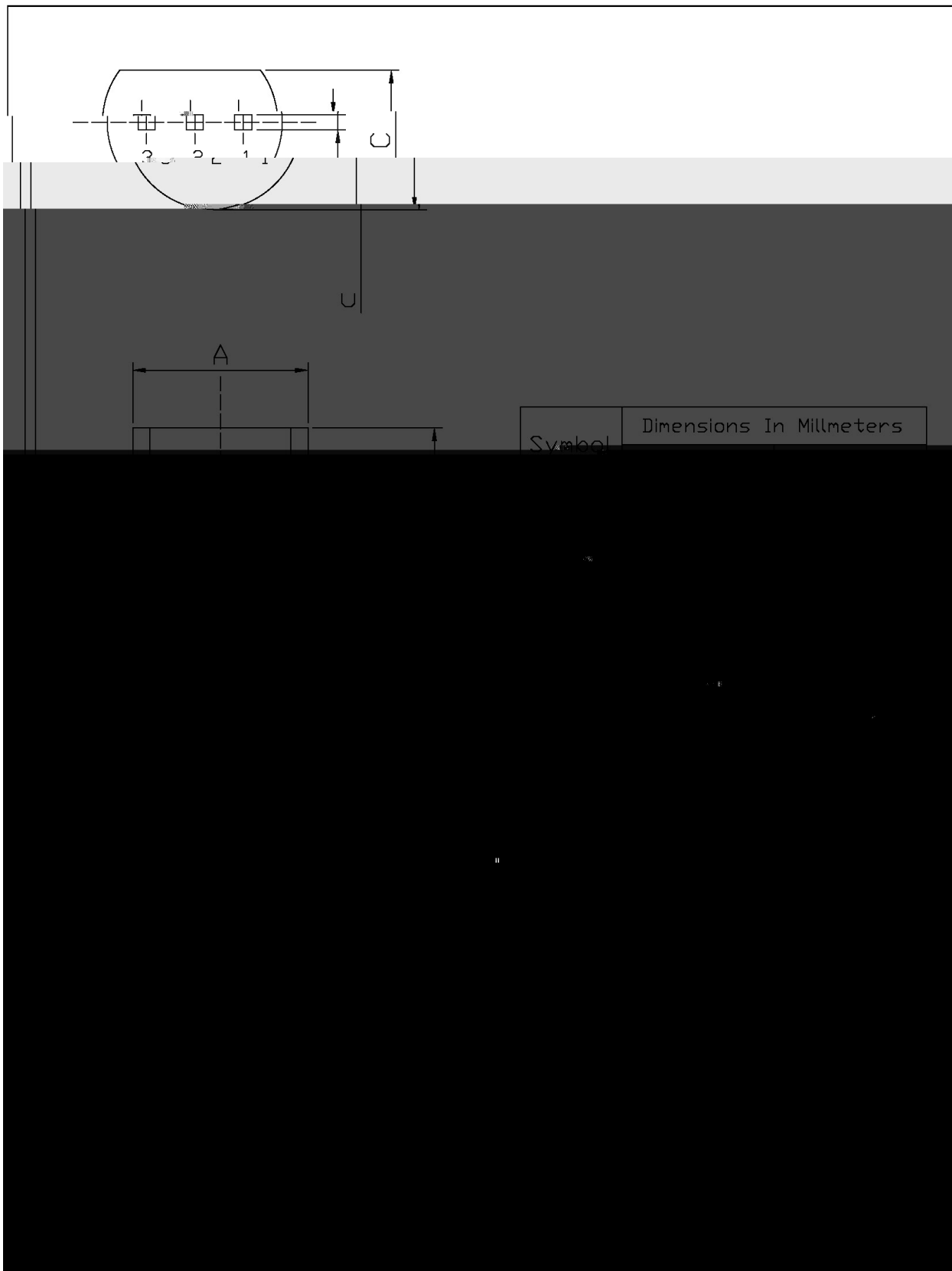
/ Electrical Characteristic Curve



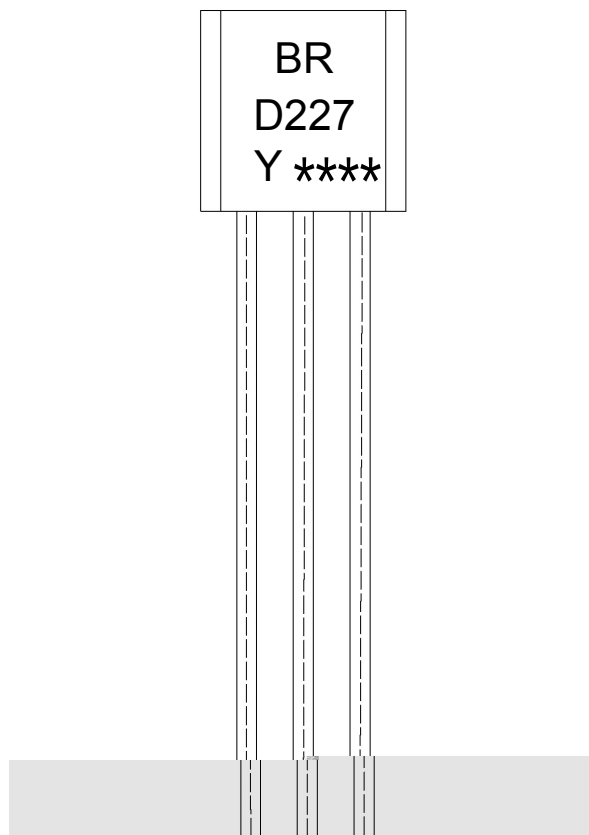
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



Note:

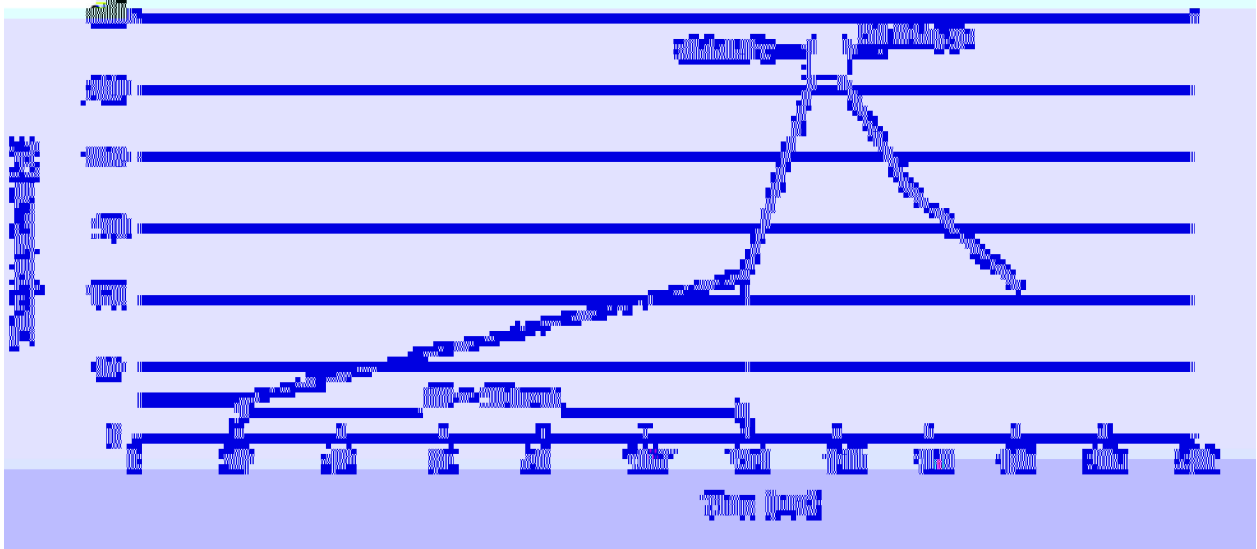
BR: Company Code.

D227: Product Type.

Y:  $h_{FE}$  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 / | Bags/Inner Box / | Units/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | 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 / | Tape/Inner Box / | Rows/Inner Box / | Inner Boxes/Outer Box / | Units/Outer Box / | Inner Box            | Outer Box                  |
| TO-92        | 3,000        | 1                | 120              | 10                      | 30,000            | 328×230×42           | 480×346×235<br>547×407×268 |

/ Notices