

### / Descriptions

TO-92          NPN          Silicon NPN transistor in a TO-92 Plastic Package.

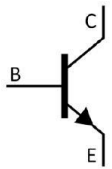
### / Features

$P_C$ ,  $I_C$   
High  $P_C$  and  $I_C$ .

### / Applications

2W  
2W output amplifier of portable radios in class B push-pull operation.

### / Equivalent Circuit



### / Pinning



PIN1    Collector          PIN 2    Base          PIN 3    Emitter

### / hFE Classifications & Marking

See Marking Instructions.

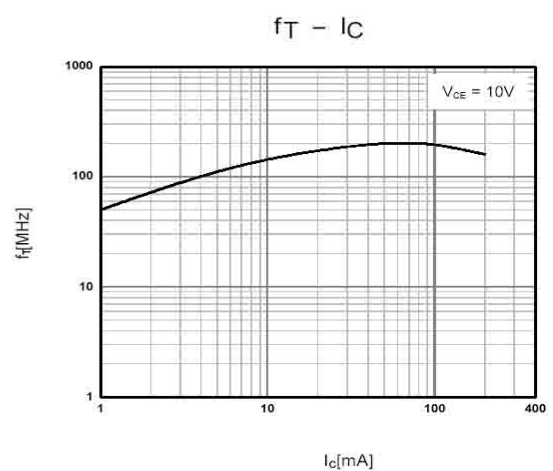
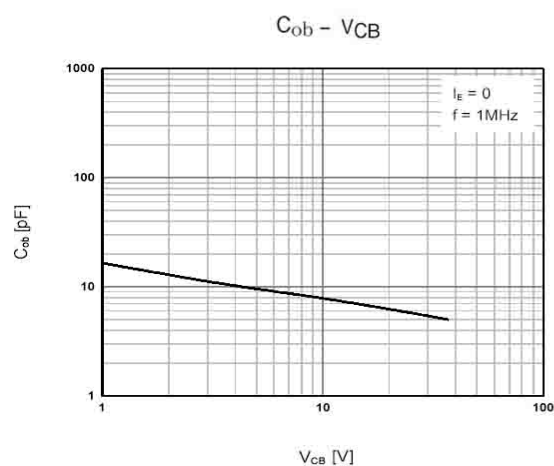
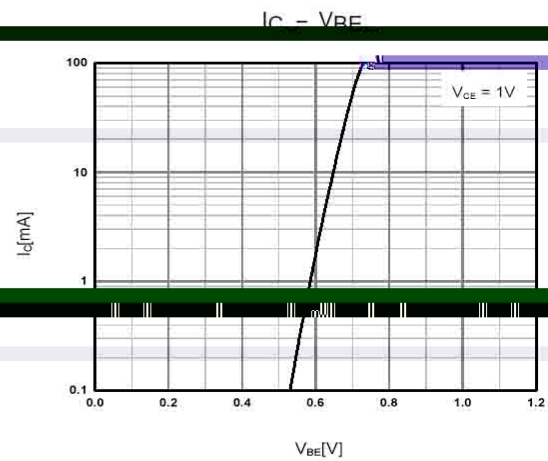
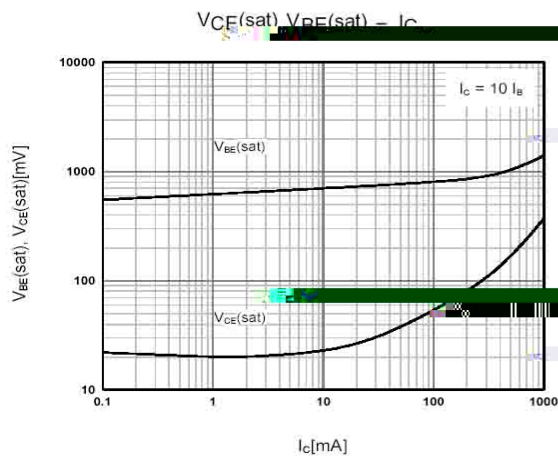
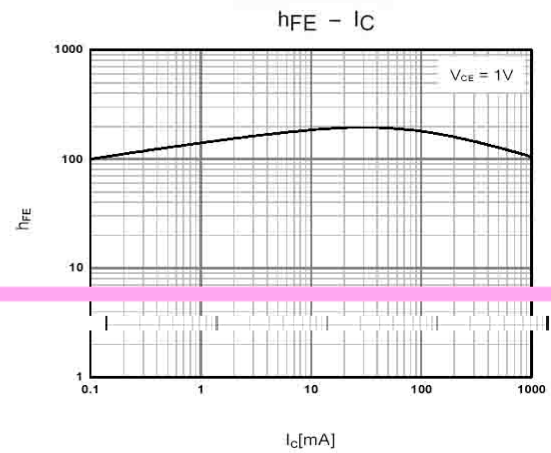
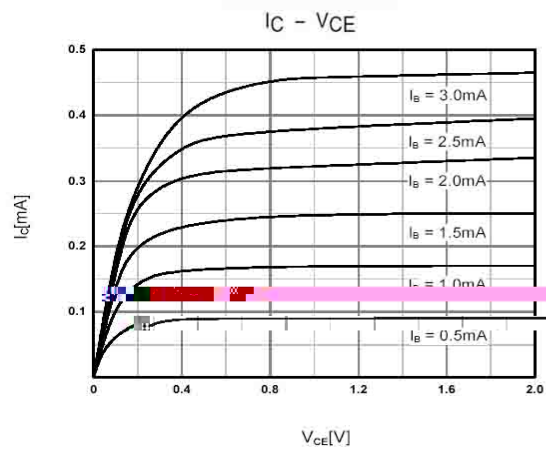
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                      | Symbol    | Rating  | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$ | 40      | V    |
| Collector to Emitter Voltage   | $V_{CEO}$ | 25      | V    |
| Emitter to Base Voltage        | $V_{EBO}$ | 6.0     | V    |
| Collector Current - Continuous | $I_C$     | 1.5     | A    |
| Base Current - Continuous      | $I_B$     | 500     | mA   |
| Collector Power Dissipation    | $P_C$     | 1.0     | 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     | $V_{CBO}$     | $I_C=0.1mA$ $I_E=0$             | 40  |      |     | V       |
| Collector to Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C=2.0mA$ $I_B=0$             | 25  |      |     | V       |
| Emitter to Base Breakdown Voltage       | $V_{EBO}$     | $I_E=0.1mA$ $I_C=0$             | 6.0 |      |     | V       |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=35V$ $I_E=0$            |     |      | 0.1 | $\mu A$ |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=6.0V$ $I_C=0$           |     |      | 0.1 | $\mu A$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=1.0V$ $I_C=100mA$       | 200 |      | 350 |         |
|                                         | $h_{FE(2)}$   | $V_{CE}=1.0V$ $I_C=800mA$       | 40  |      |     |         |
|                                         | $h_{FE(3)}$   | $V_{CE}=1.0V$ $I_C=5.0mA$       | 45  |      |     |         |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=800mA$ $I_B=80mA$          |     | 0.28 | 0.5 | V       |
| Base-to-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=800mA$ $I_B=80mA$          |     | 0.98 | 1.2 | V       |
| Base-to-Emitter Voltage                 | $V_{BE}$      | $V_{CE}=1.0V$ $I_C=10mA$        |     | 0.66 | 1.0 | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=10V$ $I_C=50mA$         | 100 | 190  |     | MHz     |
| Output Capacitance                      | $C_{ob}$      | $V_{CB}=10V$ $f=1.0MHz$ $I_E=0$ |     | 9.0  |     | pF      |

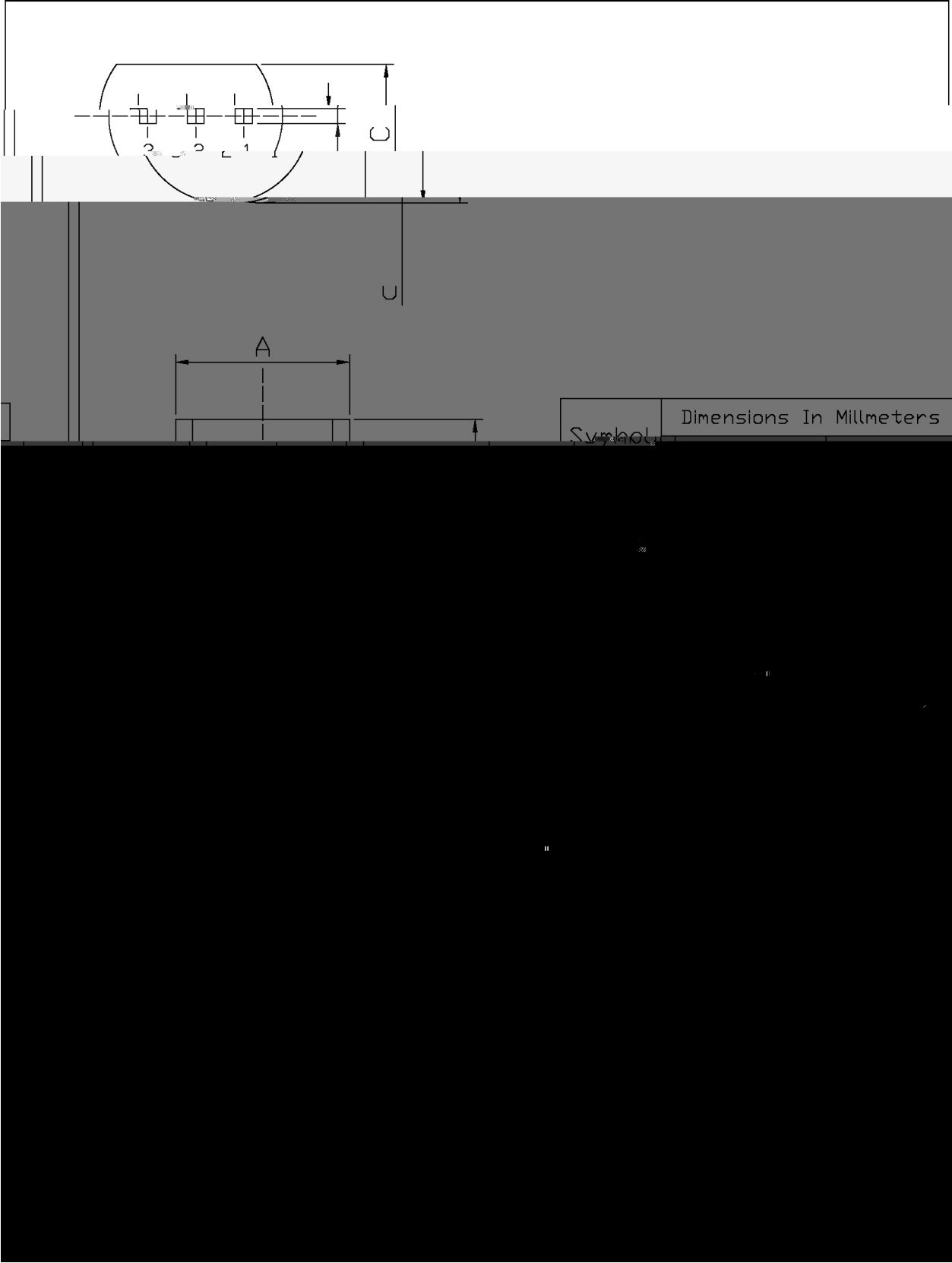
**/ Electrical Characteristic Curve**



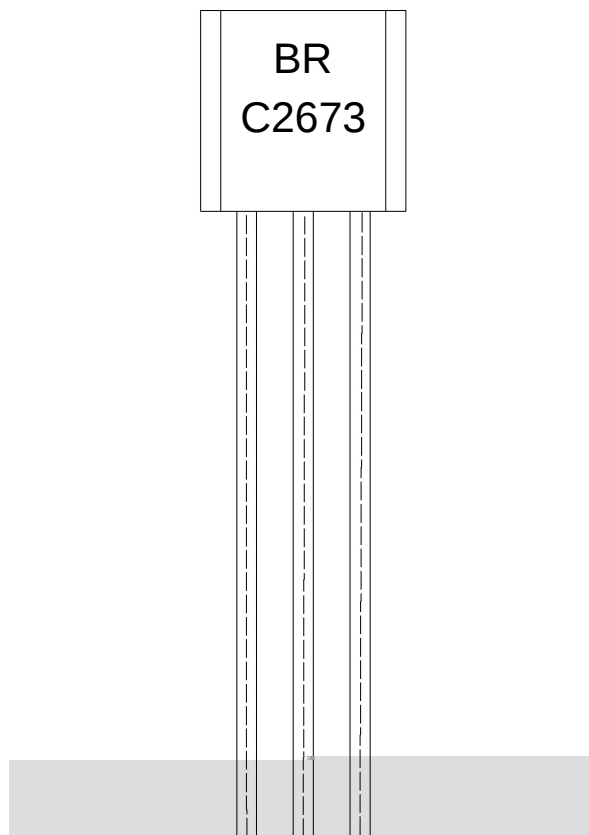
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



BR:

C2673

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Note:

BR: Company Code.

C2673: Product Type.

\*\*\*\*: 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) |
|--------------|-------|--|--|--|--|-----------|--|------------|
|              |       |  |  |  |  |           |  |            |
|              |       |  |  |  |  |           |  |            |
|              |       |  |  |  |  |           |  |            |

/ AMMO

| Package Type | Units |  |  |  |  | Dimension |  | (unit mm3) |
|--------------|-------|--|--|--|--|-----------|--|------------|
|              |       |  |  |  |  |           |  |            |
|              |       |  |  |  |  |           |  |            |
|              |       |  |  |  |  |           |  |            |

/ Notices