

## / Descriptions

|       |     |                                                    |
|-------|-----|----------------------------------------------------|
| TO-92 | PNP | Silicon PNP transistor in a TO-92 Plastic Package. |
|-------|-----|----------------------------------------------------|

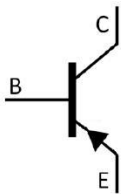
## / Features

High breakdown voltage, good  $h_{FE}$  linearity, complementary to 2SC3478.

## / Applications

General purpose amplifier applications requiring high breakdown voltages.

### / Equivalent Circuit



## / Pinning



| PIN1 | Base | PIN 2 | Collector | PIN 3 | Emitter |
|------|------|-------|-----------|-------|---------|
|------|------|-------|-----------|-------|---------|

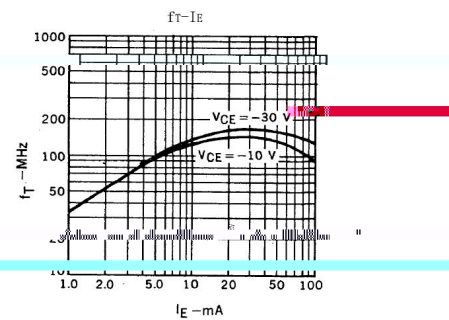
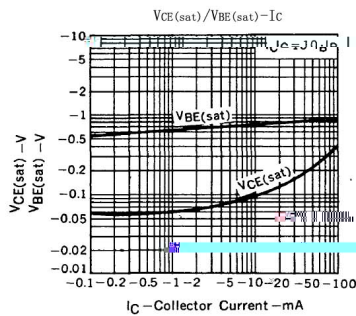
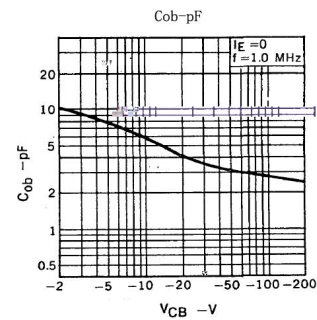
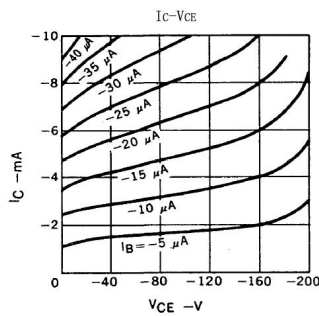
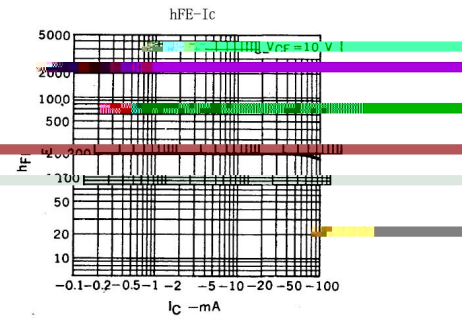
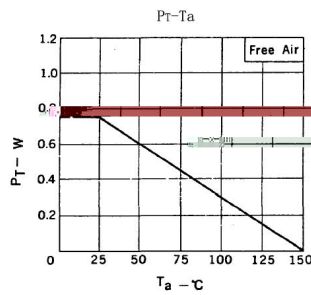
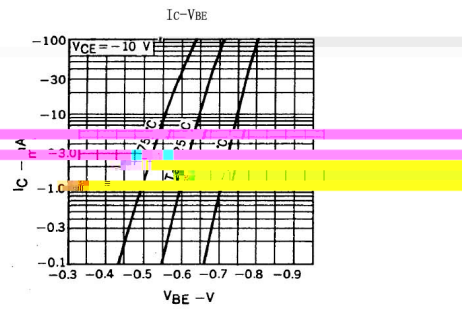
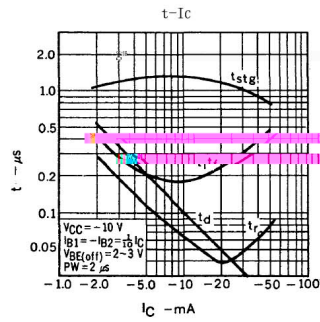
## / hFE Classifications & Marking

| h <sub>FE</sub> Classifications<br>Symbol | L       | K       | U       |
|-------------------------------------------|---------|---------|---------|
| h <sub>FE</sub> Range                     | 135~270 | 200~400 | 300~600 |

| Parameter                             | Symbol    | Rating  | Unit |
|---------------------------------------|-----------|---------|------|
| Collector to Base Voltage             | $V_{CBO}$ | -200    | V    |
| Collector to Emitter Voltage          | $V_{CEO}$ | -180    | V    |
| Emitter to Base Voltage               | $V_{EBO}$ | -5.0    | V    |
| Collector Current - Continuous        | $I_C$     | -100    | mA   |
| Collector Current – Continuous(Pulse) | $I_{CP}$  | -200    | mA   |
| Base Current - Continuous             | $I_B$     | -20     | mA   |
| Collector Power Dissipation           | $P_C$     | 750     | mW   |
| Junction Temperature                  | $T_j$     | 150     | °C   |
| Storage Temperature Range             | $T_{stg}$ | -55~150 | °C   |

| Parameter                               | Symbol        | Test Conditions                     | Min  | Typ  | Max  | Unit |
|-----------------------------------------|---------------|-------------------------------------|------|------|------|------|
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=-200V$ $I_E=0$              |      |      | -100 | nA   |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=-4.0V$ $I_C=0$              |      |      | -100 | nA   |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=-10V$ $I_C=-10mA$           | 135  |      | 600  |      |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-50mA$ $I_B=-5.0mA$            |      | -0.2 | -0.3 | V    |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=-50mA$ $I_B=-5.0mA$            |      | -0.8 | -1.2 | V    |
| Base to Emitter Voltage                 | $V_{BE}$      | $V_{CE}=-10V$ $I_C=-10mA$           | -600 | -650 | -700 | mV   |
| Transition Frequency                    | $f_T$         | $V_{CE}=-10V$ $I_E=10mA$            | 80   | 120  |      | MHz  |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CB}=-30V$ $I_F=0$<br>$f=1.0MHz$ |      | 3.5  | 4.0  | pF   |

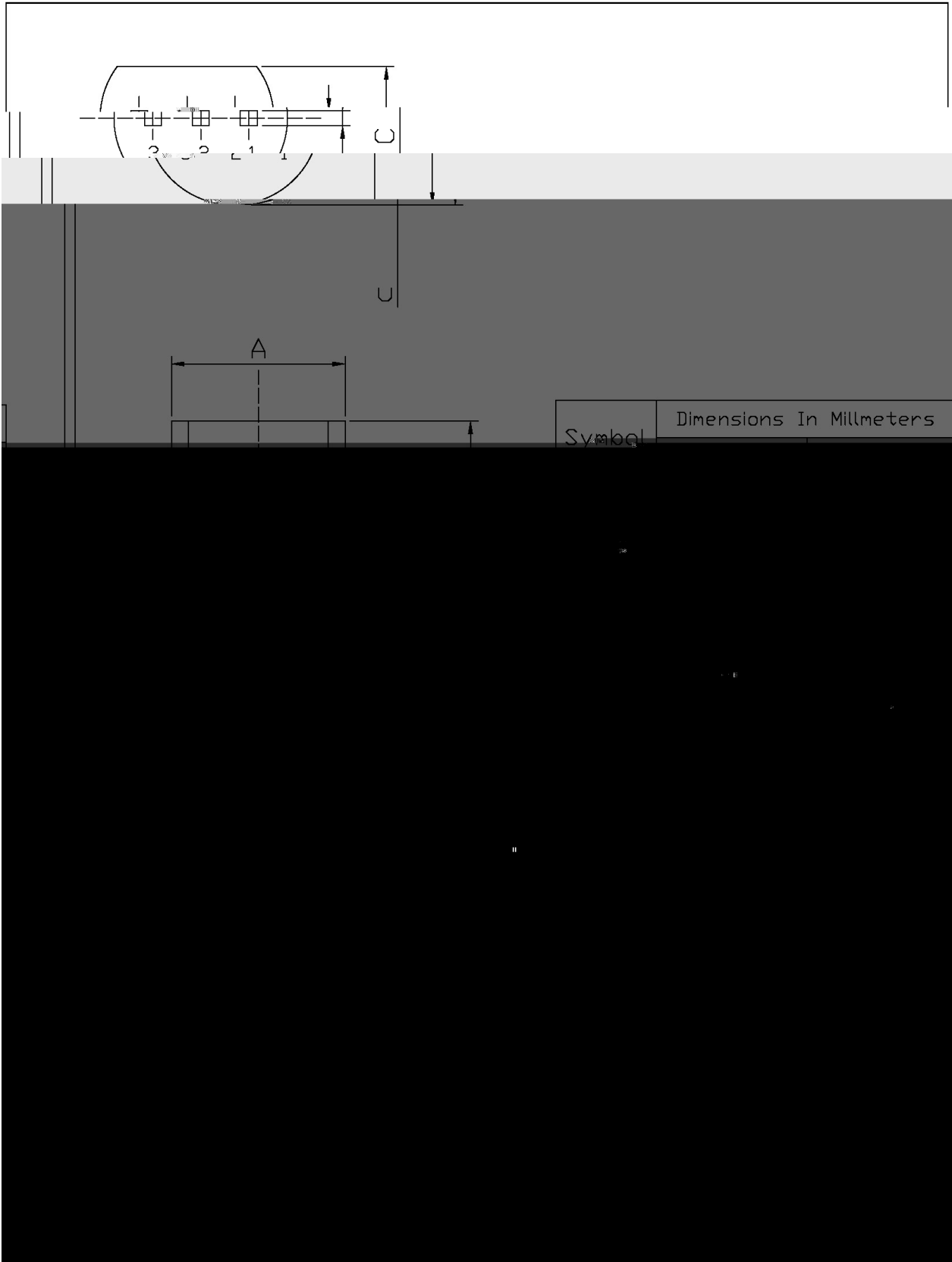
/ Electrical Characteristic Curve



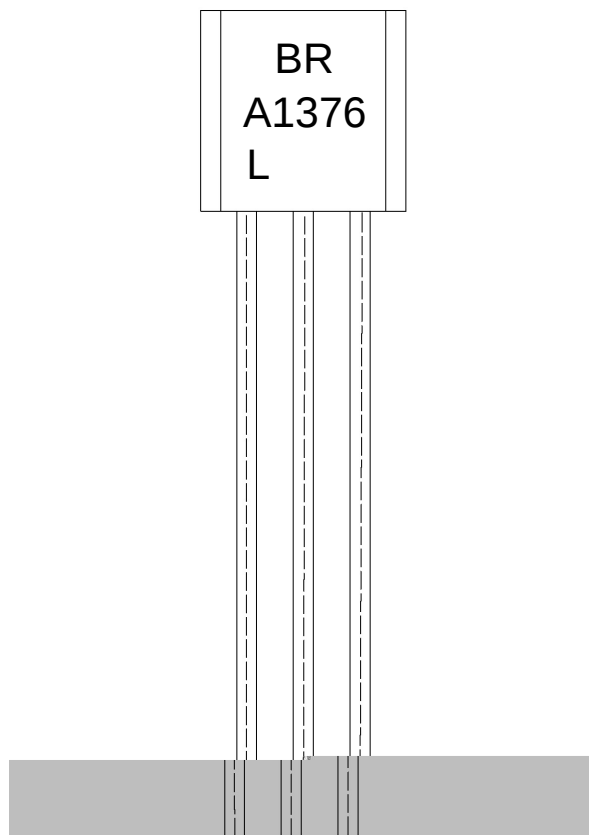
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



BR:

A1376

L:  $h_{FE}$

\*\*\*\*

Note:

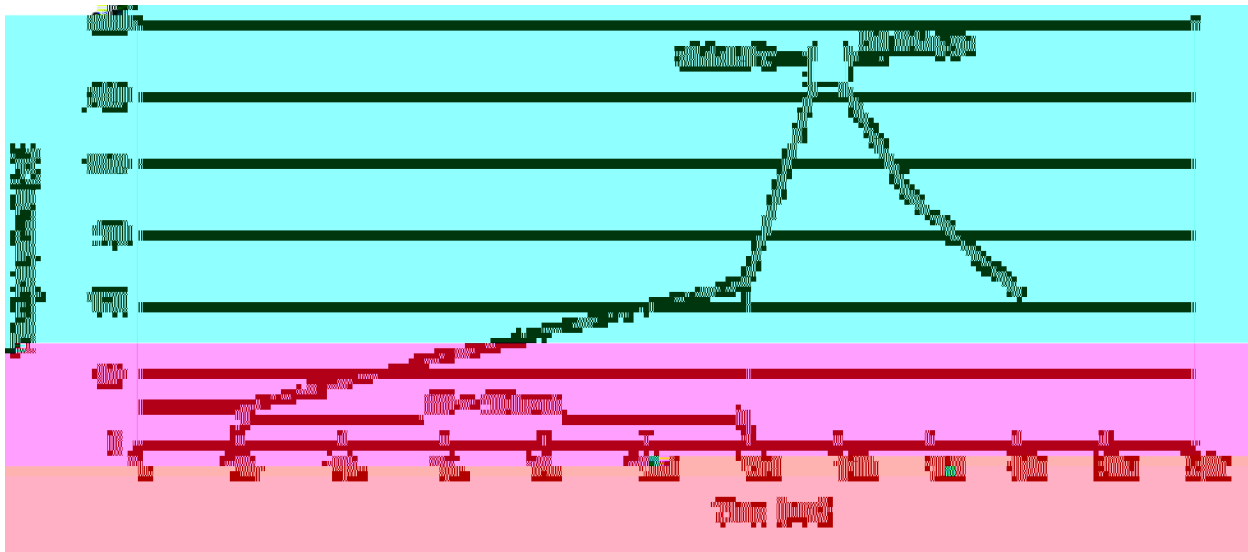
BR: Company Code.

A1376: Product Type.

L:  $h_{FE}$  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<br>封装形式 | Units 包装数量 |    |    |    |    | Dimension 包装尺寸 (unit: mm3) |   |   |
|----------------------|------------|----|----|----|----|----------------------------|---|---|
|                      | 只袋         | 袋盒 | 只盒 | 盒箱 | 只箱 | 袋                          | 盒 | 箱 |
|                      |            |    |    |    |    |                            |   |   |

/ AMMO

| Package Type<br>封装形式 | Units 包装数量 |     |      |    |    | Dimension 包装尺寸 (unit: mm3) |            |
|----------------------|------------|-----|------|----|----|----------------------------|------------|
|                      | 只纸带        | 纸带盒 | 纸带层盒 | 盒箱 | 只箱 | 盒                          | 箱          |
|                      |            |     |      |    |    |                            | 小箱 ,<br>大箱 |

/ Notices