

## / Descriptions

SOT-23                      NPN                      Silicon NPN transistor in a SOT-23 Plastic Package.

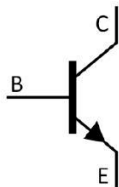
## / Features

                    ,    KTA1505  
Excellent hFE linearity, complementary pair with KTA1505.

## / Applications

General amplifier and switching application.

## / Equivalent Circuit



## / Pinning



PIN 1    Base                      PIN 2 : Emitter                      PIN 3    Collector

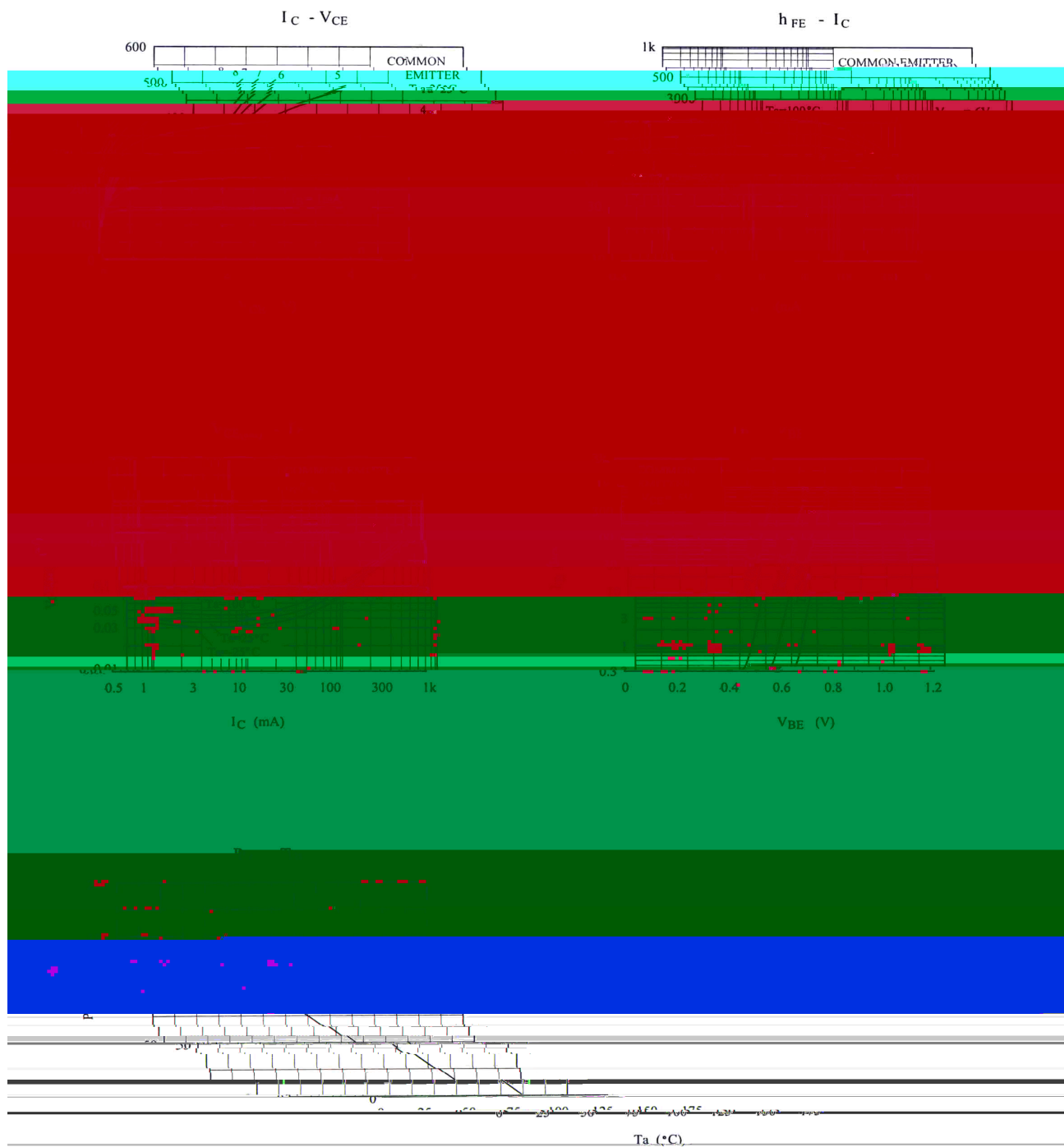
## / h<sub>FE</sub> Classifications & Marking

| h <sub>FE</sub> Classifications<br>Symbol | O         | Y          | GR         |
|-------------------------------------------|-----------|------------|------------|
| h <sub>FE</sub> Range                     | 70    140 | 120    240 | 200    400 |
| Marking                                   | HWO       | HWY        | HWG        |

| Parameter                    | Symbol    | Rating  | Unit |
|------------------------------|-----------|---------|------|
| Collector to Base Voltage    | $V_{CBO}$ | 35      | V    |
| Collector to Emitter Voltage | $V_{CEO}$ | 30      | V    |
| Emitter to Base Voltage      | $V_{EBO}$ | 5.0     | V    |
| Collector Current            | $I_C$     | 500     | mA   |
| Base Current                 | $I_B$     | 50      | mA   |
| Collector Power Dissipation  | $P_C$     | 150     | mW   |
| Junction Temperature         | $T_j$     | 150     |      |
| Storage Temperature Range    | $T_{stg}$ | -55 150 |      |

| Parameter                               | Symbol        | Test Conditions           | Min | Typ | Max  | Unit    |
|-----------------------------------------|---------------|---------------------------|-----|-----|------|---------|
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=35V$ $I_E=0$      |     |     | 0.1  | $\mu A$ |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=5.0V$ $I_C=0$     |     |     | 0.1  | $\mu A$ |
| DC Current Gain                         | $h_{FE(1)}$   | $V_{CE}=1.0V$ $I_C=100mA$ | 70  |     | 400  |         |
|                                         | $h_{FE(2)}$   | $V_{CE}=6.0V$ $I_C=400mA$ | 25  |     |      |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=100mA$ $I_B=10mA$    |     | 0.1 | 0.25 | V       |
| Base to Emitter Voltage                 | $V_{BE}$      | $V_{CE}=1.0V$ $I_C=100mA$ |     | 0.8 | 1.0  | V       |
| Transition Frequency                    | $f_T$         | $V_{CE}=6.0V$ $I_C=20mA$  |     | 300 |      | MHz     |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CE}=6.0V$ $f=1.0MHz$  |     | 7.0 |      | pF      |

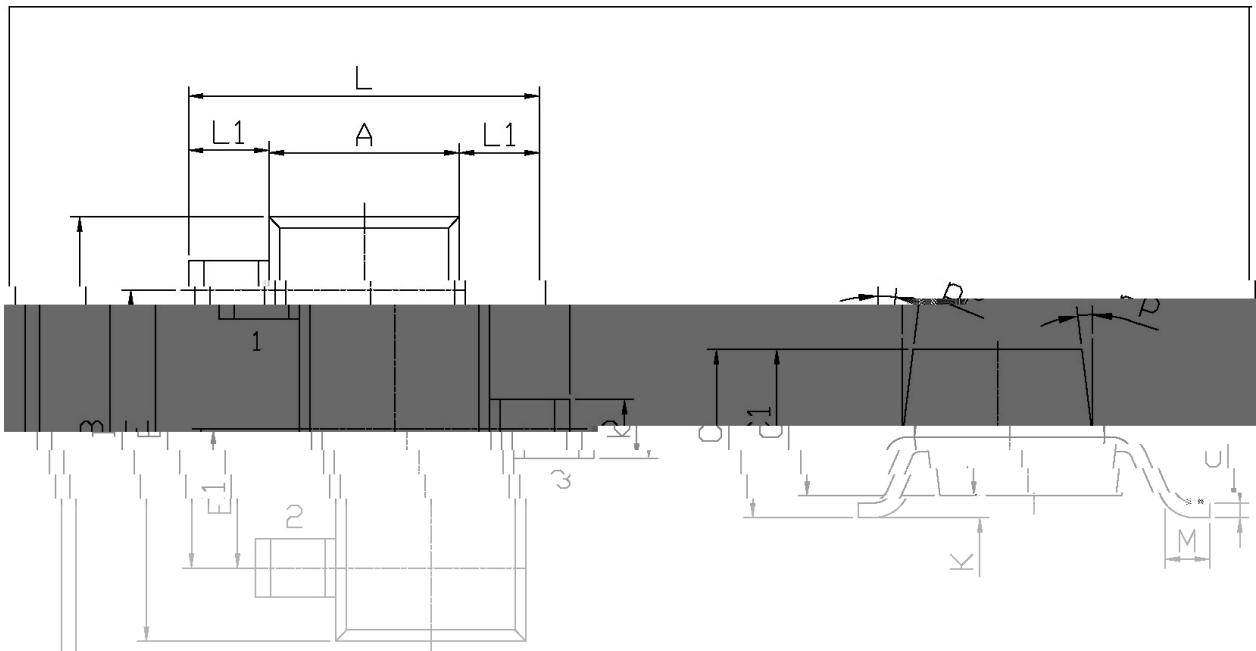
/ Electrical Characteristic Curve



/ Package Dimensions

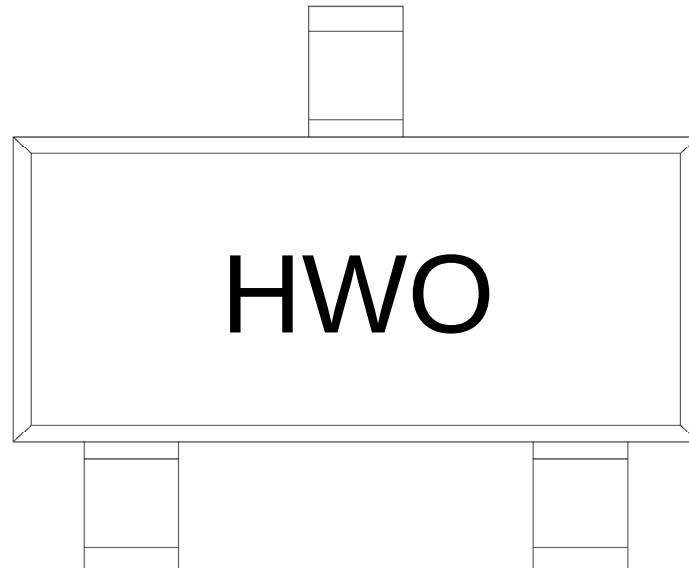
SOT-23

单位; mm



| Symbol | Dimensions In Millimeters |      | Symbol | Dimensions In Millimeters |      |
|--------|---------------------------|------|--------|---------------------------|------|
|        | Min.                      | Max. |        | Min.                      | Max. |
| L      | 2.2                       | 2.7  | C      | 1.30Max                   |      |
| L1     | 0.45                      | 0.65 | C1     | 0.90                      | 1.20 |
| A      | 1.15                      | 1.50 | c      | 0.05                      | 0.20 |
| L2     | 2.70                      | 3.10 | K      | 0                         | 0.10 |
| E      | 1.70                      | 2.10 | M      | 0.20MIN                   |      |
| E1     | 0.85                      | 1.05 | q      | 7°                        |      |
| b      | 0.35                      | 0.55 |        |                           |      |

/ Marking Instructions



H

W

O  $h_{FE}$

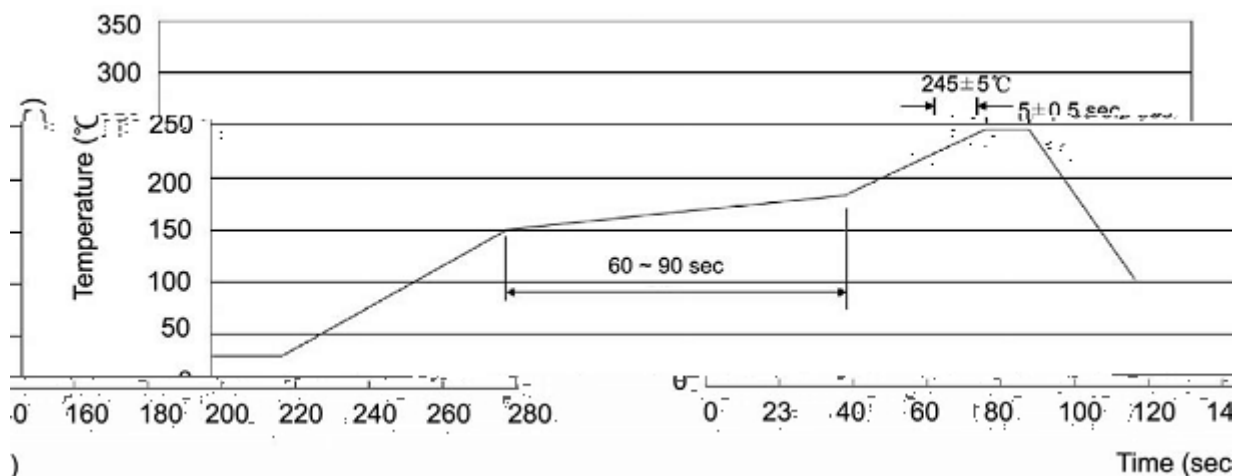
Note:

H Company Code

W Product Type

O  $h_{FE}$  Classifications Symbol

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |       |     |           |        |                                         |
|---|-------|-----|-----------|--------|-----------------------------------------|
| 1 | 25    | 150 | 60        | 90sec; | 1.Preheating:25~150 , Time:60~90sec.    |
| 2 | 245±5 |     | 5±0.5sec; |        | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 |       | 2   | 10        | /sec.  | 3. Cooling Speed: 2~10 /sec.            |

/ Resistance to Soldering Heat Test Conditions

260±5      10±1 sec.      Temp.:260±5      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type<br>封装形式 | Units 包装数量 |      |     |     |     | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |   |   |
|----------------------|------------|------|-----|-----|-----|-----------------------------------------|---|---|
|                      | 只 卷盘       | 卷盘 盒 | 只 盒 | 盒 箱 | 只 箱 |                                         | 盒 | 箱 |
|                      |            |      |     |     |     |                                         |   |   |

/ Notices