# 2SA984(K)

Rev.E Mar.-2016

蓝箭电子 BLUE ROCKET ELECTRONICS

**DATA SHEET**

## / Descriptions

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

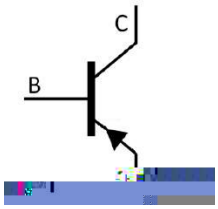
## / Features

High breakdown voltage, high current, low saturation voltage.

## / Applications

Low frequency power amplifier applications.

## / Equivalent Circuit




## / Pinning




PIN1 Base PIN 2 Collector PIN 3 Emitter

## / hFE Classifications & Marking

| $h_{FE}$ Classifications Symbol | D | E | F |
|---|---|---|---|
| $h_{FE}$ Range | 60~120 | 100~200 | 160~320 |

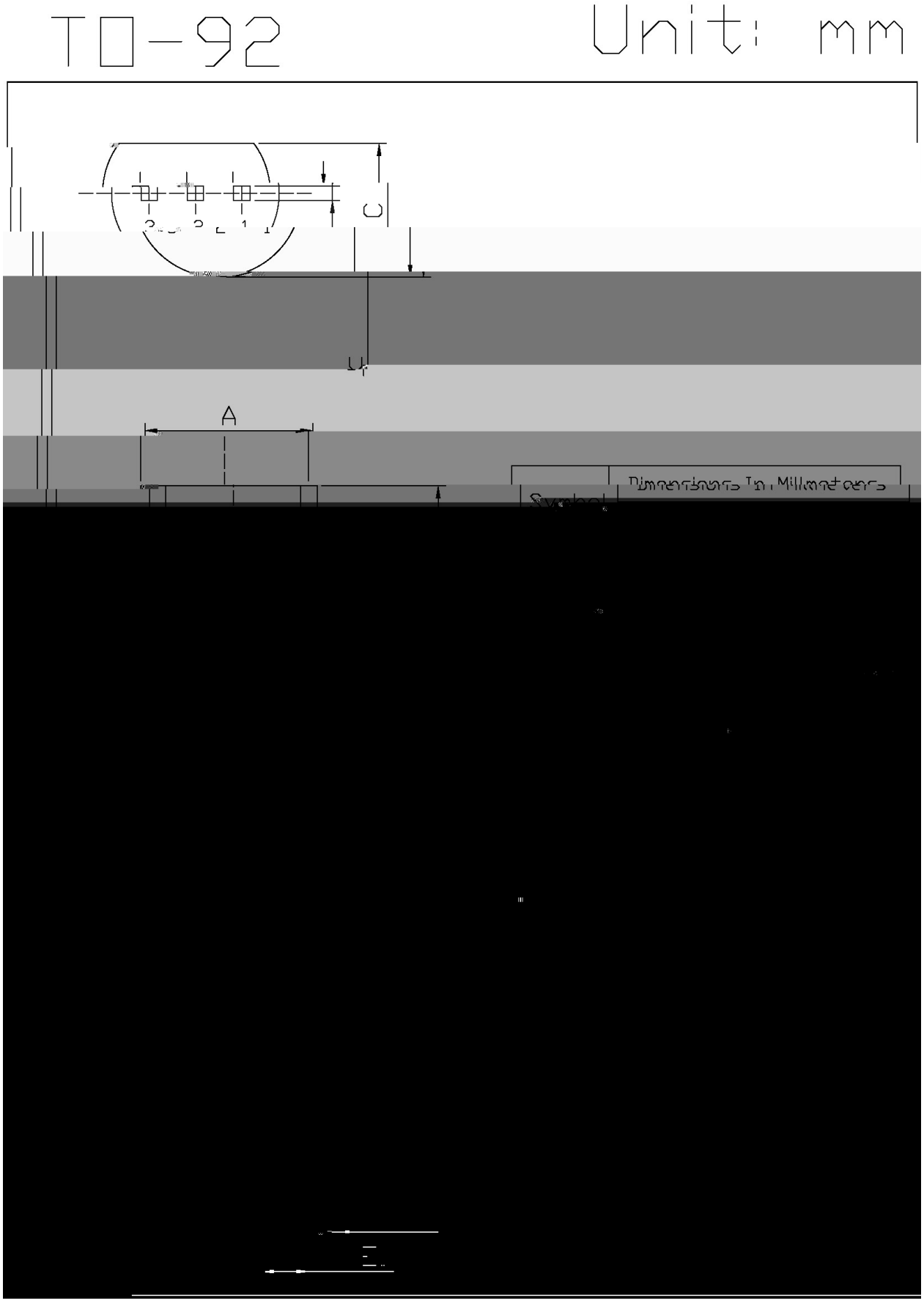
## / Absolute Maximum Ratings(Ta=25 )

| Parameter | Symbol | | Rating | Unit |
|---|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | 2SA984 | -60 | V |
| | | 2SA984K | -100 | |
| Collector to Emitter Voltage | $V_{CEO}$ | 2SA984 | -50 | V |
| | | 2SA984K | -80 | |
| Emitter to Base Voltage | $V_{EBO}$ | | -5.0 | V |
| Collector Current - Continuous | $I_C$ | | -500 | mA |
| Collector Current – Continuous(Pulse) | $I_{CP}$ | | -800 | mA |
| Collector Power Dissipation | $P_C$ | | 600 | mW |
| Junction Temperature | $T_j$ | | 150 | |
| Storage Temperature Range | $T_{stg}$ | | -55 150 | |

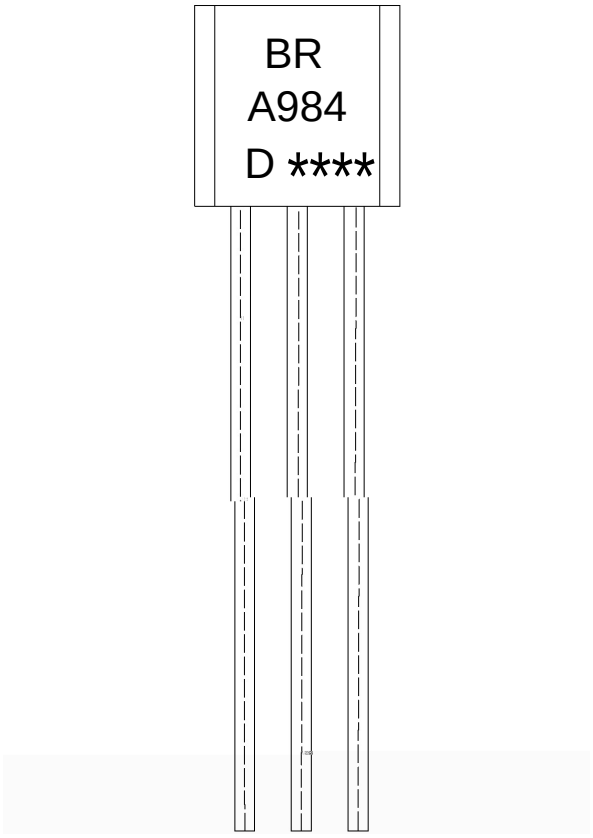
## / Electrical Characteristics(Ta=25 )

| Parameter | Symbol | | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Collector to Base Breakdown Voltage | $V_{CBO}$ | 2SA984 | $I_C$=-10μA $I_E$=0 | -60 | | | V |
| | | 2SA984K | | -100 | | | |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$ | 2SA984 | $I_C$=-1.0mA $R_{BE}$=∞ | -50 | | | V |
| | | 2SA984K | | -80 | | | |
| Emitter to Base Breakdown Voltage | $V_{EBO}$ | | $I_E$=-10μA $I_C$=0 | -5.0 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | | $V_{CB}$=-40V $I_E$=0 | | | -1.0 | μA |
| Emitter Cutoff Current | $I_{EBO}$ | | $V_{EB}$=-4.0V $I_C$=0 | | | -1.0 | μA |
| DC Current Gain | $h_{FE(1)}$ | | $V_{CE}$=-5.0V $I_C$=-50mA | 60 | | 320 | |
| | $h_{FE(2)}$ | | $V_{CE}$=-5.0V $I_C$=-400mA | 35 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | | $I_C$=-400mA $I_B$=-40mA | | -0.25 | -0.6 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | | $I_C$=-400mA $I_B$=-40mA | | -0.9 | -1.2 | V |
| Transition Frequency | $f_T$ | | $V_{CE}$=-10V $I_C$=-10mA | | 120 | | MHz |
| Collector Output Capacitance | $C_{ob}$ | | $V_{CB}$=-10V f=1.0MHz | | 9.0 | | pF |

## / Package Dimensions



## / Marking Instructions




BR:

A984

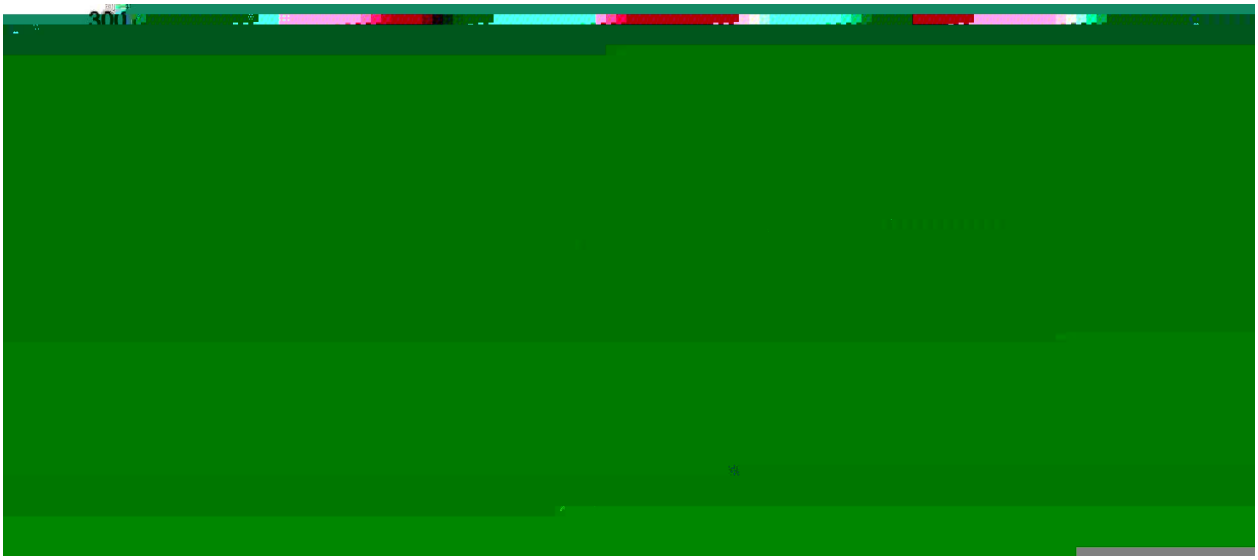
D: $h_{FE}$

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Note:

| | |
|---|---|
| BR: | Company Code. |
| A984: | Product Type. |
| D: | $h_{FE}$ 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

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