



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

**JCST**

## **SOT-23 Plastic-Encapsulate Transistors**

**A1015** TRANSISTOR (PNP)

### FEATURES

- High voltage and high current
- Excellent  $h_{FE}$  Linearity
- Low noise
- Complementary to C1815

**SOT-23**



1. BASE
2. EMITTER
3. COLLECTOR

**MARKING: BA**

### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol    | Parameter                     | Value   | Units              |
|-----------|-------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage        | -50     | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage     | -50     | V                  |
| $V_{EBO}$ | Emitter-Base Voltage          | -5      | V                  |
| $I_C$     | Collector Current -Continuous | 150     | mA                 |
| $P_C$     | Collector Power Dissipation   | 200     | mW                 |
| $T_J$     | Junction Temperature          | 125     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-125 | $^{\circ}\text{C}$ |

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                                    | MIN | TYP | MAX  | UNIT          |
|--------------------------------------|---------------|--------------------------------------------------------------------|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -100\mu\text{A}$ , $I_E = 0$                                | -50 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -0.1\text{mA}$ , $I_B = 0$                                  | -50 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -100\mu\text{A}$ , $I_C = 0$                                | -5  |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -50\text{V}$ , $I_E = 0$                                 |     |     | -0.1 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE} = -50\text{V}$ , $I_B = 0$                                 |     |     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5\text{V}$ , $I_C = 0$                                  |     |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -6\text{V}$ , $I_C = -2\text{mA}$                        | 130 |     | 400  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\text{mA}$ , $I_B = -10\text{mA}$                       |     |     | -0.3 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = -100\text{mA}$ , $I_B = -10\text{mA}$                       |     |     | -1.1 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -10\text{V}$ , $I_C = -1\text{mA}$<br>$f = 30\text{MHz}$ | 80  |     |      | MHz           |

### CLASSIFICATION OF $h_{FE}$

| Rank  | L       | H       |
|-------|---------|---------|
| Range | 130-200 | 200-400 |

# Typical Characteristics

A1015

