



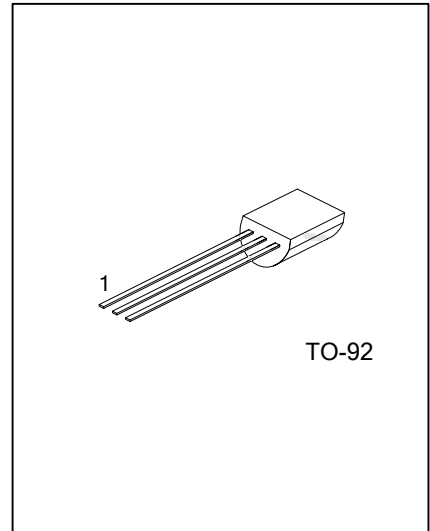
2SA1015

PNP SILICON TRANSISTOR

LOW FREQUENCY PNP AMPLIFIER TRANSISTOR

FEATURES

- * Collector-Emitter Voltage: $BV_{CEO} = -50V$
- * Collector Current up to 150mA
- * High h_{FE} Linearity
- * Complement to UTC 2SC1815



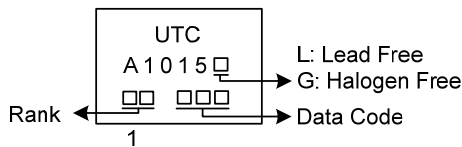
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-------------------|-------------------|---------|----------------|---|---|----------|
| Lead Free Plating | Halogen Free | | 1 | 2 | 3 | |
| 2SA1015L-xx-T92-B | 2SA1015G-xx-T92-B | TO-92 | E | C | B | Tape Box |
| 2SA1015L-xx-T92-K | 2SA1015G-xx-T92-K | TO-92 | E | C | B | Bulk |

Note: Pin Assignment: E: Emitter C: Collector B: Base

| | |
|--------------------------|--|
| <p>2SA1015L-xx-T92-B</p> | <p>(1) B: Tape Box, K: Bulk</p> <p>(2) T92: TO-92</p> <p>(3) xx: refer to Classification of h_{FE}</p> <p>(4) L: Lead Free, G: Halogen Free</p> |
|--------------------------|--|

MARKING



■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------------|-----------|------------|------------------|
| Collector-Base Voltage | V_{CBO} | -50 | V |
| Collector-Emitter Voltage | V_{CEO} | -50 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -150 | mA |
| Base Current | I_B | -50 | mA |
| Collector Dissipation | P_C | 400 | mW |
| Junction Temperature | T_J | 125 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55 ~ +125 | $^\circ\text{C}$ |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

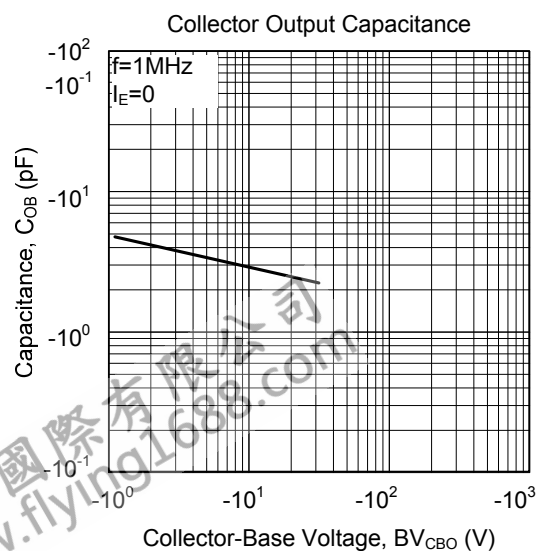
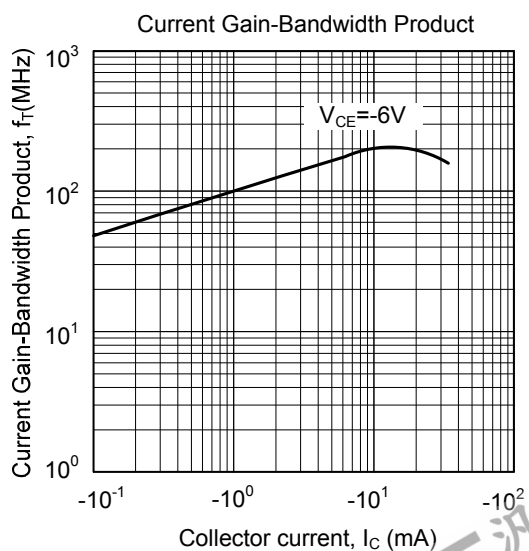
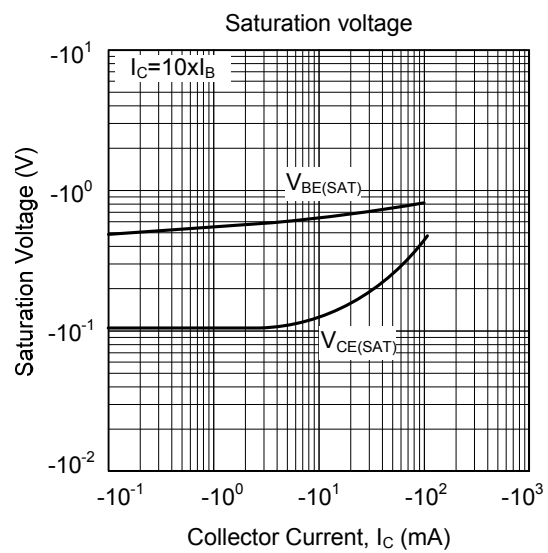
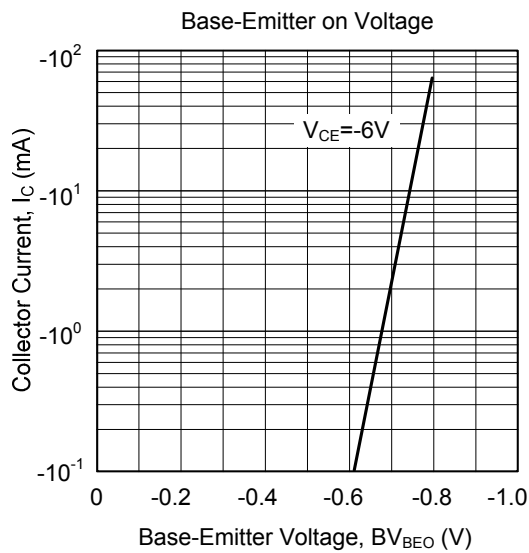
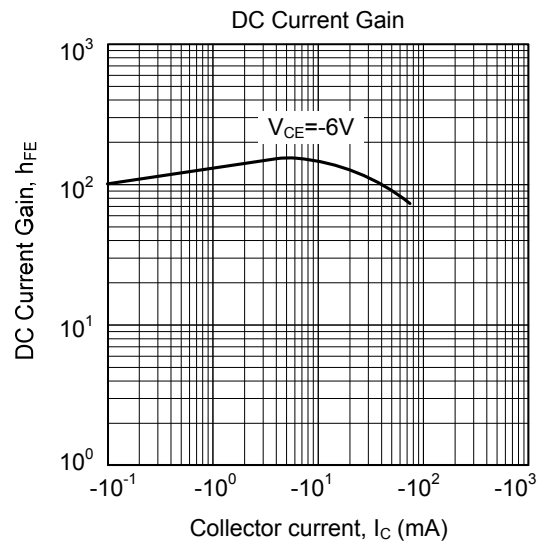
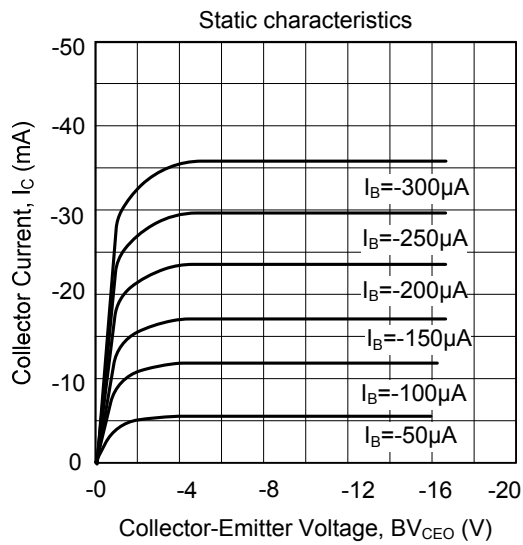
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|------|------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C=-100\mu\text{A}$, $I_E=0$ | -50 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=-10\text{mA}$, $I_B=0$ | -50 | | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E=-10\mu\text{A}$, $I_C=0$ | -5 | | | V |
| Collector Cut-off Current | I_{CBO} | $V_{CB}=-50\text{V}$, $I_E=0$ | | | -100 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB}=-5\text{V}$, $I_C=0$ | | | -100 | nA |
| DC Current Gain | h_{FE1} | $V_{CE}=-6\text{V}$, $I_C=-2\text{mA}$ | 120 | | 700 | |
| | h_{FE2} | $V_{CE}=-6\text{V}$, $I_C=-150\text{mA}$ | 25 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-100\text{mA}$, $I_B=-10\text{mA}$ | | -0.1 | -0.3 | V |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=-100\text{mA}$, $I_B=-10\text{mA}$ | | | -1.1 | V |
| Output Capacitance | C_{OB} | $V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$ | | 4.0 | 7.0 | pF |
| Current Gain Bandwidth Product | f_T | $V_{CE}=-10\text{V}$, $I_C=-1\text{mA}$ | 80 | | | MHz |
| Noise Figure | NF | $V_{CE}=-6\text{V}$, $I_C=-0.1\text{mA}$, $R_G=1\text{k}\Omega$, $f=100\text{Hz}$ | | 0.5 | 6 | dB |

■ CLASSIFICATION OF h_{FE1}

| RANK | Y | GR | BL |
|-------|---------|---------|---------|
| RANGE | 120-240 | 200-400 | 350-700 |

TYPICAL CHARACTERISTICS



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