



2SB772

PNP SILICON TRANSISTOR

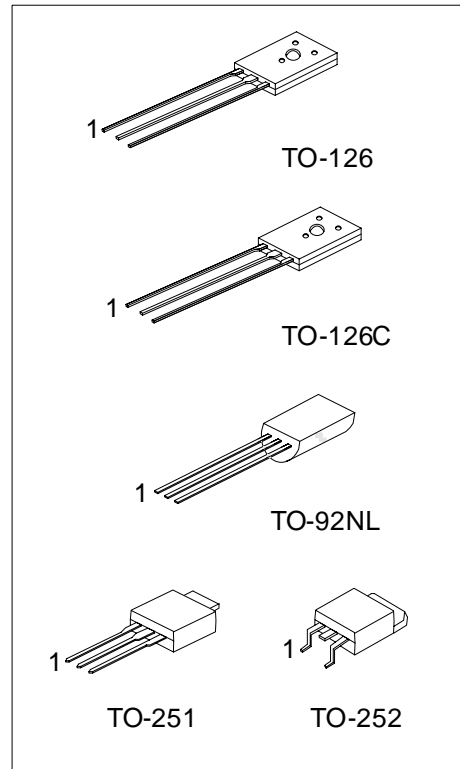
MEDIUM POWER LOW VOLTAGE TRANSISTOR

DESCRIPTION

The UTC 2SB772 is a medium power low voltage transistor, designed for audio power amplifier, DC-DC converter and voltage regulator.

FEATURES

- * High current output up to 3A
- * Low saturation voltage
- * Complement to 2SD882



*Pb-free plating product number: 2SB772L

ORDERING INFORMATION

| Order Number | | Package | Pin Assignment | | | Packing |
|----------------|-------------------|---------|----------------|---|---|-----------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| 2SB772-x-T60-K | 2SB772L-x-T60-K | TO-126 | E | C | B | Bulk |
| 2SB772-x-T6C-K | 2SB772L-x-T6C-K | TO-126C | E | C | B | Bulk |
| 2SB772-x-TM3-T | 2SB772L-x-TM3-T | TO-251 | B | C | E | Tube |
| 2SB772-x-TN3-R | 2SB772L-x-TN3-R | TO-252 | B | C | E | Tape Reel |
| 2SB772-x-TN3-T | 2SB772L-x-TN3-T | TO-252 | B | C | E | Tube |
| 2SB772-x-T9N-B | 2SB772L-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| 2SB772-x-T9N-K | 2SB772L-x-T9N-K | TO-92NL | E | C | B | Bulk |
| 2SB772-x-T9N-R | 2SB772L-x-T9N-R | TO-92NL | E | C | B | Tape Reel |

| | | |
|------------------------|---|--|
| <p>2SB772L-x-T60-K</p> | <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Rank</p> <p>(4) Lead Plating</p> | <p>(1) K: Bulk, T: Tube, R: Tape Reel</p> <p>(2) T60: TO-126, T6C: TO-126C, TM3: TO-251, TN3: TO-252, T9N: TO-92NL</p> <p>(3) x: refer to Classification of h_{FE2}</p> <p>(4) L: Lead Free Plating, Blank: Pb/Sn</p> |
|------------------------|---|--|

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25)

| PARAMETER | SYMBOL | RATINGS | UNIT | |
|---------------------------|-----------|------------|------|---|
| Collector-Base Voltage | V_{CBO} | -40 | V | |
| Collector-Emitter Voltage | V_{CEO} | -30 | V | |
| Emitter-Base Voltage | V_{EBO} | -5 | V | |
| Collector Current | Pulse | I_{CP} | -7 | A |
| | DC | I_C | -3 | A |
| Base Current | I_B | -0.6 | A | |
| Collector Dissipation | $T_C=25$ | P_D | 10 | W |
| | $T_a=25$ | | 1 | W |
| Junction Temperature | T_J | +150 | | |
| Storage Temperature | T_{STG} | -55 ~ +150 | | |

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 (Ta= 25 , unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|------------------------------|-----|------|-------|------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C=-100\mu A, I_E=0$ | -40 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=-1mA, I_B=0$ | -30 | | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E=-100\mu A, I_C=0$ | -5 | | | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=-30V, I_E=0$ | | | -1000 | nA |
| Collector Cut-Off Current | I_{CEO} | $V_{CE}=-30V, I_B=0$ | | | -1000 | nA |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=-3V, I_C=0$ | | | -1000 | nA |
| DC Current Gain(Note 1) | h_{FE1} | $V_{CE}=-2V, I_C=-20mA$ | 30 | 200 | | |
| | h_{FE2} | $V_{CE}=-2V, I_C=-1A$ | 100 | 150 | 400 | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-2A, I_B=-0.2A$ | | -0.3 | -0.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=-2A, I_B=-0.2A$ | | -1.0 | -2.0 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE}=-5V, I_C=-0.1A$ | | 80 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=-10V, I_E=0, f=1MHz$ | | 45 | | pF |

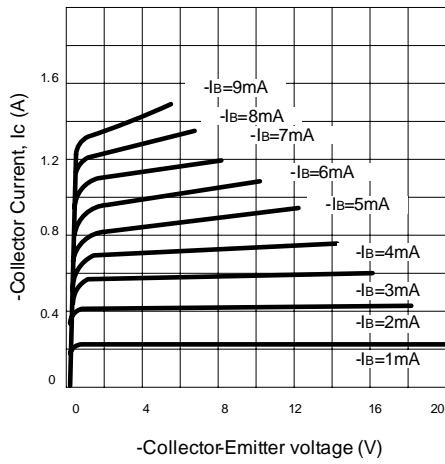
Note 1: Pulse test: $P_w < 300\mu s$, Duty Cycle $< 2\%$

■ CLASSIFICATION OF h_{FE2}

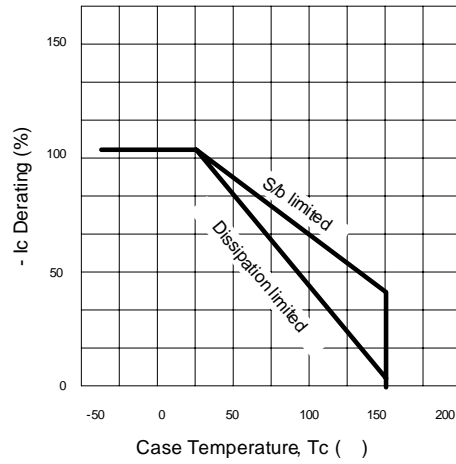
| RANK | Q | P | E |
|-------|-----------|-----------|-----------|
| RANGE | 100 ~ 200 | 160 ~ 320 | 200 ~ 400 |

TYPICAL CHARACTERISTICS

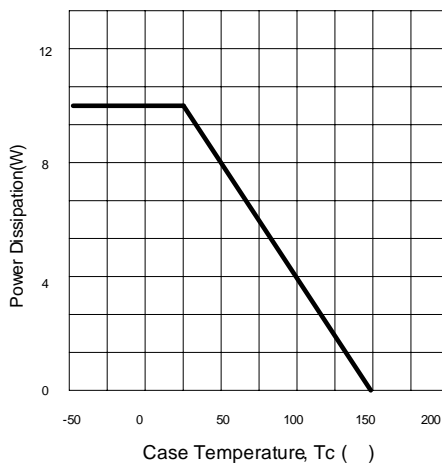
Static Characteristics



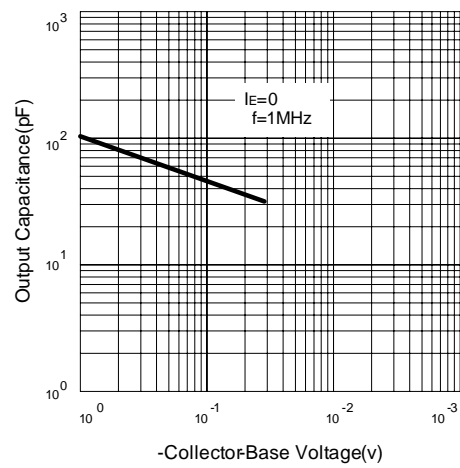
Derating Curve of Safe Operating Areas



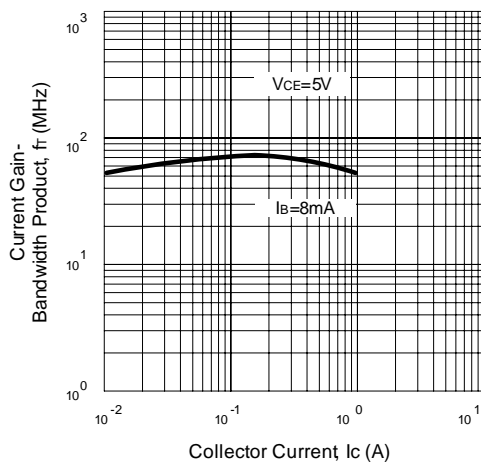
Power Derating



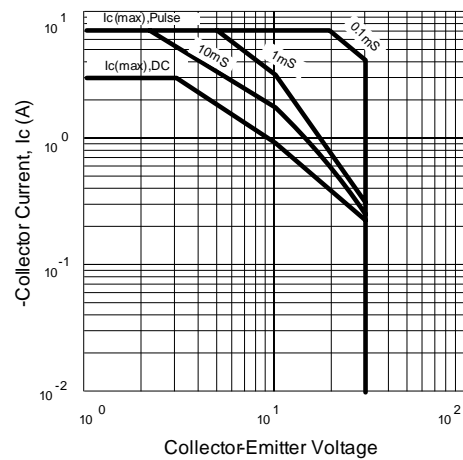
Collector Output Capacitance



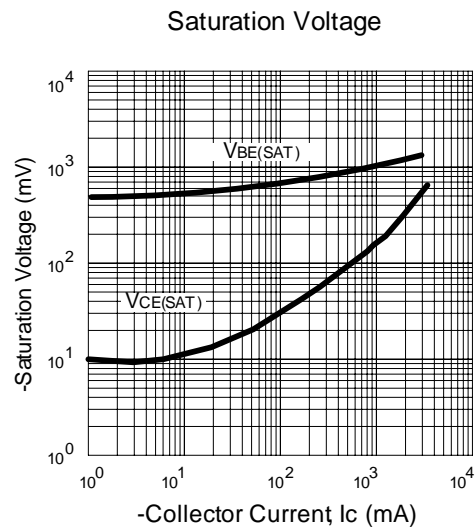
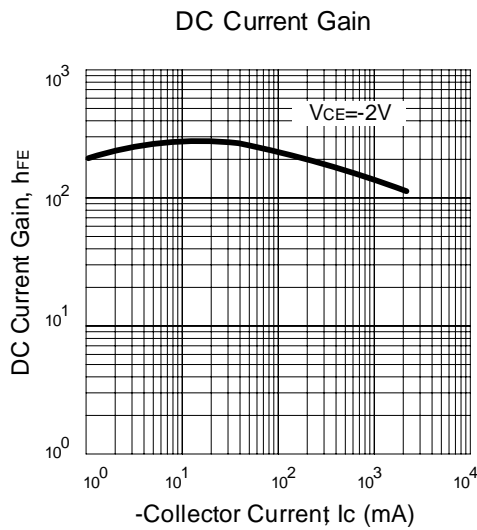
Current Gain - Bandwidth Product



Safe Operating Area



TYPICAL CHARACTERISTICS(Cont.)



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