



2SB772

PNP SILICON TRANSISTOR

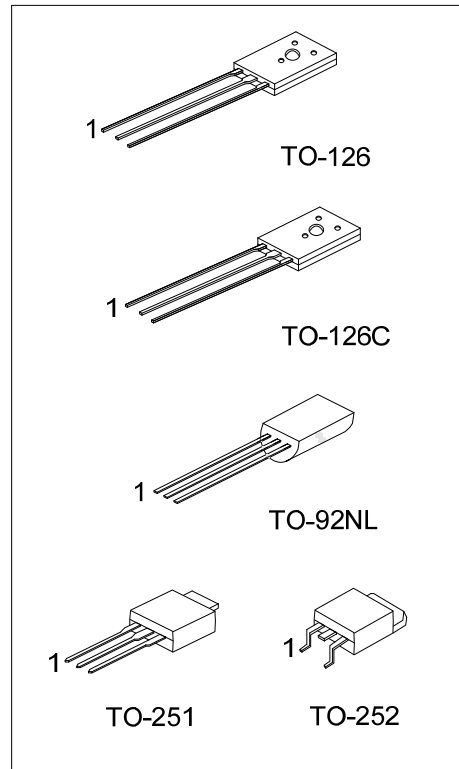
MEDIUM POWER LOW VOLTAGE TRANSISTOR

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



Lead Free: 2SB772L
 Halogen Free: 2SB772G

ORDERING INFORMATION

| Ordering Number | | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|-----------------|---------|----------------|---|---|-----------|
| Normal | Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2SB772-x-T60-K | 2SB772L-x-T60-K | 2SB772G-x-T60-K | TO-126 | E | C | B | Bulk |
| 2SB772-x-T6C-K | 2SB772L-x-T6C-K | 2SB772G-x-T6C-K | TO-126C | E | C | B | Bulk |
| 2SB772-x-TM3-T | 2SB772L-x-TM3-T | 2SB772G-x-TM3-T | TO-251 | B | C | E | Tube |
| 2SB772-x-TN3-R | 2SB772L-x-TN3-R | 2SB772G-x-TN3-R | TO-252 | B | C | E | Tape Reel |
| 2SB772-x-T9N-B | 2SB772L-x-T9N-B | 2SB772G-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| 2SB772-x-T9N-K | 2SB772L-x-T9N-K | 2SB772G-x-T9N-K | TO-92NL | E | C | B | Bulk |

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

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

| 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 | DC | I _C | -3 | A |
| | Pulse | I _{CP} | -7 | A |
| Base Current | | I _B | -0.6 | A |
| Collector Dissipation (Ta=25°C) | TO-92NL | P _C | 0.5 | W |
| | TO-251/TO-252/ TO-126/TO-126C | | 1 | W |
| Junction Temperature | | T _J | +150 | °C |
| Storage Temperature | | T _{STG} | -55 ~ +150 | °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 (Ta= 25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|----------------------|--|-----|------|-------|------|
| Collector-Base Breakdown Voltage | BV _{CBO} | I _C =-100μA, 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 =-100μA, 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 |

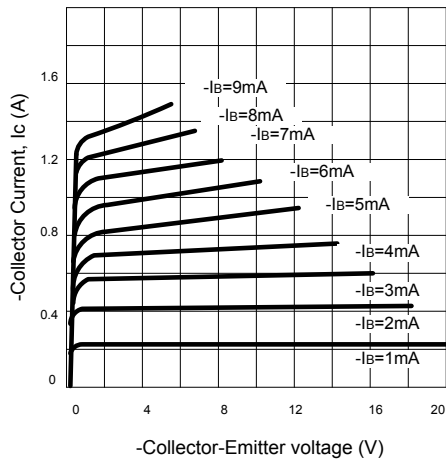
Note 1: Pulse test: P_w<300μs, Duty Cycle<2%

■ CLASSIFICATION OF h_{FE2}

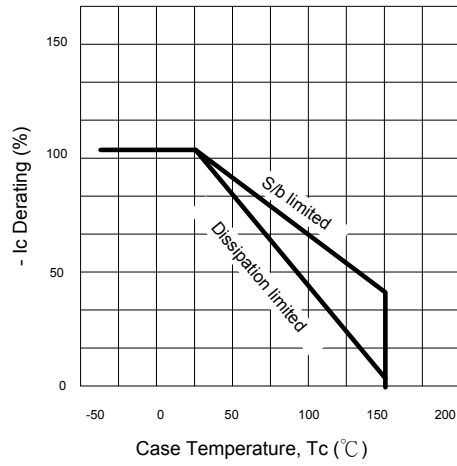
| RANK | Q | P | E |
|-------|-----------|-----------|-----------|
| RANGE | 100 ~ 200 | 160 ~ 320 | 200 ~ 400 |

TYPICAL CHARACTERISTICS

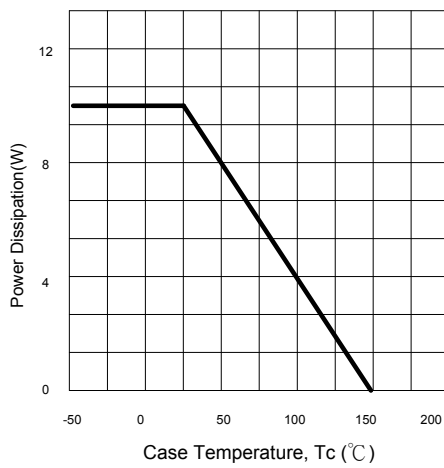
Static Characteristics



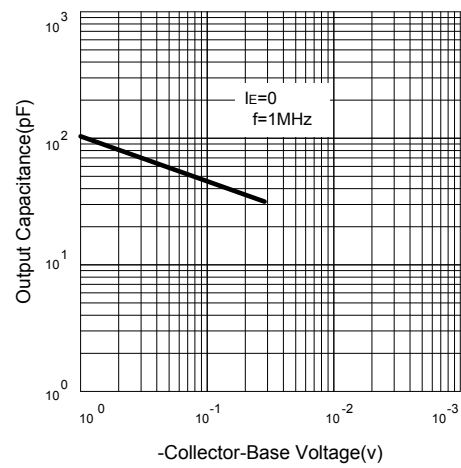
Derating Curve of Safe Operating Areas



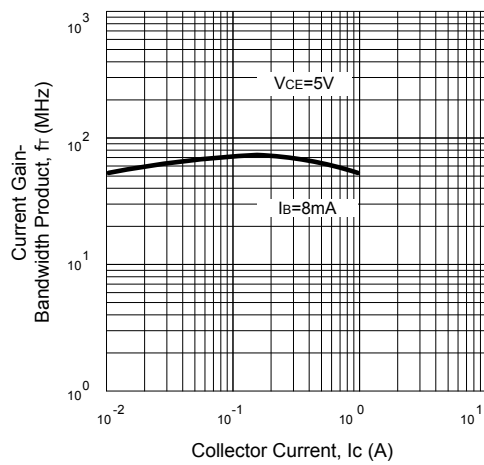
Power Derating



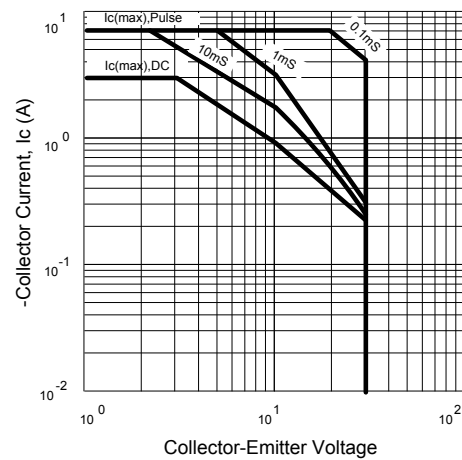
Collector Output Capacitance



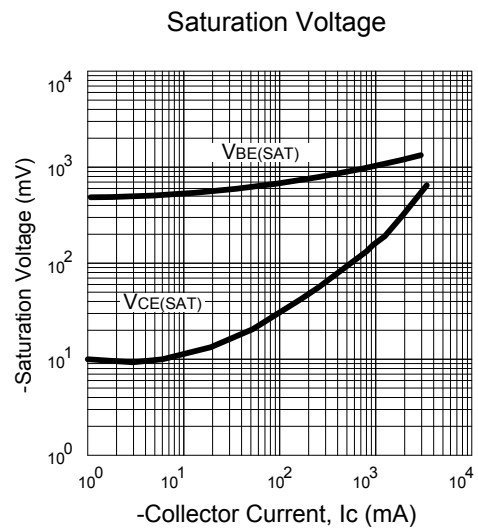
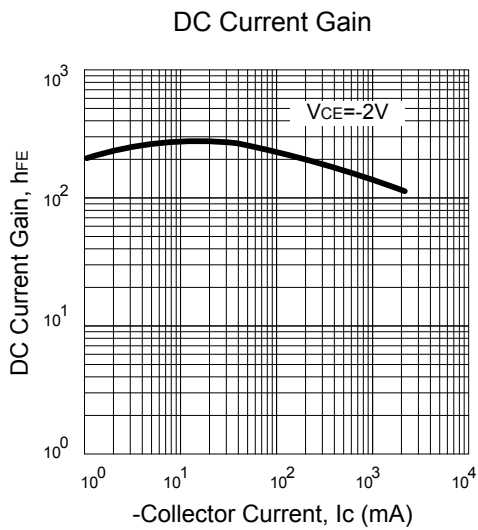
Current Gain-Bandwidth Product



Safe Operating Area



■ TYPICAL CHARACTERISTICS(Cont.)



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