



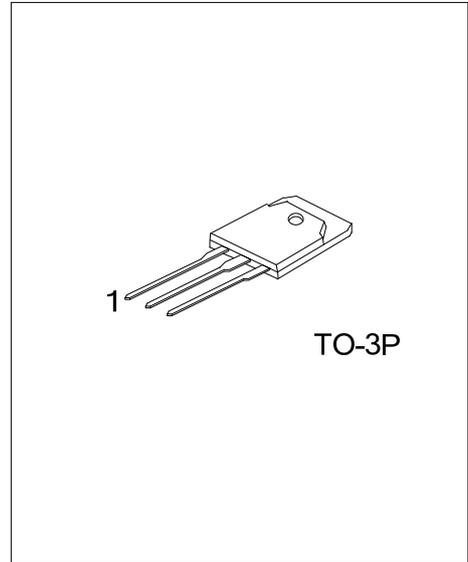
2SB688

PNP SILICON TRANSISTOR

SILICON PNP TRANSISTORS

■ DESCRIPTION

The UTC **2SB688** is a silicon PNP transistor in TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.



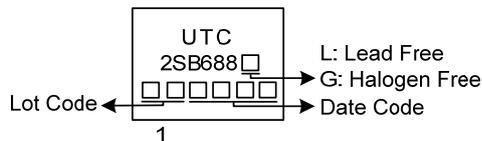
■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2SB688L-x-T3P-T | 2SB688G-x-T3P-T | TO-3P | B | C | E | Tube |

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

| | |
|------------------------|--|
| <p>2SB688G-x-T3P-T</p> | <p>(1) T: Tube (2) T3P: TO-3P (3) x: reference to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free</p> |
|------------------------|--|

■ MARKING



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

| PARAMETERS | SYMBOL | RATINGS | UNITS |
|--|-----------|------------|--------------------|
| Collector-Base Voltage | V_{CBO} | -120 | V |
| Collector-Emitter Voltage | V_{CEO} | -120 | V |
| Emitter Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -10 | A |
| Base Current | I_B | -1 | A |
| Collector Power Dissipation ($T_C=25^{\circ}\text{C}$) | P_C | 80 | W |
| Max. Operating Junction Temperature | T_J | +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | -40 ~ +200 | $^{\circ}\text{C}$ |

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.

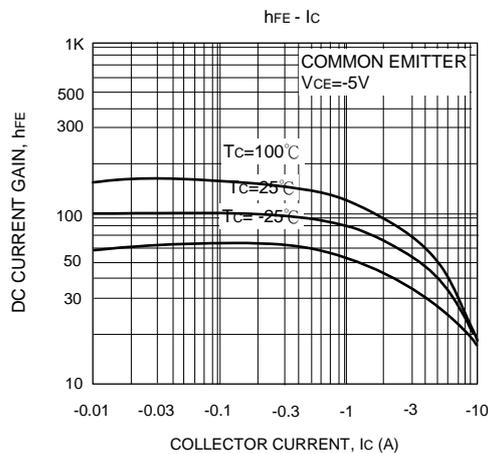
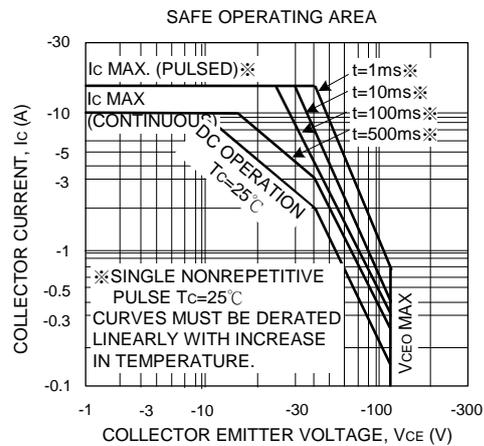
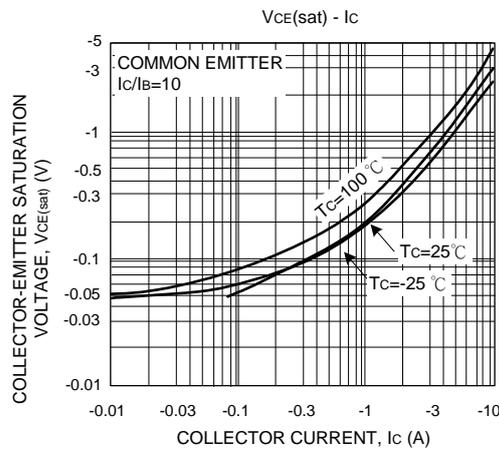
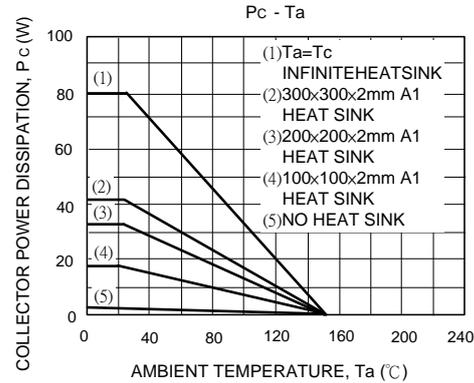
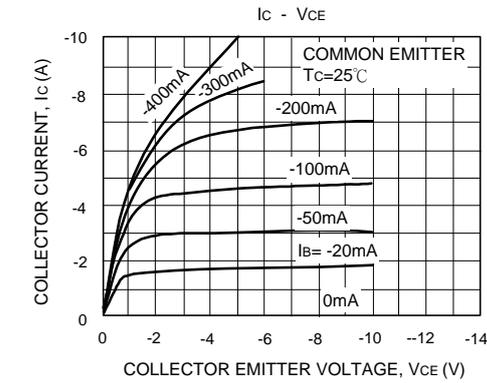
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|------|-----|------|---------------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = -120\text{V}, I_E = 0$ | | | -10 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -10 | μA |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = -50\text{mA}, I_B = 0$ | -120 | | | V |
| DC Current Gain | h_{FE} | $V_{CE} = -5\text{V}, I_C = -1\text{A}$ | 55 | | 160 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -5\text{A}, I_B = -0.5\text{A}$ | | | -2.5 | V |
| Base-Emitter Voltage | V_{BE} | $V_{CE} = -5\text{A}, I_C = -5\text{A}$ | | | -1.5 | V |
| Transition Frequency | f_T | $V_{CE} = -5\text{A}, I_C = -1\text{A}$ | | 10 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0, f=1\text{MHz}$ | | 280 | | pF |

■ CLASSIFICATION OF h_{FE}

| RANK | R | O |
|-------|----------|----------|
| RANGE | 55 ~ 110 | 80 ~ 160 |

■ TYPICAL CHARACTERISTICS



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