



2SD667

NPN SILICON TRANSISTOR

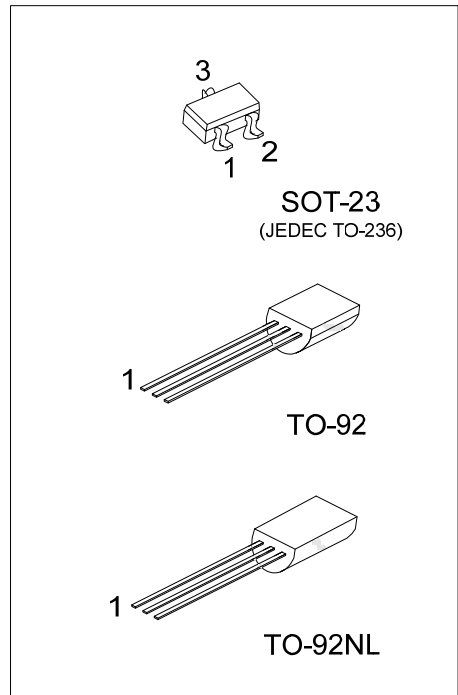
SILICON NPN EPITAXIAL

DESCRIPTION

The UTC **2SD667** is a NPN epitaxial silicon transistor, which can be used as a low frequency power amplifier.

FEATURES

* Low frequency power amplifier



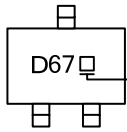
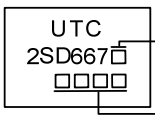
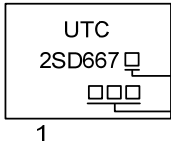
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-----------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2SD667L-x-AE3-R | 2SD667G-x-AE3-R | SOT-23 | B | E | C | Tape Reel |
| 2SD667L-x-T92-B | 2SD667G-x-T92-B | TO-92 | E | C | B | Tape Box |
| 2SD667L-x-T92-K | 2SD667G-x-T92-K | TO-92 | E | C | B | Bulk |
| 2SD667L-x-T9N-B | 2SD667G-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| 2SD667L-x-T9N-K | 2SD667G-x-T9N-K | TO-92NL | E | C | B | Bulk |

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

| | |
|--|---|
| <p>2SD667G-x-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p> | <p>(1) R: Tape Reel, B: Tape Box, K: Bulk (2) AE3: SOT-23, T92: TO-92, T9N: TO-92NL (3) refer to CLASSIFICATION OF h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free</p> |
|--|---|

■ MARKING

| SOT-23 | TO-92NL |
|--|--|
|  <p>L: Lead Free G: Halogen Free</p> |  <p>L: Lead Free G: Halogen Free Date Code</p> |
| TO-92 | - |
|  <p>L: Lead Free G: Halogen Free Date Code</p> <p>1</p> | - |

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

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|--------------------------------|---------|-----------|------------|--------------------|
| Collector to Base Voltage | | V_{CBO} | 120 | V |
| Collector to Emitter Voltage | | V_{CEO} | 80 | V |
| Emitter to Base Voltage | | V_{EBO} | 6 | V |
| Collector Current | | I_C | 1.0 | A |
| Collector Peak Current (Note2) | | I_{CP} | 2.0 | A |
| Collector Power Dissipation | SOT-23 | P_C | 0.35 | W |
| | TO-92 | | 0.9 | W |
| | TO-92NL | | | |
| Junction Temperature | | T_J | +150 | $^{\circ}\text{C}$ |
| Storage Temperature | | T_{STG} | -55 ~ +150 | $^{\circ}\text{C}$ |

Notes: 1. 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.

2. $P_W \leq 10\text{ms}$, Duty cycle $\leq 20\%$.

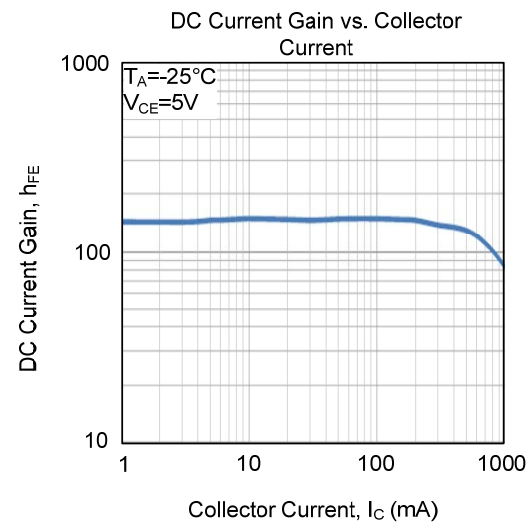
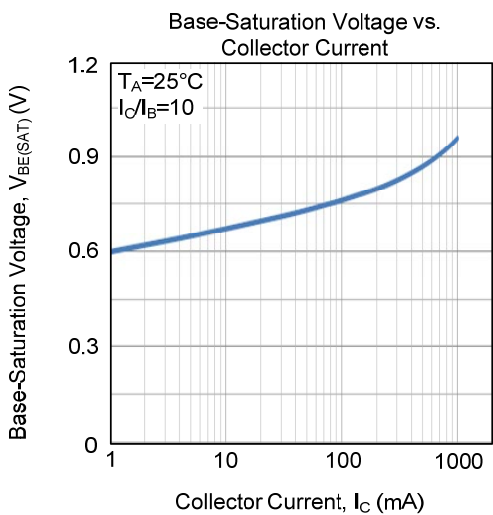
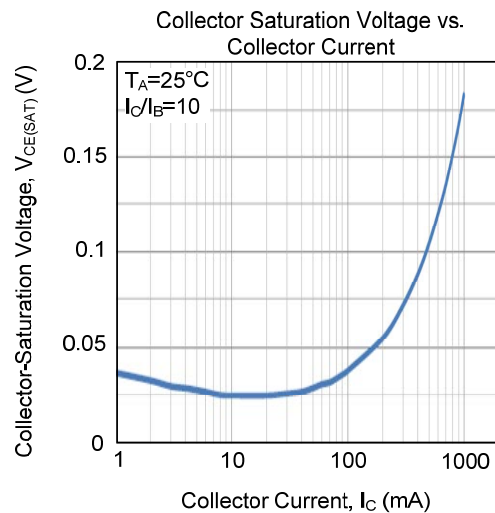
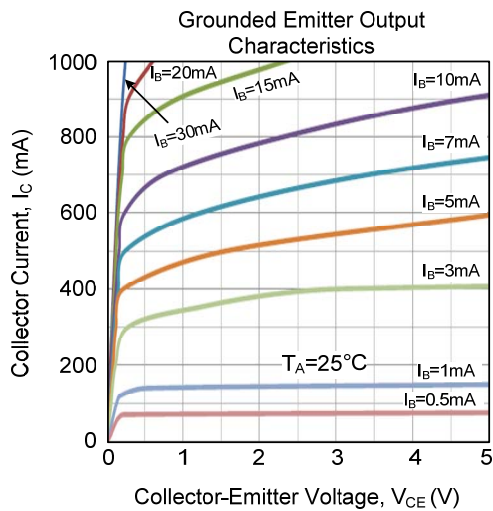
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---------------|--|-----|-----|-----|------|
| Collector to Base Breakdown Voltage | BV_{CBO} | $I_C=10\mu\text{A}$, $I_E=0$ | 120 | | | V |
| Collector to Emitter Breakdown Voltage | BV_{CEO} | $I_C=1\text{mA}$, $R_{BE}=\infty$ | 80 | | | V |
| Emitter to Base Breakdown Voltage | BV_{EBO} | $I_E=10\mu\text{A}$, $I_C=0$ | 6 | | | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=120\text{V}$, $I_E=0$ | | | 500 | nA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=6\text{V}$, $I_C=0$ | | | 500 | nA |
| DC Current Transfer Ratio | h_{FE1} | $V_{CE}=5\text{V}$, $I_C=150\text{mA}$ | 60 | | 320 | |
| | h_{FE2} | $V_{CE}=5\text{V}$, $I_C=500\text{mA}$ | 40 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=500\text{mA}$, $I_B=50\text{mA}$ | | | 0.5 | V |
| Base to Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=500\text{mA}$, $I_B=50\text{mA}$ | | | 1.1 | V |
| Gain Bandwidth Product | f_T | $V_{CE}=-5\text{V}$, $I_C=-150\text{mA}$ | | 140 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$ | | 20 | | pF |

■ CLASSIFICATION OF h_{FE1}

| RANK | B | C | D |
|-------|--------|---------|---------|
| RANGE | 60-120 | 100-200 | 160-320 |

■ TYPICAL CHARACTERISTICS



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