



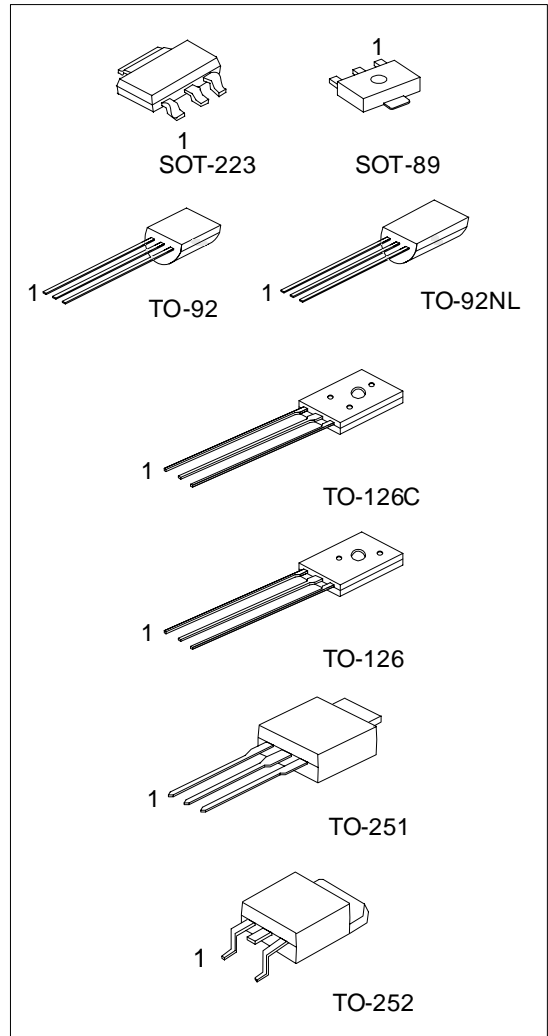
2SD669/A

NPN SILICON TRANSISTOR

BIPOLAR POWER GENERAL PURPOSE TRANSISTOR

■ APPLICATIONS

* Low frequency power amplifier complementary pair with UTC 2SB649/A



*Pb-free plating product number:
2SD669L/2SD669AL

■ ORDERING INFORMATION

| Order Number | | Package | Pin Assignment | | | Packing |
|----------------|-------------------|---------|----------------|---|---|-----------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| 2SD669-x-AA3-R | 2SD669L-x-AA3-R | SOT-223 | B | C | E | Tape Reel |
| 2SD669-x-AB3-R | 2SD669L-x-AB3-R | SOT-89 | B | C | E | Tape Reel |
| 2SD669-x-T60-K | 2SD669L-x-T60-K | TO-126 | E | C | B | Bulk |
| 2SD669-x-T6C-R | 2SD669L-x-T6C-R | TO-126C | E | C | B | Bulk |
| 2SD669-x-T92-B | 2SD669L-x-T92-B | TO-92 | E | C | B | Tape Box |
| 2SD669-x-T92-K | 2SD669L-x-T92-K | TO-92 | E | C | B | Bulk |
| 2SD669-x-T9N-B | 2SD669L-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| 2SD669-x-T9N-K | 2SD669L-x-T9N-K | TO-92NL | E | C | B | Bulk |
| 2SD669-x-T9N-R | 2SD669L-x-T9N-R | TO-92NL | E | C | B | Tape Reel |
| 2SD669-x-TM3-T | 2SD669L-x-TM3-T | TO-251 | E | C | B | Tube |
| 2SD669-x-TN3-R | 2SD669L-x-TN3-R | TO-252 | B | C | E | Tape Reel |
| 2SD669-x-TN3-T | 2SD669L-x-TN3-T | TO-252 | B | C | E | Tube |

■ ORDERING INFORMATION(Cont.)

| Order Number | | Package | Pin Assignment | | | Packing |
|-----------------|-------------------|---------|----------------|---|---|-----------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| 2SD669A-x-AA3-R | 2SD669AL-x-AA3-R | SOT-223 | B | C | E | Tape Reel |
| 2SD669A-x-AB3-R | 2SD669AL-x-AB3-R | SOT-89 | B | C | E | Tape Reel |
| 2SD669A-x-T60-K | 2SD669AL-x-T60-K | TO-126 | E | C | B | Bulk |
| 2SD669A-x-T6C-R | 2SD669AL-x-T6C-R | TO-126C | E | C | B | Bulk |
| 2SD669A-x-T92-B | 2SD669AL-x-T92-B | TO-92 | E | C | B | Tape Box |
| 2SD669A-x-T92-K | 2SD669AL-x-T92-K | TO-92 | E | C | B | Bulk |
| 2SD669A-x-T9N-B | 2SD669AL-x-T9N-B | TO-92NL | E | C | B | Tape Box |
| 2SD669A-x-T9N-K | 2SD669AL-x-T9N-K | TO-92NL | E | C | B | Bulk |
| 2SD669A-x-T9N-R | 2SD669AL-x-T9N-R | TO-92NL | E | C | B | Tape Reel |
| 2SD669A-x-TM3-T | 2SD669AL-x-TM3-T | TO-251 | E | C | B | Tube |
| 2SD669A-x-TN3-R | 2SD669AL-x-TN3-R | TO-252 | B | C | E | Tape Reel |
| 2SD669A-x-TN3-T | 2SD669AL-x-TN3-T | TO-252 | B | C | E | Tube |

| | |
|---|--|
| <p>2SD669L-x-AB3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating</p> | <p>(1) K: Bulk, R: Tape Reel, T: Tube (2) AA3: SOT-223, AB3: SOT-89, T60: TO-126, T6C: TO-126C, TM3: TO-251, TN3: TO-252, T92: TO-92, T9N: TO-92NL (3) x: refer to Classification of h_{FE1} (4) L: Lead Free Plating, Blank: Pb/Sn</p> |
|---|--|

■ ABSOLUTE MAXIMUM RATING (Ta=25 , unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|--------------------|------------|------|
| Collector-Base Voltage | V _{CB0} | 180 | V |
| Collector-Emitter Voltage | 2SD669 | 120 | V |
| | 2SD669A | 160 | |
| Emitter-Base Voltage | V _{EBO} | 5 | V |
| Collector Current | I _C | 1.5 | A |
| Collector Peak Current | I _{C(PK)} | 3 | A |
| Collector Power Dissipation | P _D | SOT-223 | 0.5 |
| Collector Power Dissipation | | TO-126 | 1 |
| Junction Temperature | T _J | +150 | |
| Storage Temperature | T _{STG} | -40 ~ +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)

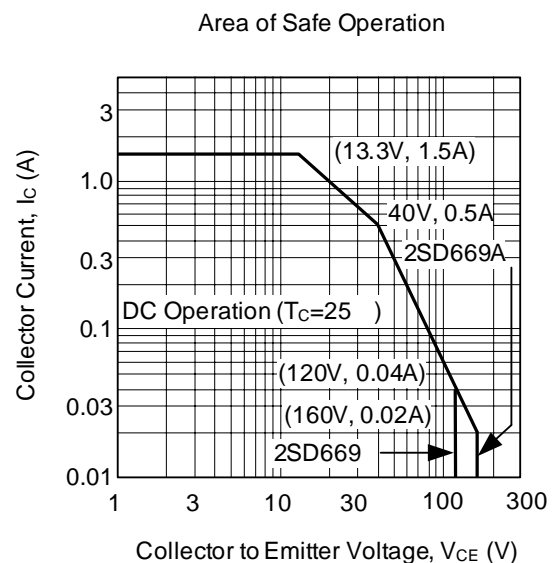
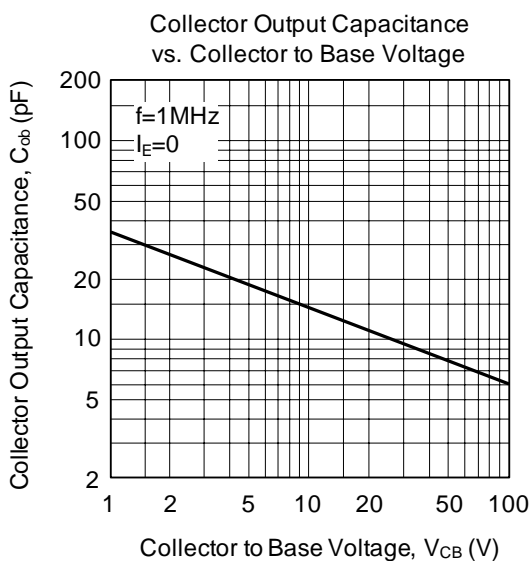
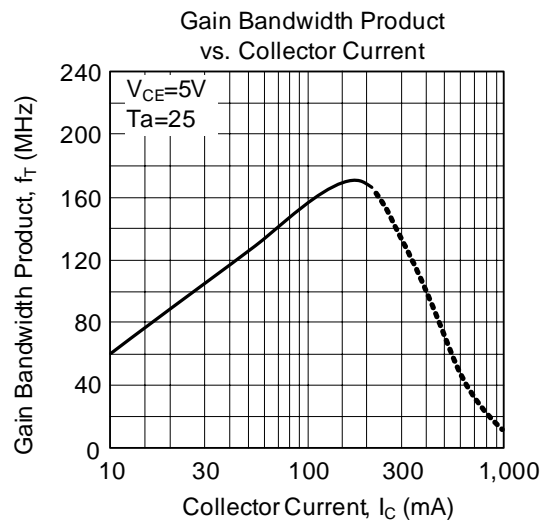
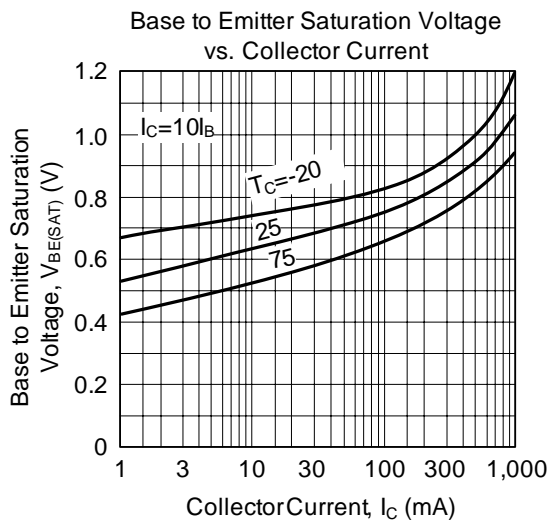
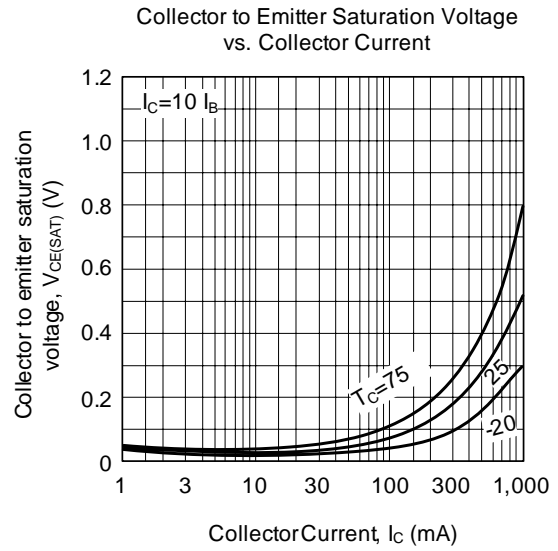
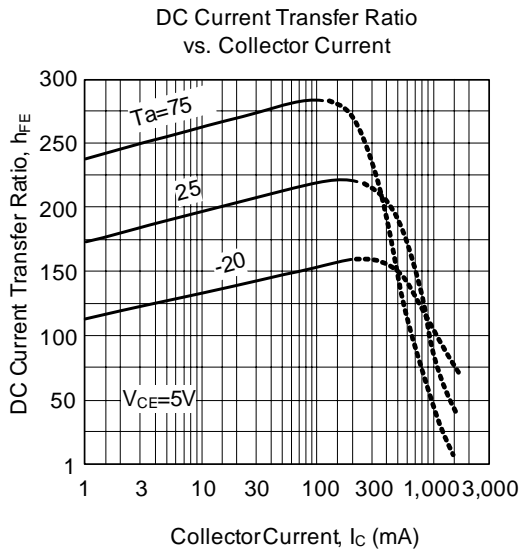
| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--|----------------------|--|---------|-----|-----|------|
| Collector to Base Breakdown Voltage | BV _{CB0} | I _C =1mA, I _E =0 | 180 | | | V |
| Collector to Emitter Breakdown Voltage | BV _{CEO} | I _C =10mA, R _{BE} =∞ | 2SD669 | 120 | | V |
| | | | 2SD669A | 160 | | |
| Emitter to Base Breakdown Voltage | BV _{EBO} | I _E =1mA, I _C =0 | 5 | | | V |
| Collector Cut-off Current | I _{CB0} | V _{CB} =160V, I _E =0 | | | 10 | μA |
| DC Current Gain | h _{FE1} | V _{CE} =5V, I _C =150mA (Note) | 60 | | 320 | |
| | h _{FE2} | V _{CE} =5V, I _C =500mA (Note) | 30 | | | |
| Collector-Emitter Saturation Voltage | V _{CE(SAT)} | I _C =600mA, I _B =50mA (Note) | | | 1 | V |
| Base-Emitter Voltage | V _{BE} | V _{CE} =5V, I _C =150mA (Note) | | | 1.5 | V |
| Current Gain Bandwidth Product | f _T | V _{CE} =5V, I _C =150mA (Note) | | 140 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, I _E =0, f=1MHz | | 14 | | pF |

Note: Pulse test.

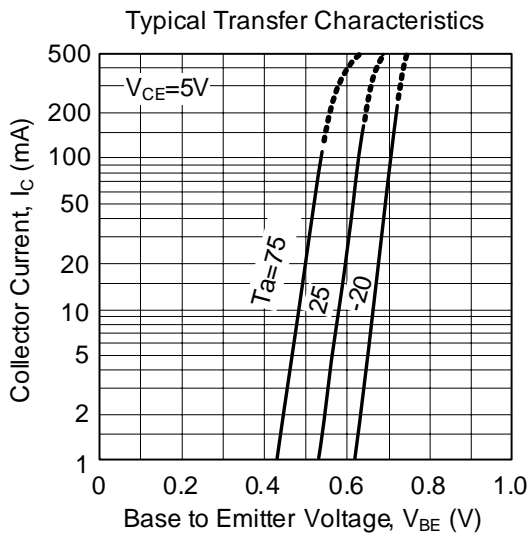
■ CLASSIFICATION OF h_{FE1}

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

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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