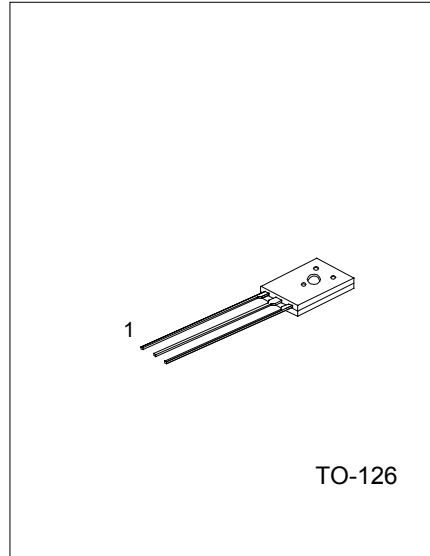


BIPOLAR POWER GENERAL PURPOSE TRANSISTOR

APPLICATIONS

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



1:EMITTER 2:COLLECTOR 3:BASE

ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

| PARAMETER | SYMBOL | RATING | UNIT |
|--|----------------------|------------|------|
| Collector-base voltage | V _{CB0} | 180 | V |
| Collector-emitter voltage | V _{CEO} | | V |
| 2SD669 | | 120 | |
| 2SD669A | | 160 | |
| Emitter-base voltage | V _{EBO} | 5 | V |
| Collector current | I _c | 1.5 | A |
| Collector peak current | I _{c(peak)} | 3 | A |
| Collector power dissipation | P _c | 1 | W |
| Collector power dissipation (T _c =25°C) | P _c | 20 | W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{STG} | -55 ~ +150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--|--------------------------------------|--|----------|-----|-----|------|
| Collector to bse breakdown voltage | V _{(BR)CBO} | I _c =1mA, I _E =0 | 180 | | | V |
| Collector to emitter breakdown voltage | V _{(BR)CEO} | I _c =10mA, R _{BE} =∞ | | | | V |
| 2SD669 | | | 120 | | | |
| 2SD669A | | | 160 | | | |
| Emitter to base breakdown voltage | V _{(BR)EBO} | I _E =1mA, I _c =0 | 5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =160V, I _E =0 | | | 10 | μA |
| DC current gain | h _{FE1} h _{FE2} | V _{CE} =5V, I _c =150mA (note) V _{CE} =5V, I _c =500mA (note) | 60 30 | | 320 | |
| 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 |

UTC 2SD669/A

NPN EPITAXIAL SILICON TRANSISTOR

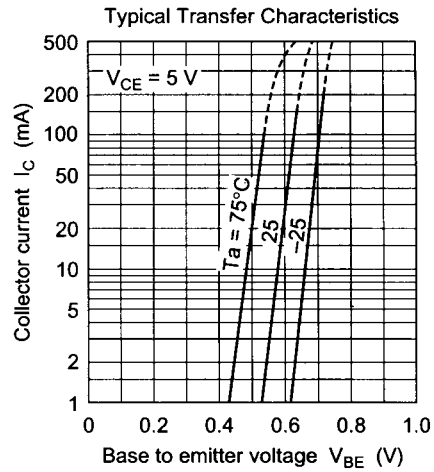
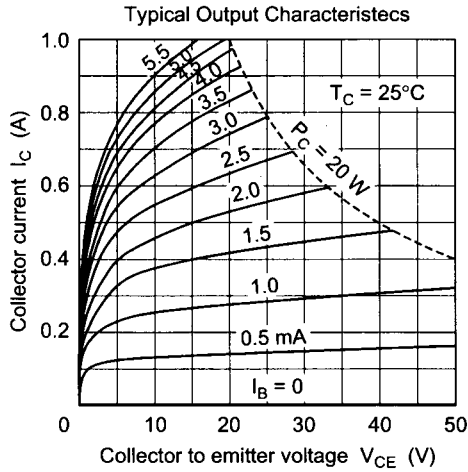
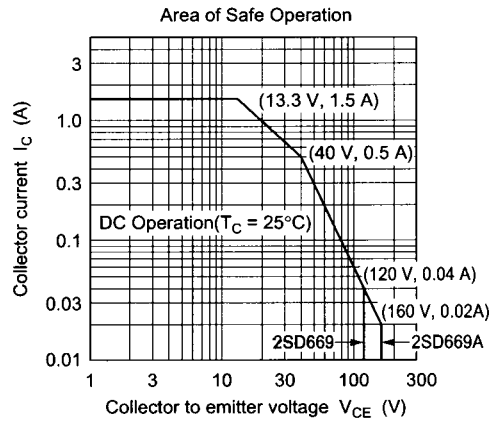
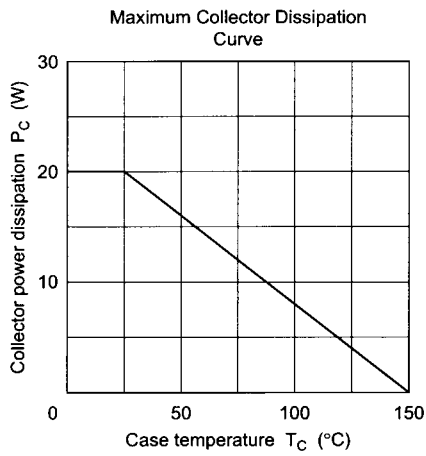
| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------|----------|-------------------------------|-----|-----|-----|------|
| Current gain bandwidth product | f_T | $V_{CE}=5V, I_C=150mA$ (note) | | 140 | | MHz |
| Output capacitance | C_{ob} | $V_{CB}=10V, I_E=0, f=1MHz$ | | 14 | | pF |

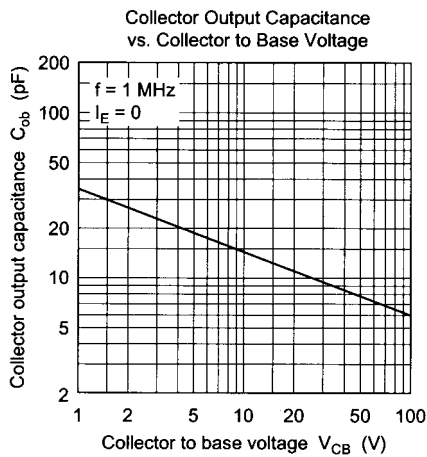
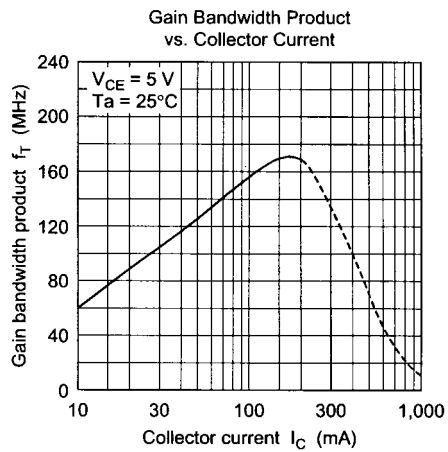
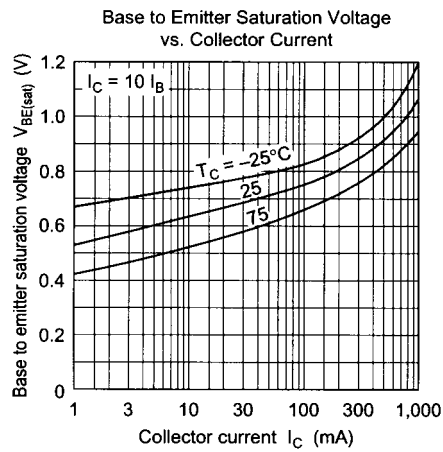
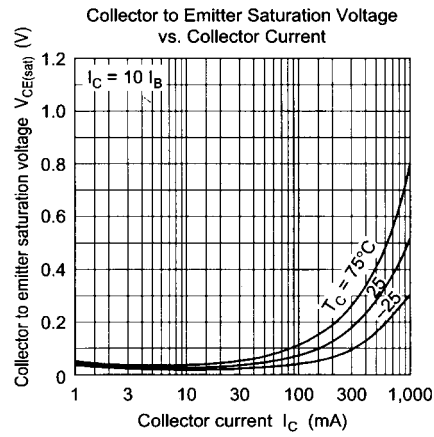
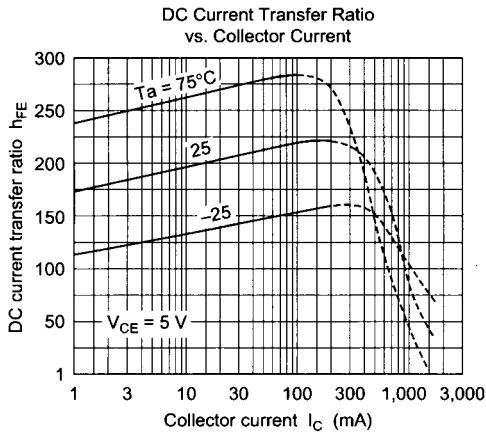
Note: Pulse test.

CLASSIFICATION OF h_{FE1}

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

TYPICAL PARAMETERS PERFORMANCE





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