

2A / 30V Bipolar transistor

2SD2679

●Applications

Low frequency amplification, driver

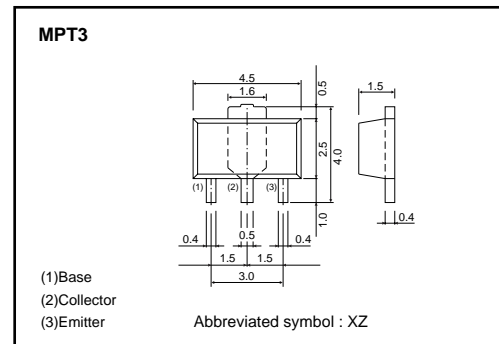
●Features

- 1) Collector current is high.
- 2) Low collector-emitter saturation voltage.
($V_{CE(sat)} \leq 350\text{mV}$ at $I_C = 1.5\text{A}$, $I_B = 75\text{mA}$)

●Structure

NPN epitaxial planar silicon transistor

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit | |
|---------------------------|-----------|-------------|------|---|
| Collector-base voltage | V_{CB0} | 30 | V | |
| Collector-emitter voltage | V_{CE0} | 30 | V | |
| Emitter-base voltage | V_{EB0} | 6 | V | |
| Collector current | DC | I_C | 2 | A |
| | Pulse | I_{CP} | 4 *1 | |
| Power dissipation | P_C | 0.5 *2 | W | |
| | | 2 *3 | | |
| Junction temperature | T_j | 150 | °C | |
| Storage temperature | T_{stg} | -55 to +150 | °C | |

*1 $P_w=1\text{ms}$, single pulse.

*2 Each terminal mounted on a recommended land.

*3 Mounted on a 40×40×0.7mm ceramic board.

●Packaging specifications

| Package | MPT3 |
|----------------|------------------------------|
| Package | MPT3 |
| Packaging type | Taping |
| Code | T100 |
| Part No. | Basic ordering unit (pieces) |
| 2SD2679 | 1000 |
| | ○ |

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|-----------------|------|------|------|------|--|
| Collector-emitter breakdown voltage | BV_{CE0} | 30 | – | – | V | $I_C=1\text{mA}$ |
| Collector-base breakdown voltage | BV_{CB0} | 30 | – | – | | $I_C=10\mu\text{A}$ |
| Emitter-base breakdown voltage | BV_{EB0} | 6 | – | – | | $I_E=10\mu\text{A}$ |
| Collector cut-off current | I_{CBO} | – | – | 100 | nA | $V_{CB}=30\text{V}$ |
| Emitter cut-off current | I_{EBO} | – | – | 100 | | $V_{EB}=6\text{V}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ * | – | 180 | 370 | mV | $I_C/I_B=1.5\text{A}/75\text{mA}$ |
| DC current gain | h_{FE} | 270 | – | 680 | – | $V_{CE}=2\text{V}$, $I_C=200\text{mA}$ |
| Transition frequency | f_T | – | 280 | – | MHz | $V_{CE}=2\text{V}$, $I_E=-200\text{mA}$, $f=100\text{MHz}$ |
| Collector output capacitance | C_{ob} | – | 20 | – | pF | $V_{CB}=10\text{V}$, $I_E=0\text{mA}$, $f=1\text{MHz}$ |

* Pulsed

Transistors

●Electrical characteristics curves

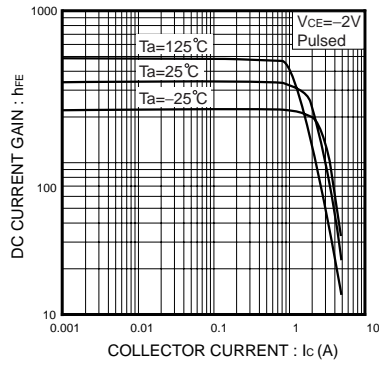


Fig.1 DC current gain vs. collector current

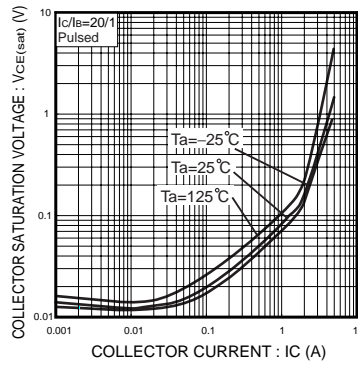


Fig.2 Collector-emitter saturation voltage vs. collector current

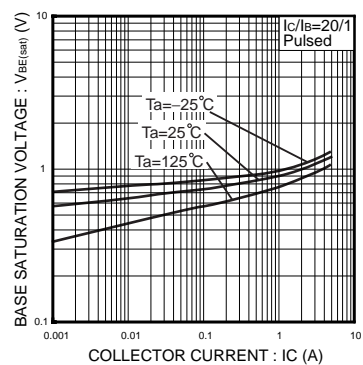


Fig.3 Base-emitter saturation voltage vs. collector current

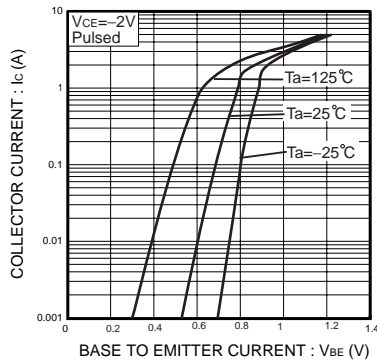


Fig.4 Grounded emitter propagation characteristics

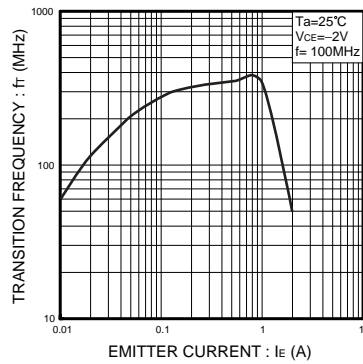


Fig.5 Gain bandwidth product vs. emitter current

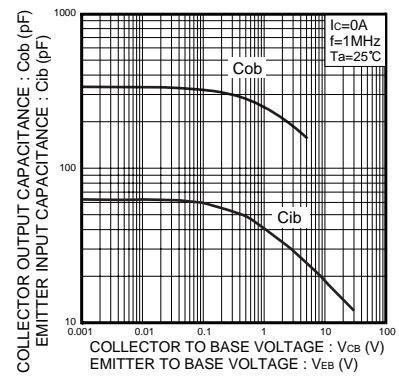


Fig.6 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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