



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

PCP1103 — PNP Epitaxial Planar Silicon Transistor DC / DC Converter Applications

Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers, IGBT gate drivers.

Features

- Adoption of MBIT process.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High speed switching.
- High allowable power dissipation.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|---|-------------|------|
| Collector-to-Base Voltage | V _{CBO} | | -30 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | -30 | V |
| Emitter-to-Base Voltage | V _{EBO} | | -5 | V |
| Collector Current | I _C | | -1.5 | A |
| Collector Current (Pulse) | I _{CP} | | -5 | A |
| Base Current | I _B | | -300 | mA |
| Collector Dissipation | P _C | When mounted on ceramic substrate (450mm ² ×0.8mm) | 1.3 | W |
| | | T _C =25°C | 3.5 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Marking : RF

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PCP1103

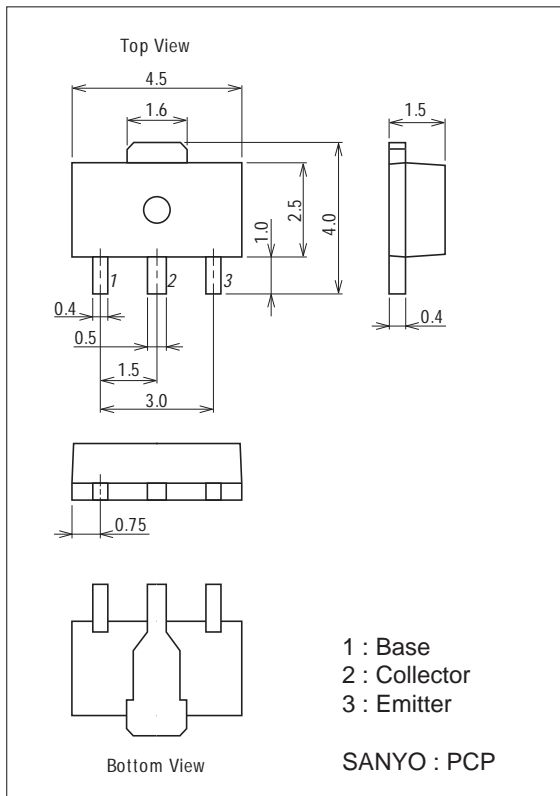
Electrical Characteristics at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|---|---------|-------|------|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = -30\text{V}, I_E = 0\text{A}$ | | | -0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = -4\text{V}, I_C = 0\text{A}$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = -2\text{V}, I_C = -100\text{mA}$ | 200 | | 560 | |
| Gain-Bandwidth Product | f_T | $V_{CE} = -10\text{V}, I_C = -300\text{mA}$ | | 450 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = -10\text{V}, f = 1\text{MHz}$ | | 9 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -0.75\text{A}, I_B = -15\text{mA}$ | | -250 | -375 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = -0.75\text{A}, I_B = -15\text{mA}$ | | -0.85 | -1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = -10\mu\text{A}, I_E = 0\text{A}$ | -30 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = -1\text{mA}, R_{BE} = \infty$ | -30 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = -10\mu\text{A}, I_C = 0\text{A}$ | -5 | | | V |
| Turn-On Time | t_{on} | See specified Test Circuit. | | 35 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | 115 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 30 | | ns |

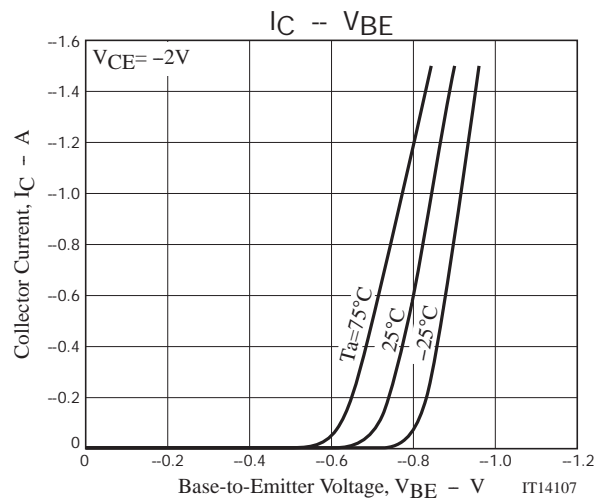
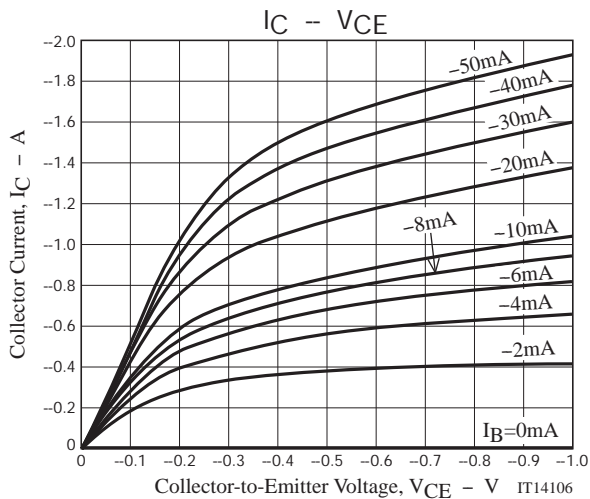
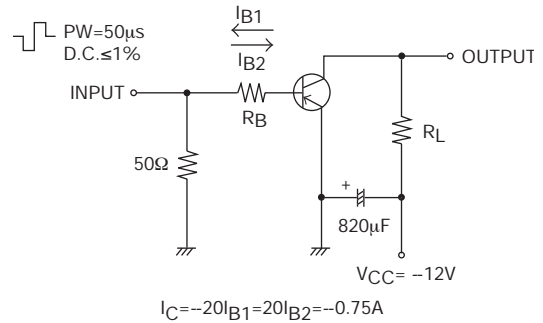
Package Dimensions

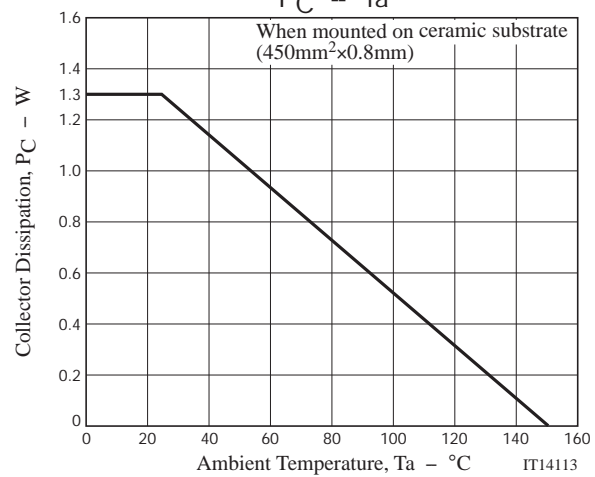
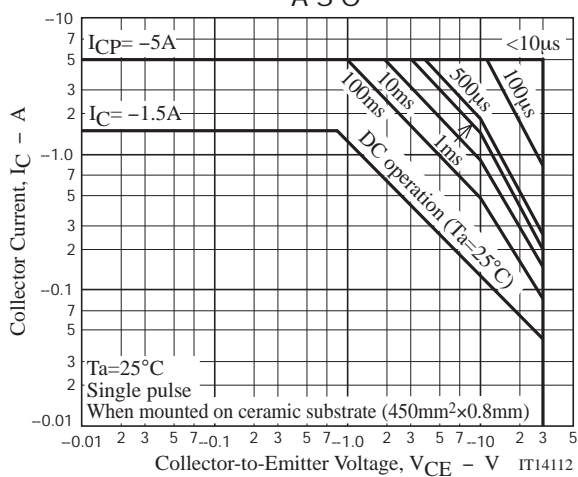
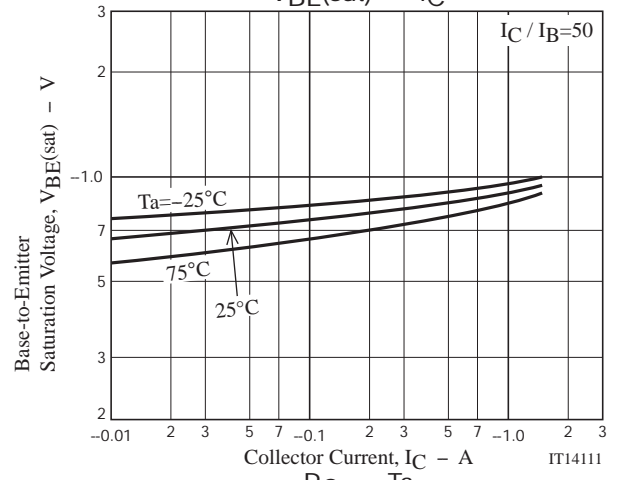
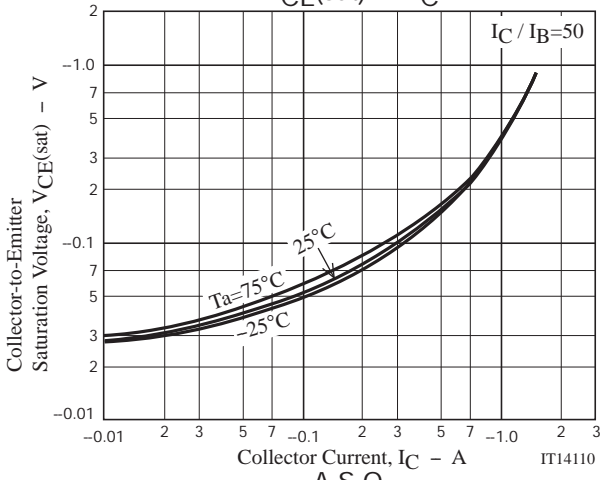
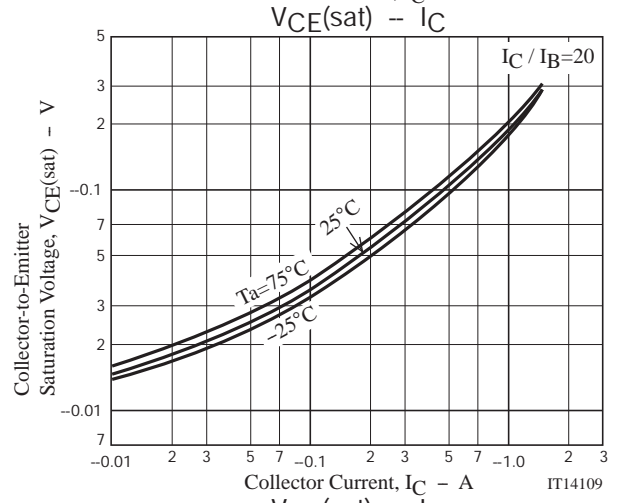
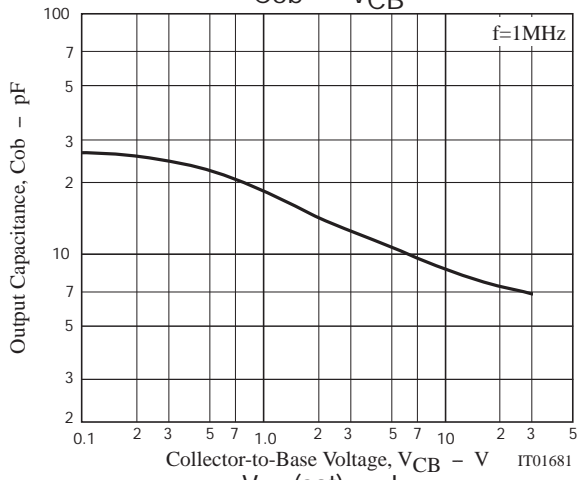
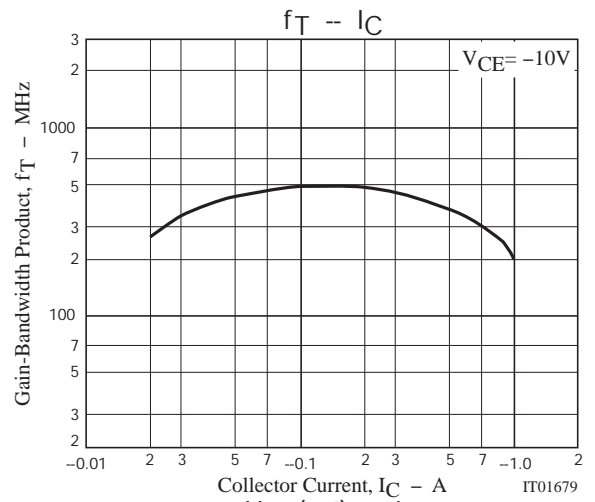
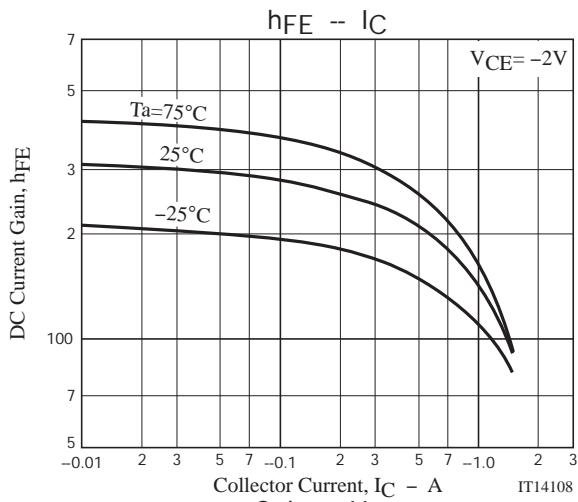
unit : mm (typ)

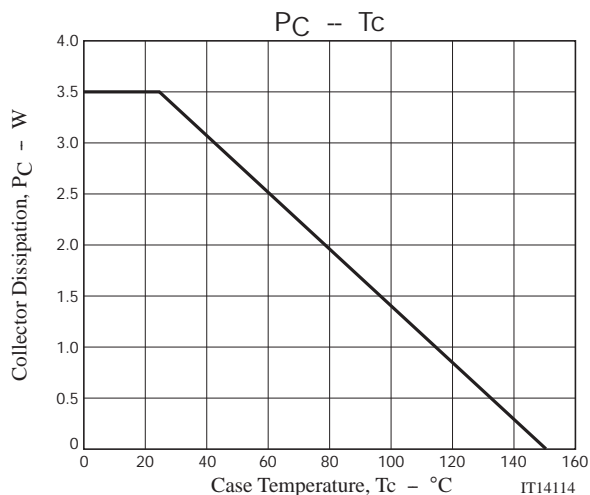
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Switching Time Test Circuit







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