



SANYO Semiconductors

DATA SHEET

PCP1203

 — NPN Epitaxial Planar Silicon Transistor

DC / DC Converter Applications

Applications

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

Features

- Adoption of FBET, MBIT processes.
- 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} | | 40 | 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 : QJ

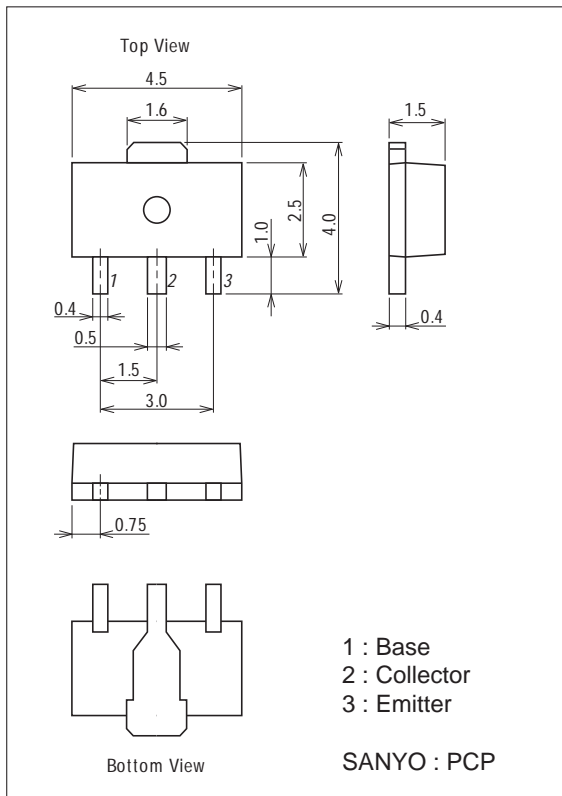
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Electrical Characteristics at Ta=25°C

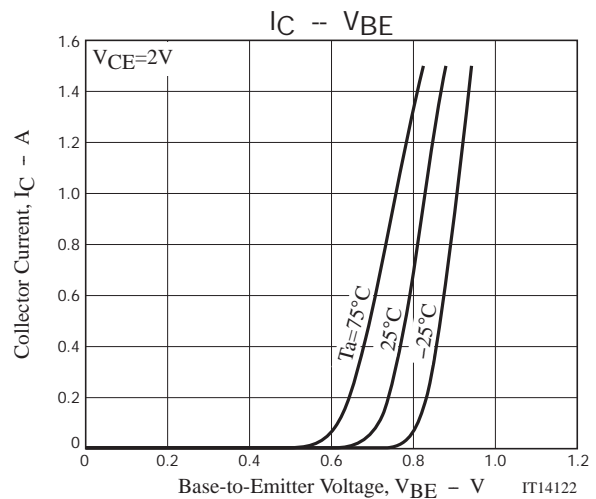
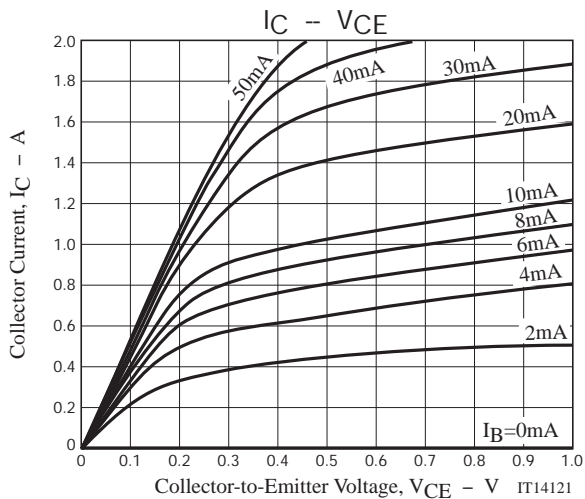
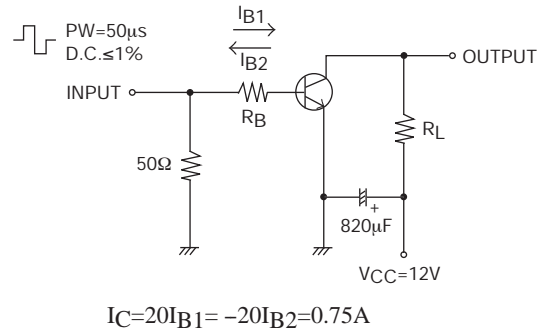
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|---|---------|------|-----|------|
| | | | min | typ | max | |
| Collector Cutoff Current | ICBO | V _{CB} =30V, I _E =0A | | | 0.1 | μA |
| Emitter Cutoff Current | IEBO | V _{EB} =4V, I _C =0A | | | 0.1 | μA |
| DC Current Gain | h _{FE} | V _{CE} =2V, I _C =100mA | 200 | | 560 | |
| Gain-Bandwidth Product | f _T | V _{CE} =10V, I _C =300mA | | 500 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, f=1MHz | | 8 | | pF |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =0.75A, I _B =15mA | | 150 | 225 | mV |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =0.75A, I _B =15mA | | 0.85 | 1.2 | V |
| Collector-to-Base Breakdown Voltage | V _{(BR)CBO} | I _C =10μA, I _E =0A | 40 | | | V |
| Collector-to-Emitter Breakdown Voltage | V _{(BR)CEO} | I _C =1mA, R _{BE} =∞ | 30 | | | V |
| Emitter-to-Base Breakdown Voltage | V _{(BR)EBO} | I _E =10μA, I _C =0A | 5 | | | V |
| Turn-On Time | t _{on} | See specified Test Circuit. | | 35 | | ns |
| Storage Time | t _{stg} | See specified Test Circuit. | | 205 | | ns |
| Fall Time | t _f | See specified Test Circuit. | | 30 | | ns |

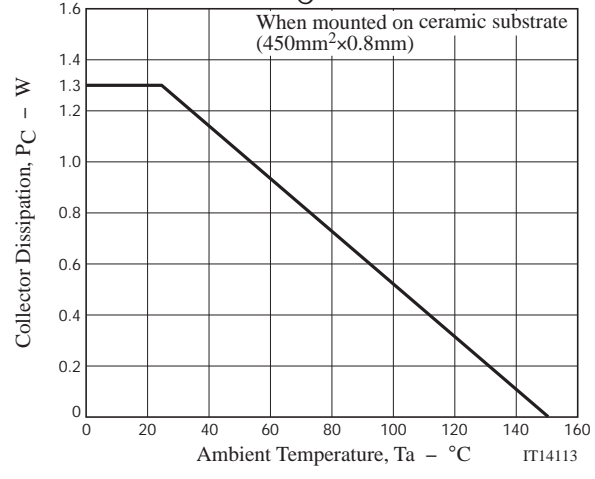
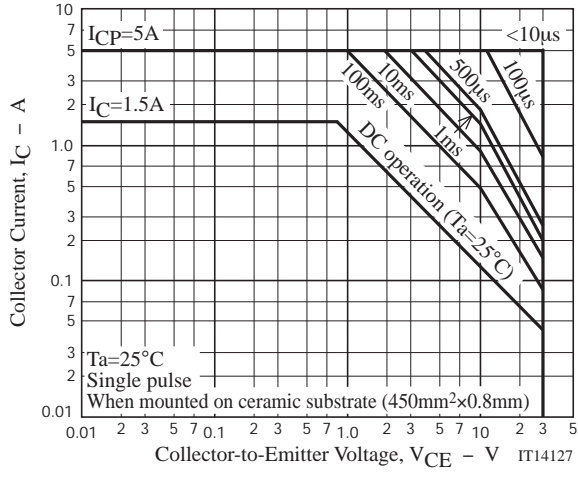
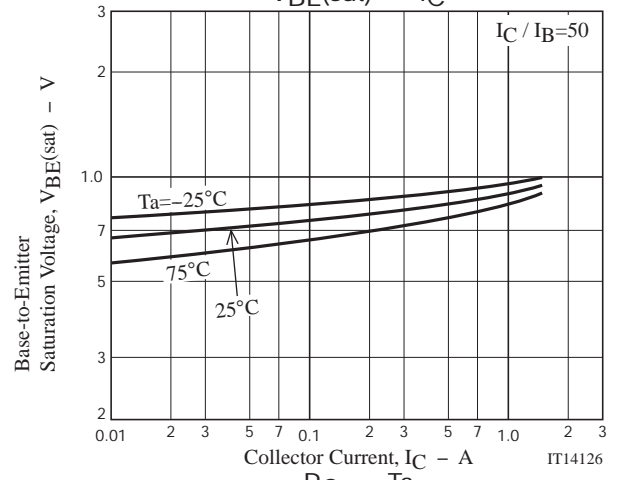
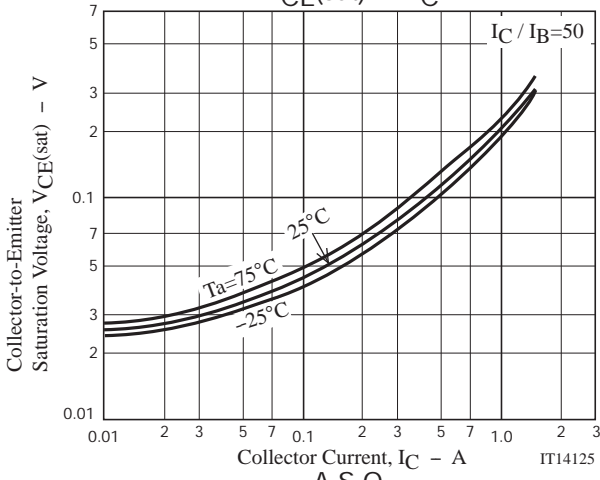
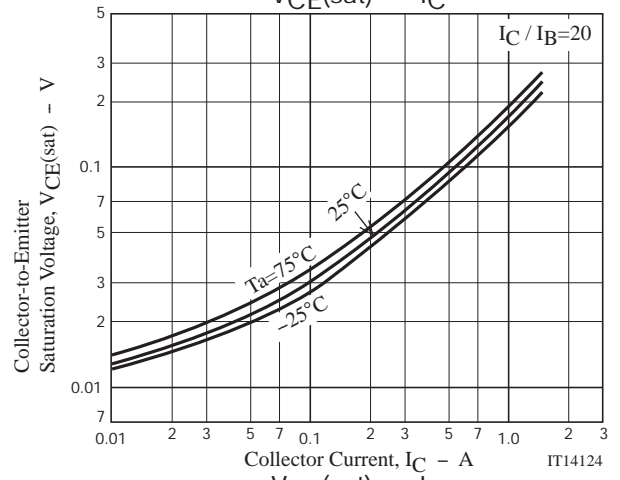
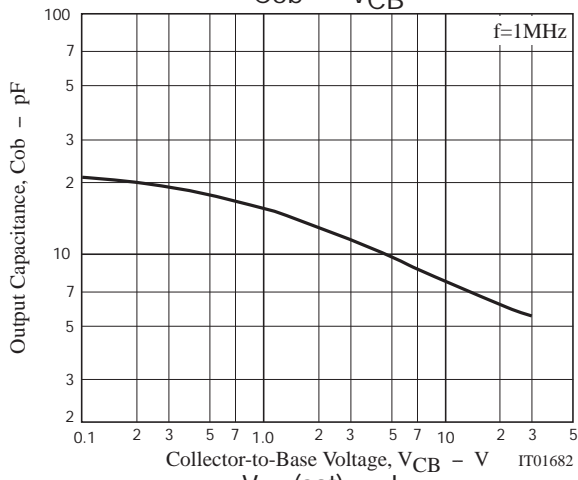
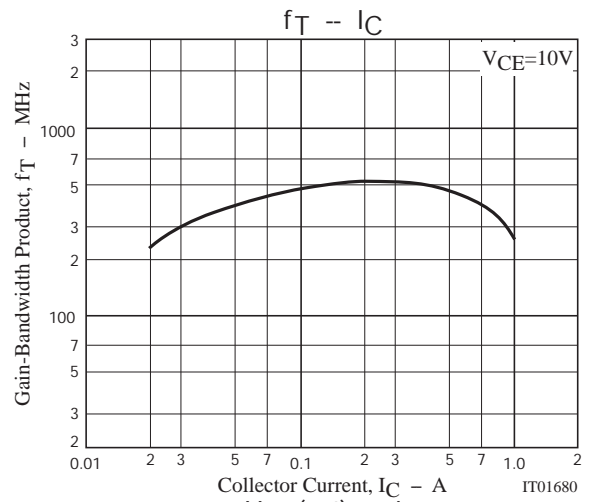
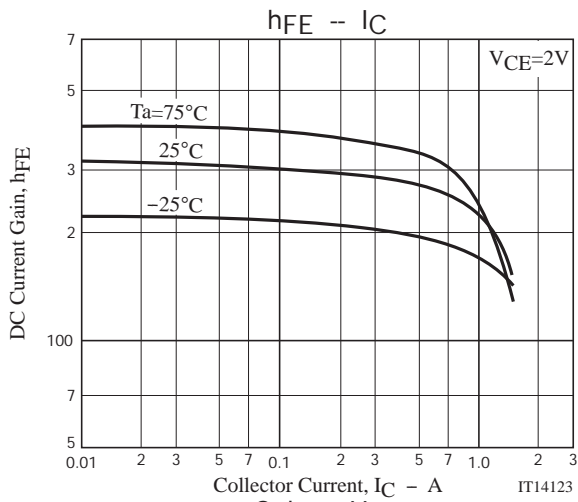
Package Dimensions

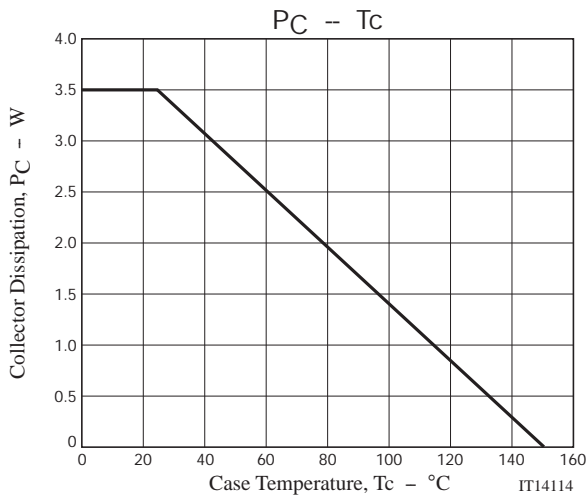
unit : mm (typ)
7007A-004



Switching Time Test Circuit







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