



SANYO Semiconductors

DATA SHEET

SFT1101

 PNP Epitaxial Planar Silicon Transistor
High-Voltage Switching Applications

Applications

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

Features

- Adoption of FBET, MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- High allowable power dissipation.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | -120 | V |
| Collector-to-Emitter Voltage | V _{CE0} | | -120 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | -120 | V |
| Emitter-to-Base Voltage | V _{EB0} | | -7 | V |
| Collector Current | I _C | | -2.5 | A |
| Collector Current (Pulse) | I _{CP} | | -4 | A |
| Base Current | I _B | | -500 | mA |
| Collector Dissipation | P _C | T _c =25°C | 1 | W |
| | | | 15 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Marking : T1101

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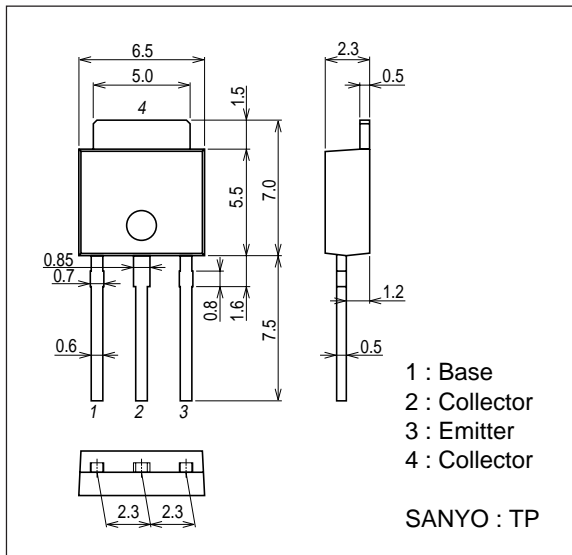
SFT1101

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|---------------------------------|---------|-------|------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-80V, I_E=0A$ | | | -1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=-5V, I_C=0A$ | | | -1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-5V, I_C=-100mA$ | 200 | | 560 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=-10V, I_C=-100mA$ | | 75 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=-10V, f=1MHz$ | | 21 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-1A, I_B=-100mA$ | | -150 | -270 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-1A, I_B=-100mA$ | | -0.85 | -1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=-10\mu A, I_E=0A$ | -120 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CES}$ | $I_C=-100\mu A, R_{BE}=0\Omega$ | -120 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=-1mA, R_{BE}=\infty$ | -120 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=-10\mu A, I_C=0A$ | -7 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 55 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | 840 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 40 | | ns |

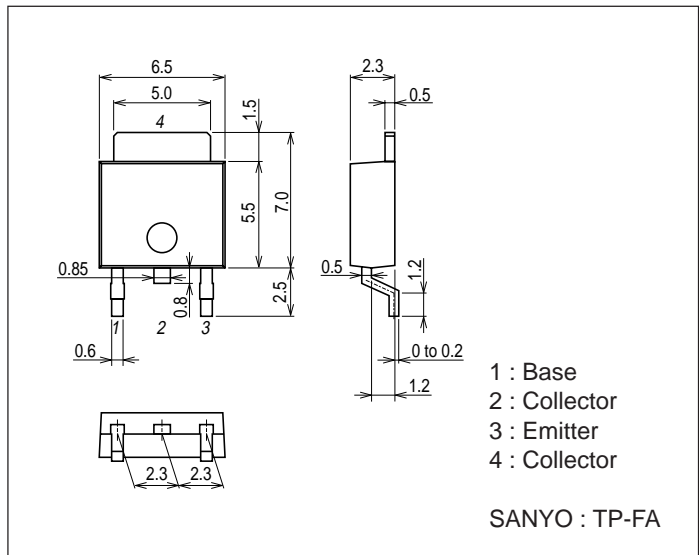
Package Dimensions

unit : mm (typ)
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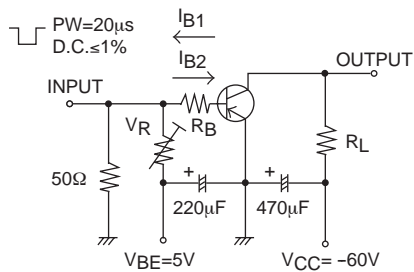


Package Dimensions

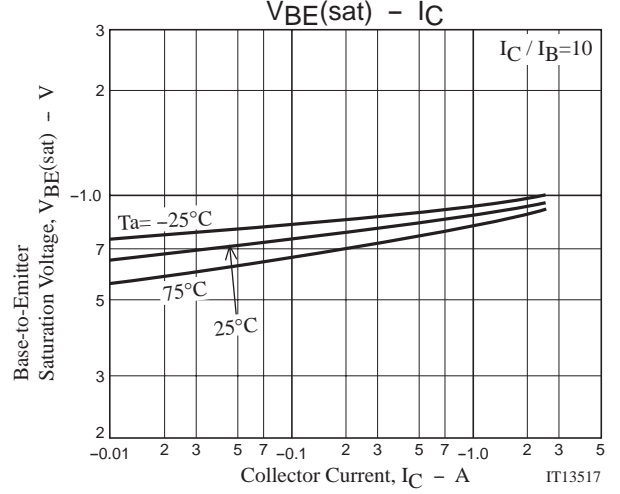
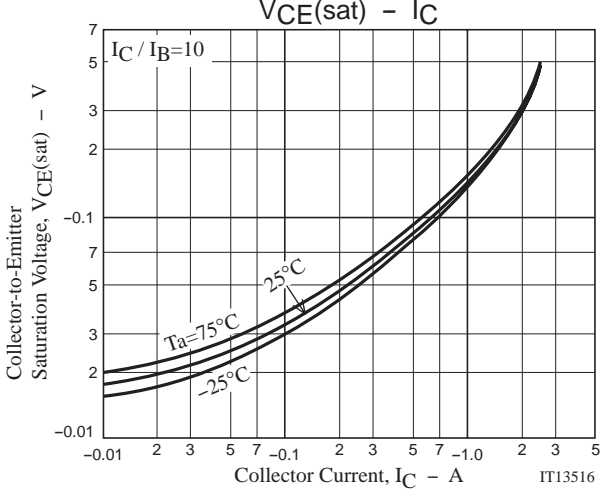
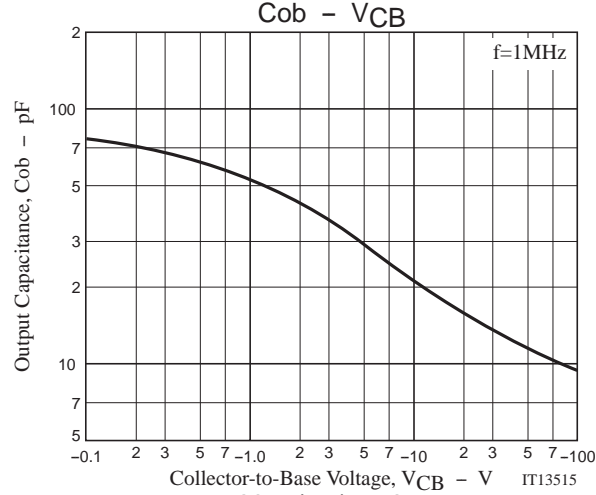
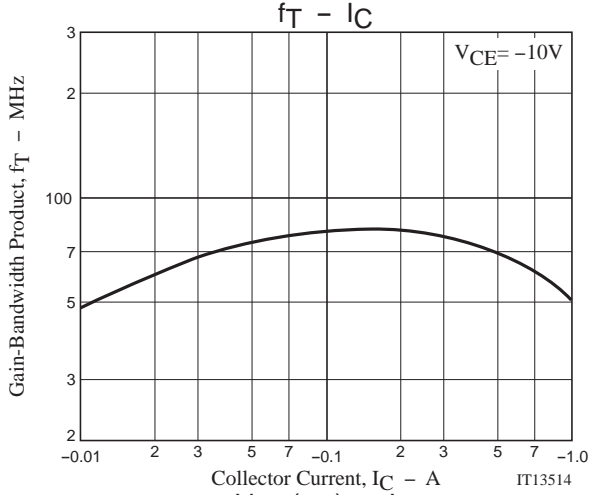
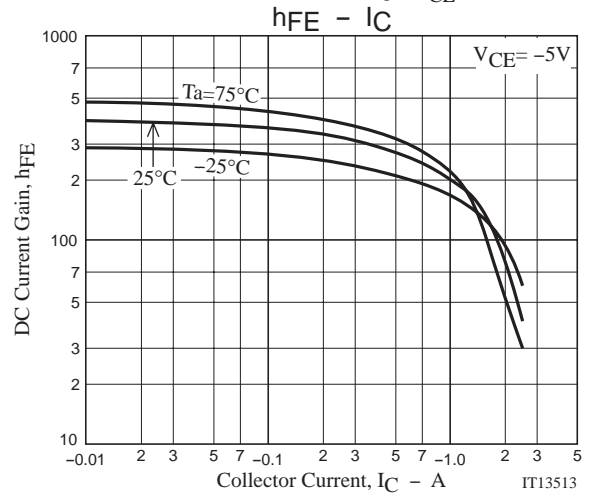
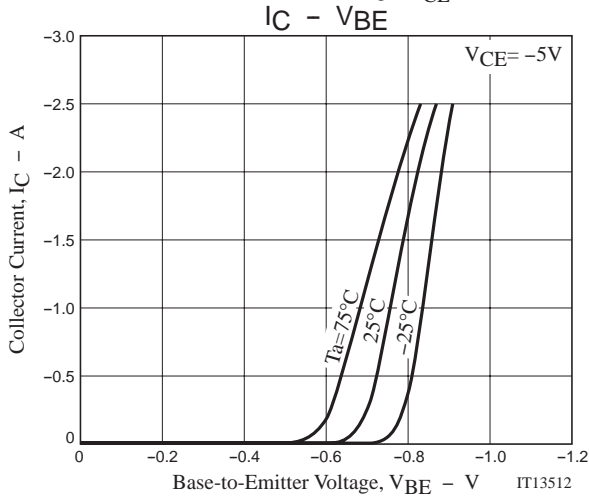
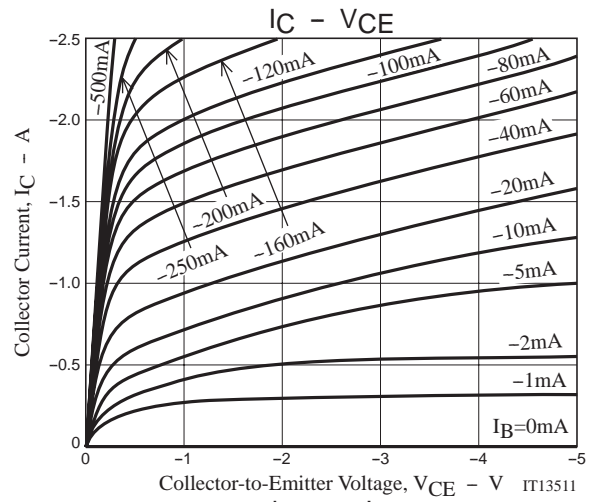
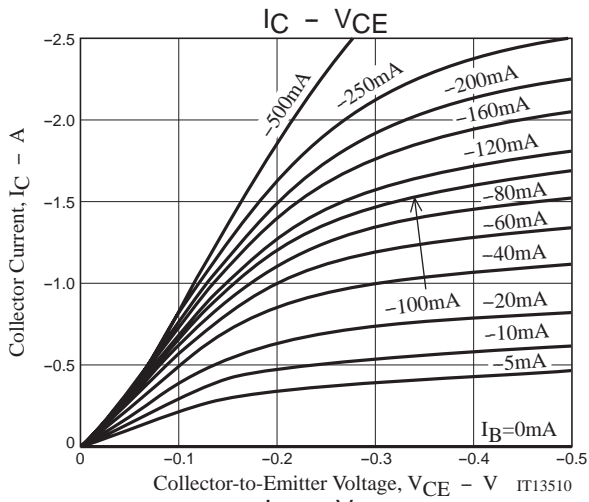
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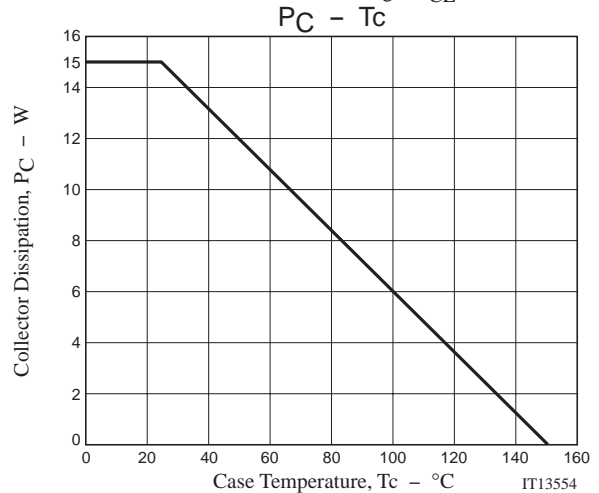
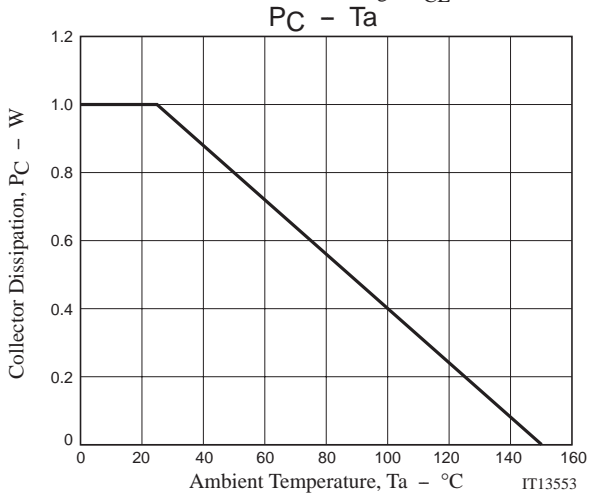
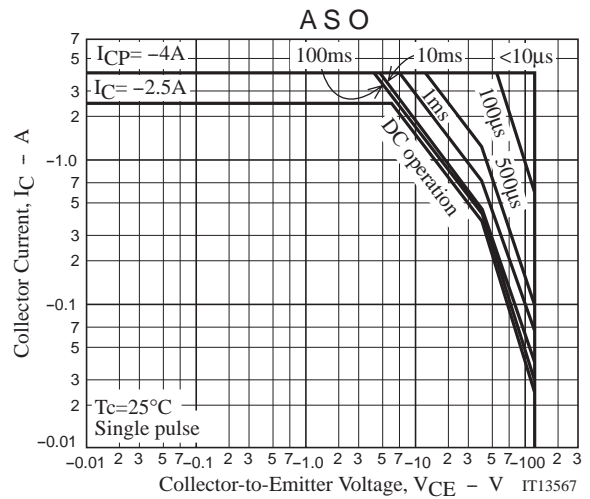
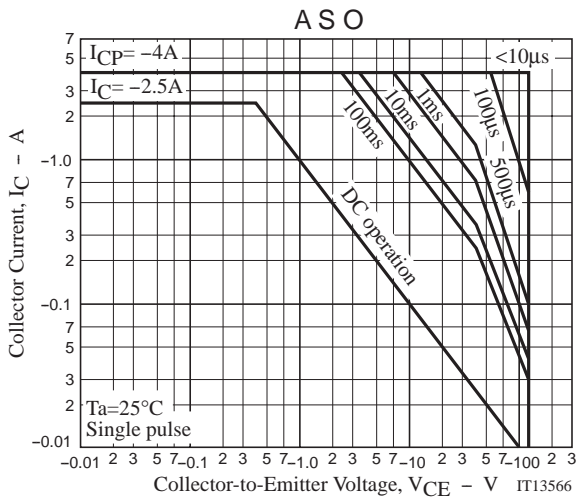


Switching Time Test Circuit



$$I_C = -10I_{B1} = 10I_{B2} = -0.7A$$





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