



SANYO Semiconductors

DATA SHEET

2SA2222 — PNP Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- Relay drivers, lamp drivers, motor drivers.

Features

- Adoption of MBIT process.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CBO} | | -50 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | -50 | V |
| Emitter-to-Base Voltage | V _{EBO} | | -6 | V |
| Collector Current | I _C | | -10 | A |
| Collector Current (Pulse) | I _{CP} | | -13 | A |
| Base Current | I _B | | -2 | A |
| Collector Dissipation | P _C | | 2 | W |
| | | T _C =25°C | 25 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

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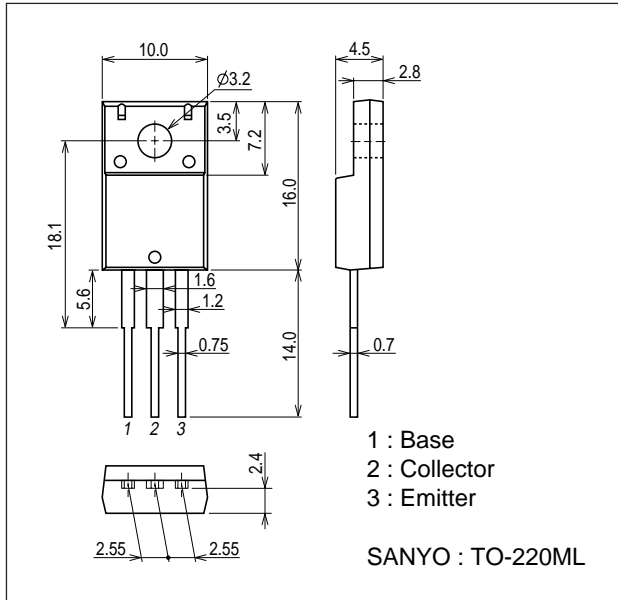
Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|------|------|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-40V, I_E=0A$ | | | -10 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=-4V, I_C=0A$ | | | -10 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-2V, I_C=-270mA$ | 150 | | 450 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=-10V, I_C=-1A$ | | 230 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=-10V, f=1MHz$ | | 115 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-6A, I_B=-300mA$ | | -250 | -500 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-6A, I_B=-300mA$ | | | -1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=-100\mu A, I_E=0A$ | -50 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=-1mA, R_{BE}=\infty$ | -50 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=-100\mu A, I_C=0A$ | -6 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 40 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | 240 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 22 | | ns |

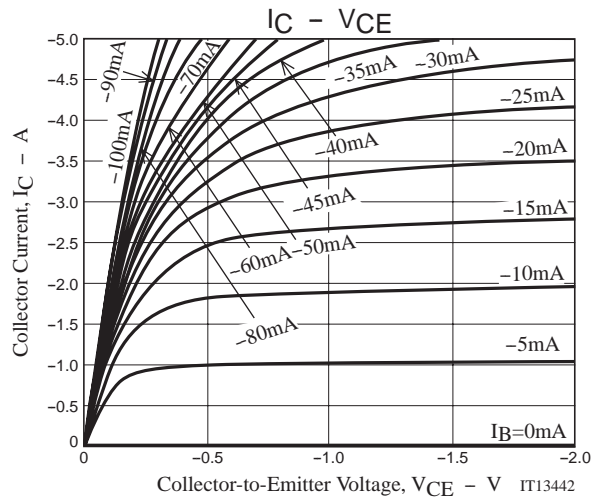
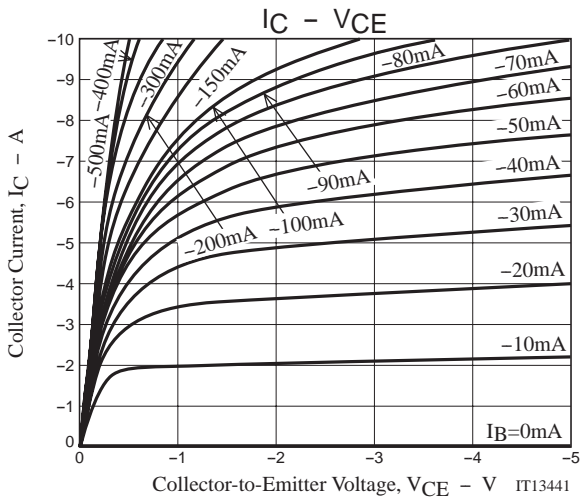
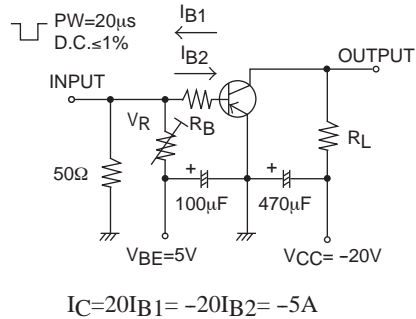
Package Dimensions

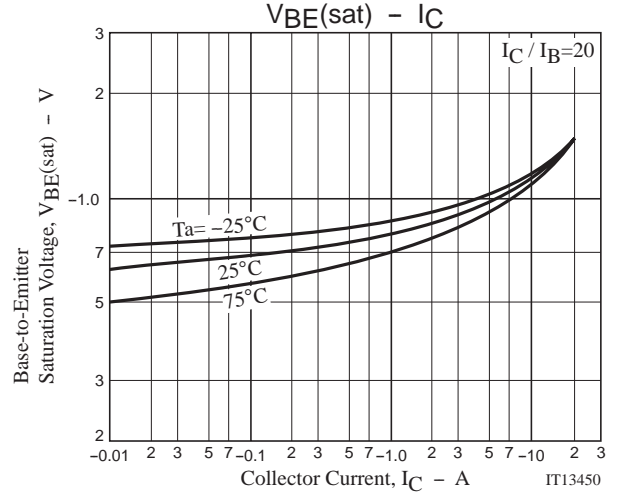
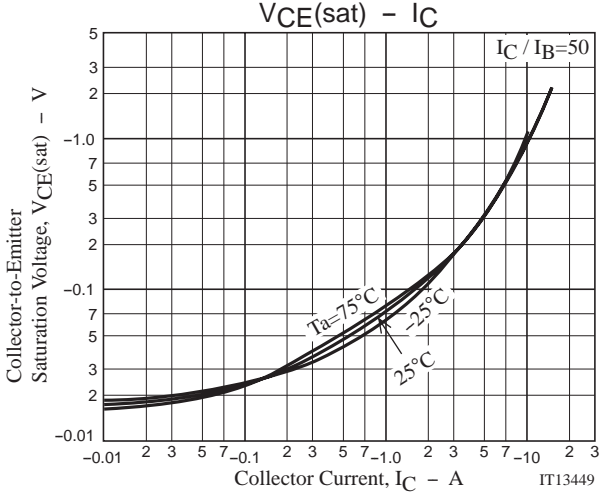
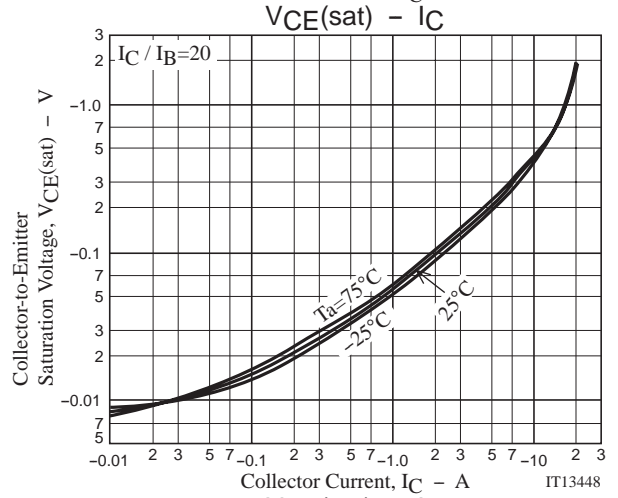
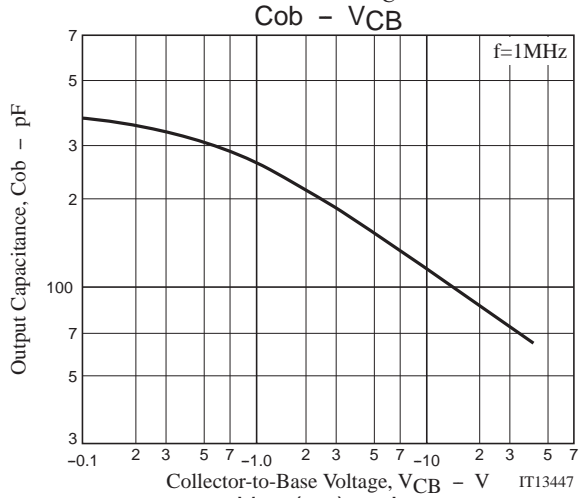
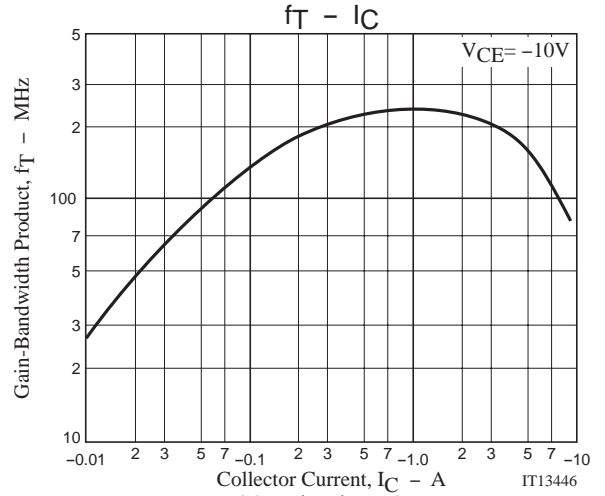
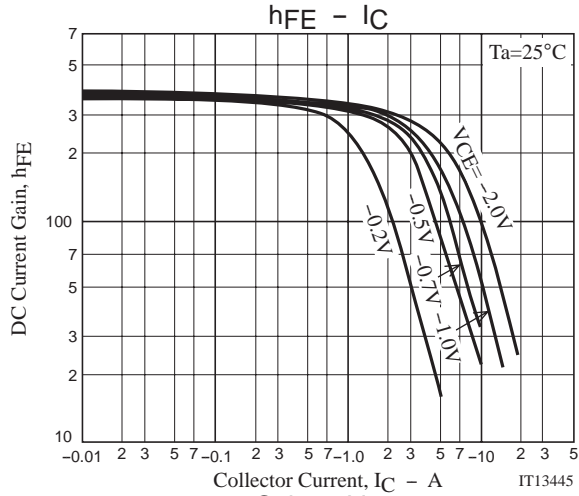
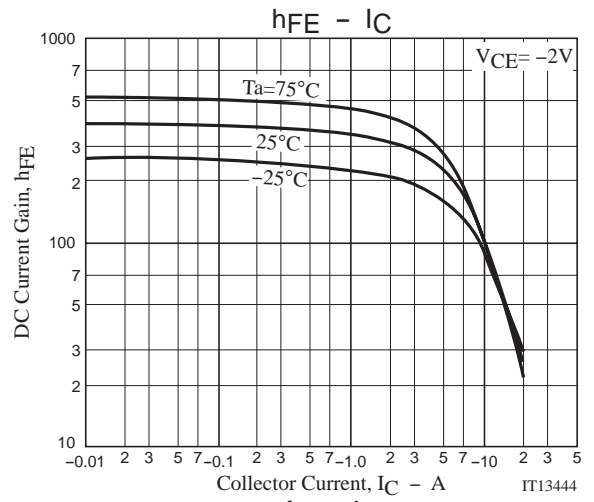
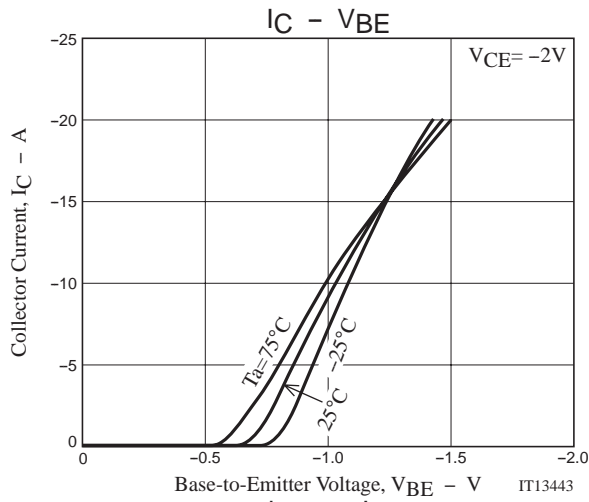
unit : mm (typ)

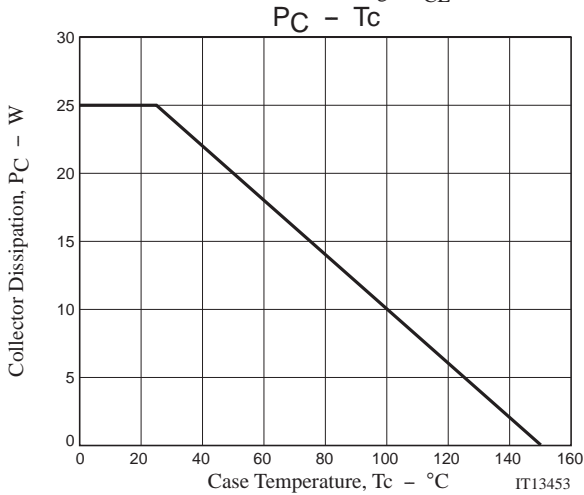
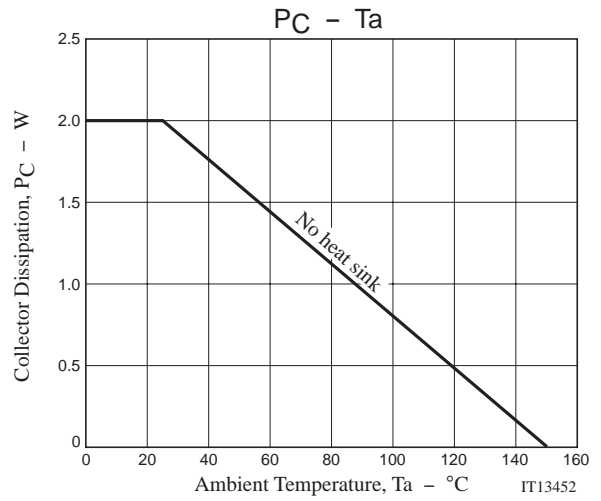
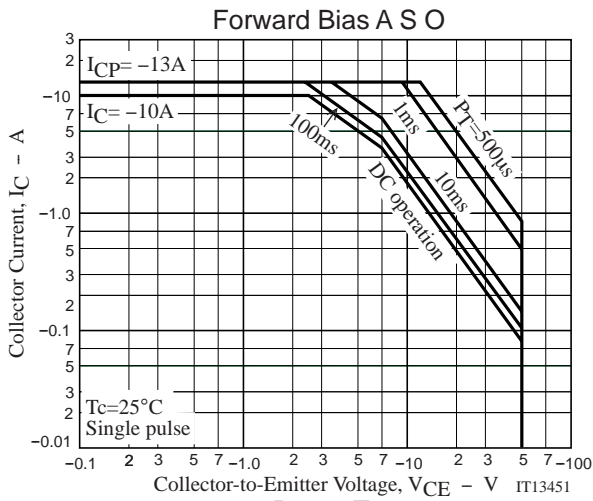
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Switching Time Test Circuit







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