



2SD2712 — NPN Triple Diffused Planar Silicon Darlington Transistor

Driver Applications

Applications

- Suitable for use in control motor drivers, printer hammer drivers, relay drivers, audio output and constant-voltage regulators.

Features

- High DC current gain.
- Wide ASO.
- Low saturation voltage.
- Adoption of MBIT process.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | 180 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | 160 | V |
| Emitter-to-Base Voltage | V _{EBO} | | 6 | V |
| Collector Current | I _C | | 10 | A |
| Collector Current (Pulse) | I _{CP} | | 16 | A |
| Collector Dissipation | P _C | | 2.5 | W |
| | | T _c =25°C | 110 | W |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|-----------------------|--|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I _{CB0} | V _{CB} =180V, I _E =0A | | | 0.1 | mA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =6V, I _C =0A | | | 10 | mA |
| DC Current Gain | h _{FE} | V _{CE} =5V, I _C =6.5A | 5000 | | | |
| Gain-Bandwidth Product | f _T | V _{CE} =5V, I _C =6.5A | | 15 | | MHz |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =5.5A, I _B =11mA | | | 1.5 | V |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =5.5A, I _B =11mA | | | 2.3 | V |
| Collector-to-Base Breakdown Voltage | V _{(BR)CBO} | I _C =1mA, I _E =0A | 180 | | | V |
| Collector Sustain Voltage | V _{CEO(SUS)} | I _C =100mA, I _B =0A | 160 | | | V |

Continued on next page.

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2SD2712

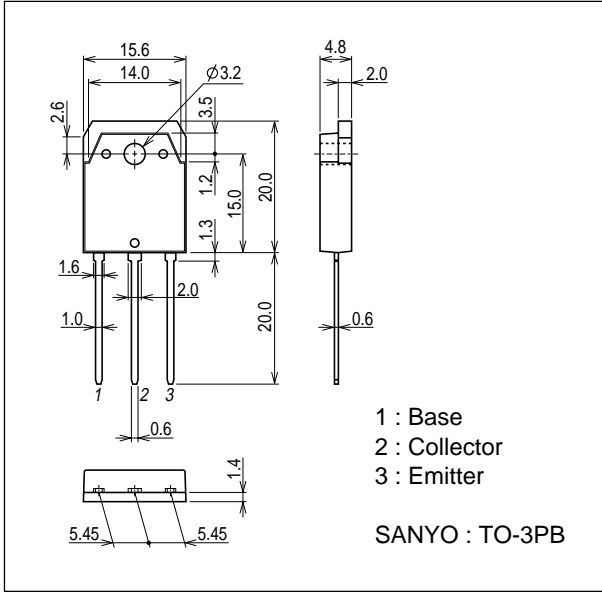
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------|-----------|-----------------------------|---------|-----|-----|---------|
| | | | min | typ | max | |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 0.9 | | μs |
| Storage Time | t_{stg} | See specified Test Circuit. | | 8.0 | | μs |
| Fall Time | t_f | See specified Test Circuit. | | 3.0 | | μs |

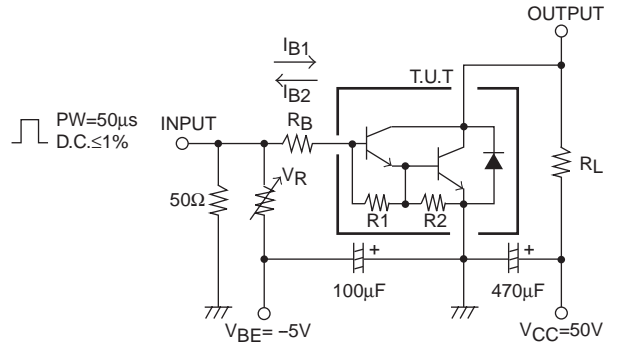
Package Dimensions

unit : mm

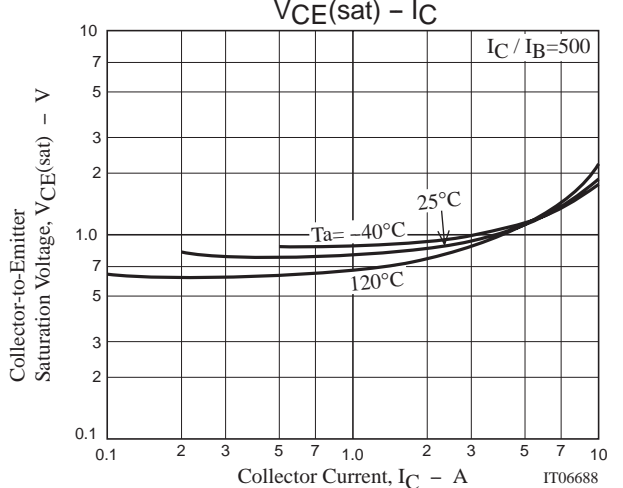
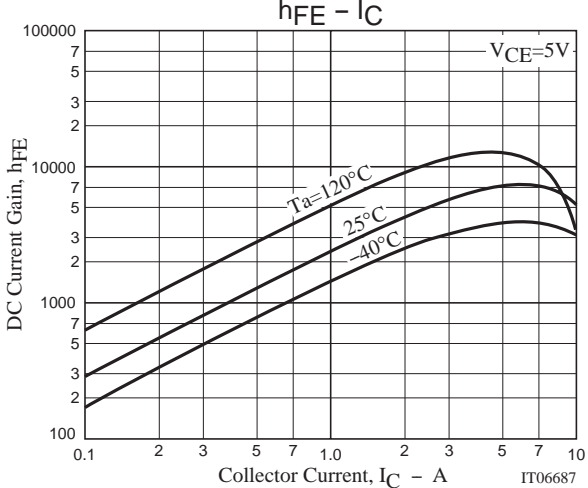
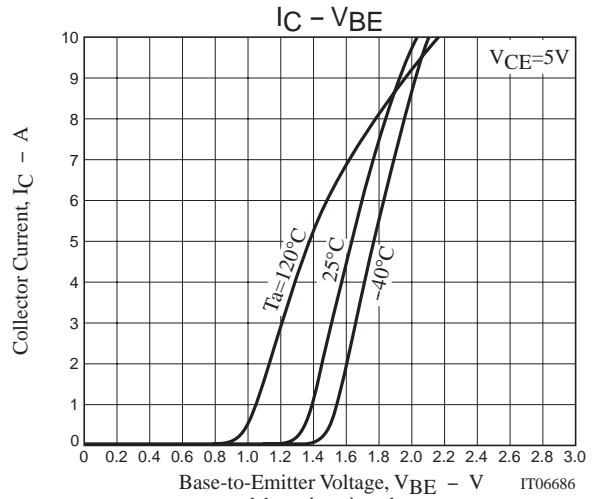
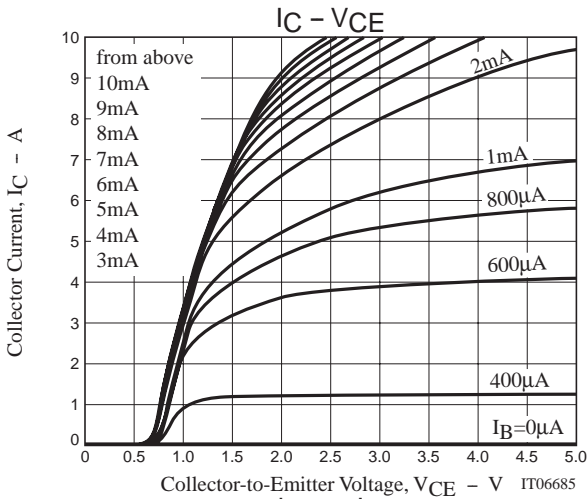
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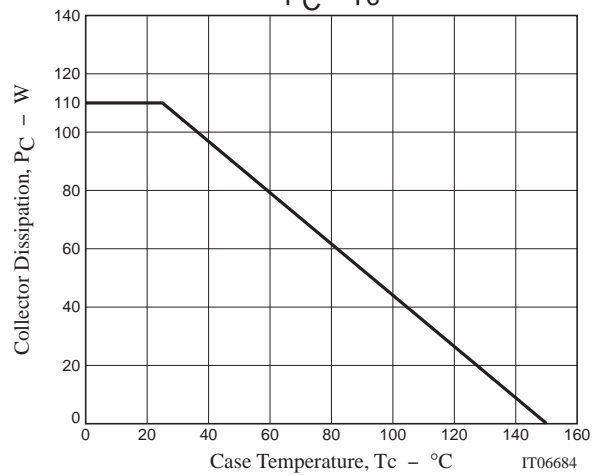
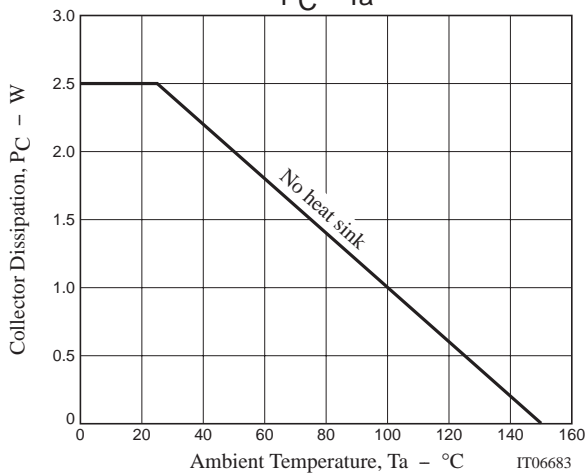
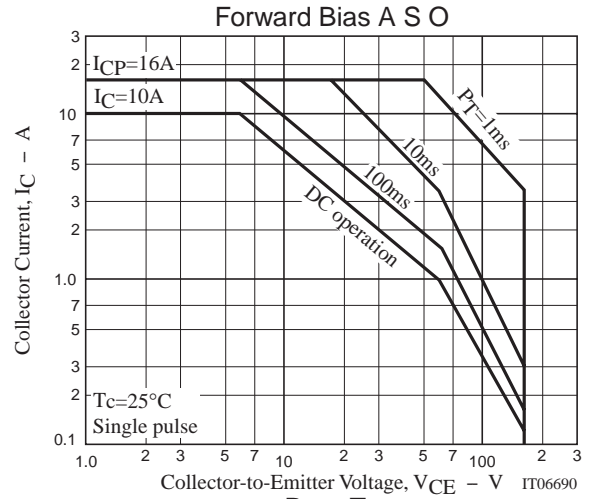
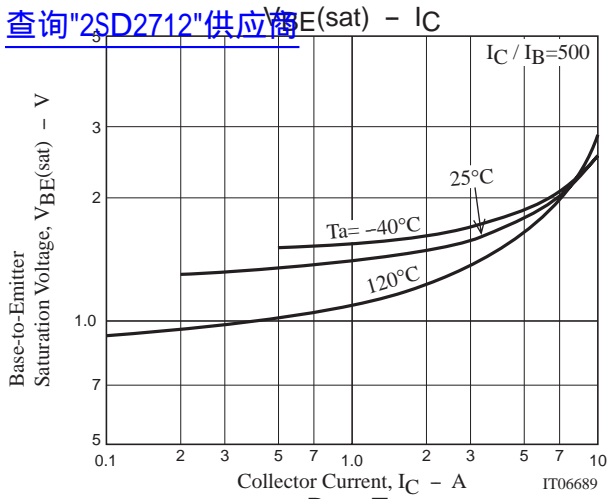
Switching Time Test Circuit



$$I_C = 500I_{B1} = 500I_{B2} = 6.5A$$



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