



High-Current Switching Applications

Applications

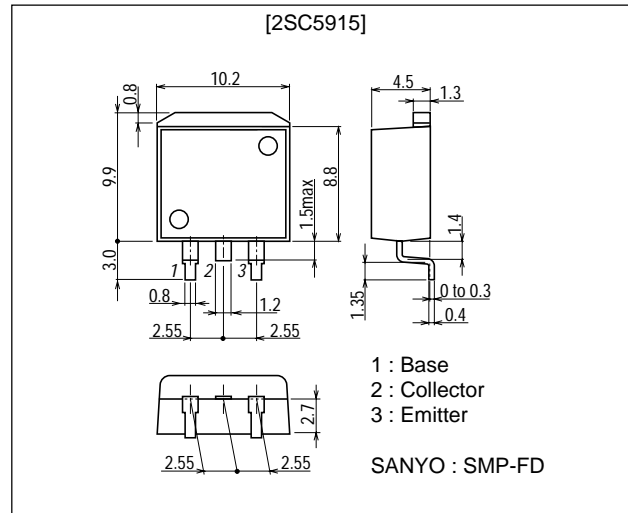
- Relay drivers, lamp drivers, motor drivers, inverters.

Features

- Adoption of MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Surface mount type.

Package Dimensions

unit : mm
2069C



Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage | V_{CB0} | | 120 | V |
| Collector-to-Emitter Voltage | V_{CES} | | 120 | 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} | | 15 | A |
| Base Current | I_B | | 2 | A |
| Collector Dissipation | P_C | | 1.65 | W |
| | | $T_c=25^\circ\text{C}$ | 25 | W |
| Junction Temperature | T_J | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

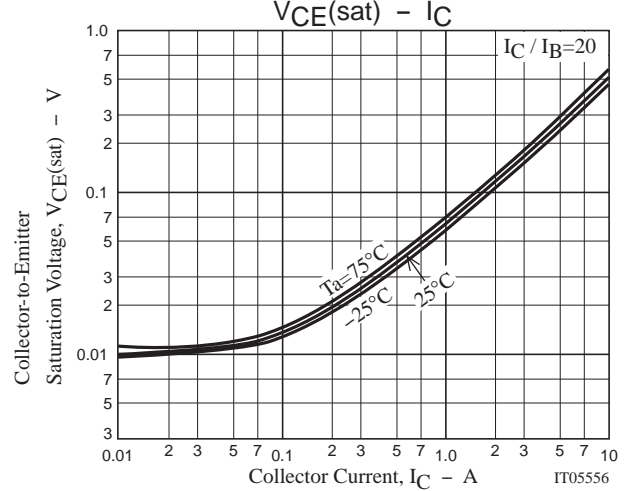
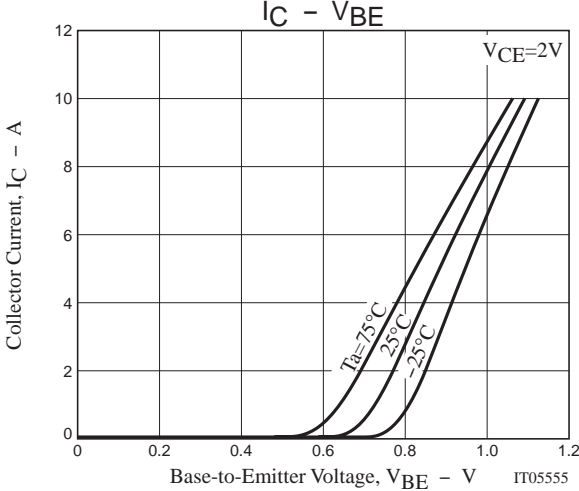
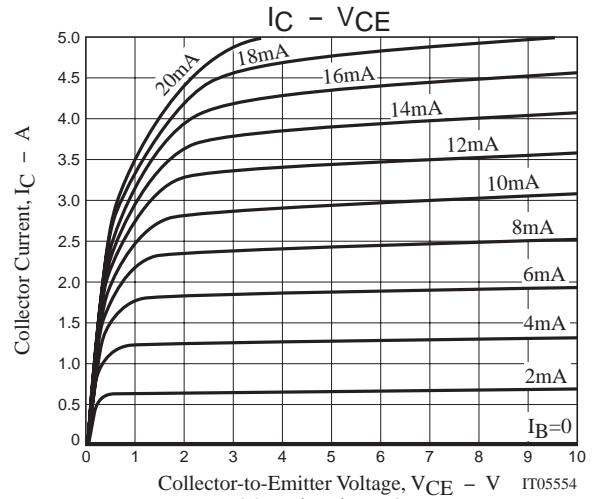
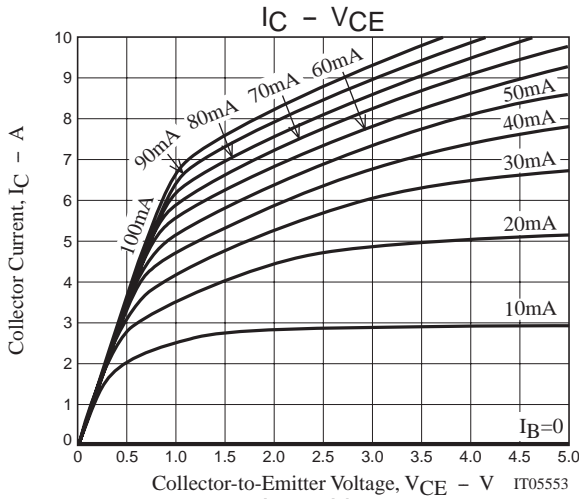
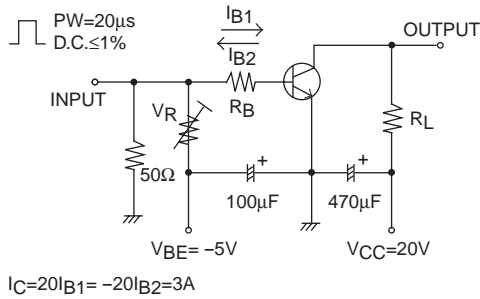
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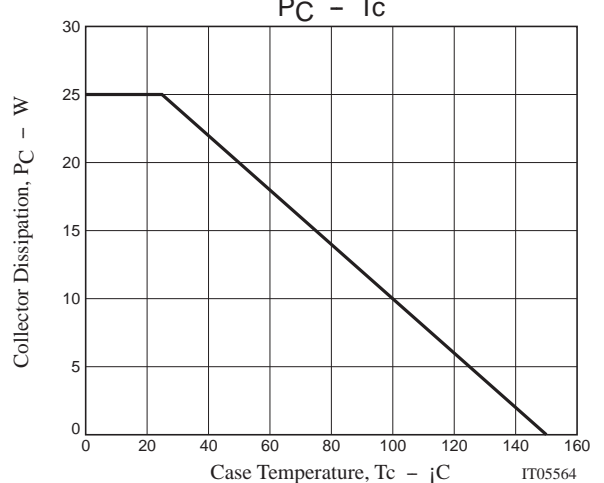
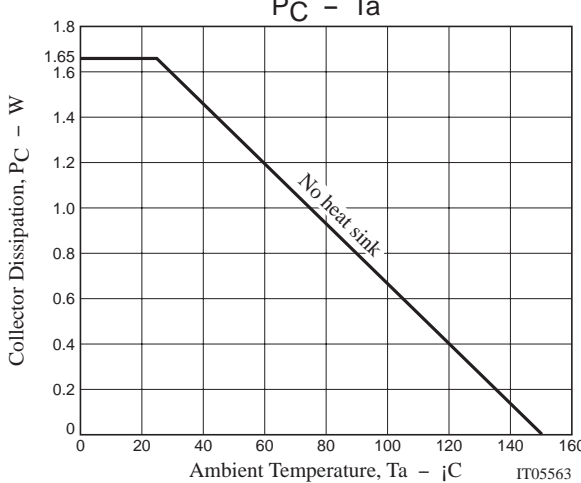
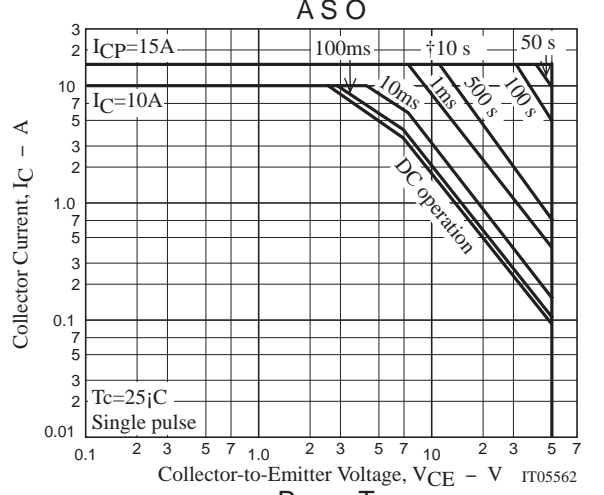
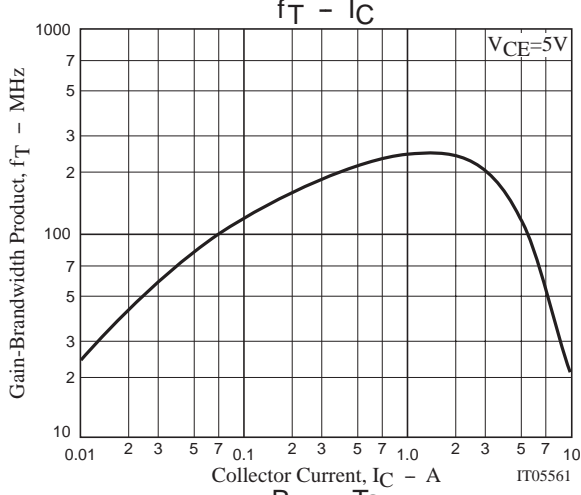
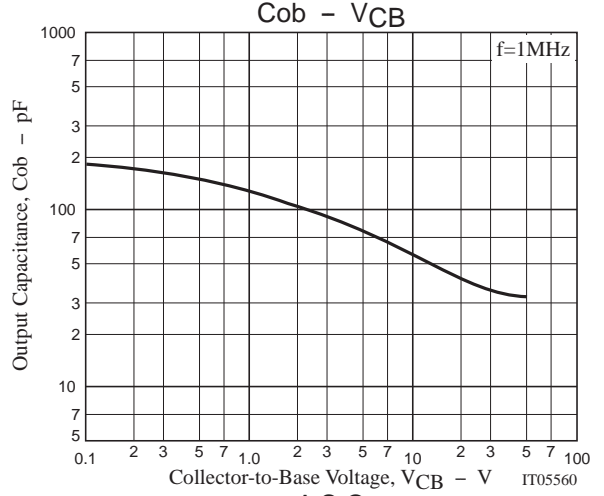
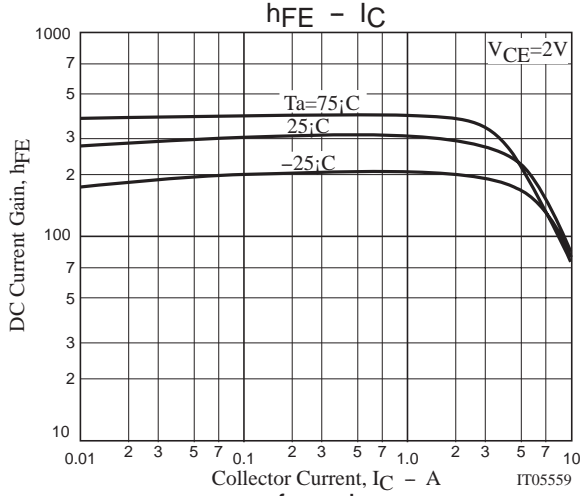
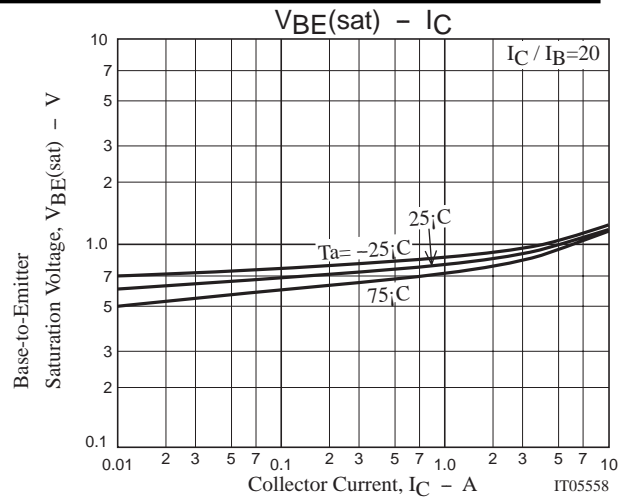
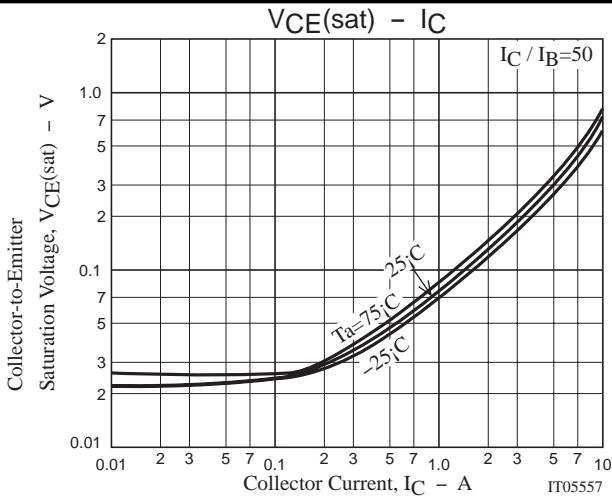
Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|---|---------|------|-----|------|
| | | | min | typ | max | |
| Collector Cutoff Current | ICBO | V _{CB} =40V, I _E =0 | | | 10 | μA |
| Emitter Cutoff Current | IEBO | V _{EB} =4V, I _C =0 | | | 10 | μA |
| DC Current Gain | h _{FE1} | V _{CE} =2V, I _C =1A | 200 | | 560 | |
| | h _{FE2} | V _{CE} =2V, I _C =5A | 100 | | | |
| Gain-Bandwidth Product | f _T | V _{CE} =5V, I _C =1A | | 200 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, f=1MHz | | 60 | | pF |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =5A, I _B =250mA | | 180 | 360 | mV |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =5A, I _B =250mA | | 0.93 | 1.4 | V |
| Collector-to-Base Breakdown Voltage | V _{(BR)CBO} | I _C =100μA, I _E =0 | 120 | | | V |
| Collector-to-Emitter Breakdown Voltage | V _{(BR)CES} | I _C =100μA, R _{BE} =0 | 120 | | | V |
| Collector-to-Emitter Breakdown Voltage | V _{(BR)CEO} | I _C =1mA, R _{BE} =∞ | 50 | | | V |
| Emitter-to-Base Breakdown Voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 6 | | | V |
| Turn-On Time | t _{on} | See specified test circuit. | | 40 | | ns |
| Storage Time | t _{stg} | See specified test circuit. | | 1000 | | ns |
| Fall Time | t _f | See specified test circuit. | | 80 | | ns |

Swicthing Time Test Circuit



2SC5915



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