

# 2SC5271

## Silicon NPN Triple Diffused Planar Transistor

Application : Resonant Switching Regulator and General Purpose

### Absolute maximum ratings (Ta=25°C)

| Symbol           | 2SC5271                  | Unit |
|------------------|--------------------------|------|
| V <sub>CB0</sub> | 300                      | V    |
| V <sub>CE0</sub> | 200                      | V    |
| V <sub>EB0</sub> | 7                        | V    |
| I <sub>C</sub>   | 5(Pulse10)               | A    |
| I <sub>B</sub>   | 2                        | A    |
| P <sub>C</sub>   | 30(T <sub>C</sub> =25°C) | W    |
| T <sub>J</sub>   | 150                      | °C   |
| T <sub>stg</sub> | -55 to +150              | °C   |

### Electrical Characteristics (Ta=25°C)

| Symbol               | Conditions                                  | 2SC5271 | Unit |
|----------------------|---|---------|------|
| I <sub>CB0</sub>     | V <sub>CB</sub> =300V                       | 100max  | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =7V                         | 100max  | μA   |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =10mA                        | 200min  | V    |
| h <sub>FE1</sub>     | V <sub>CE</sub> =2V, I <sub>C</sub> =2.5A   | 10to30  |      |
| h <sub>FE2</sub>     | V <sub>CE</sub> =2V, I <sub>C</sub> =1mA    | 15min   |      |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =2.5A, I <sub>B</sub> =0.5A  | 1.0max  | V    |
| V <sub>BE(sat)</sub> | I <sub>C</sub> =2.5A, I <sub>B</sub> =0.5A  | 1.5max  | V    |
| f <sub>T</sub>       | V <sub>CE</sub> =12V, I <sub>E</sub> =-0.5A | 10typ   | MHz  |
| COB                  | V <sub>CB</sub> =10V, f=1MHz                | 45typ   | pF   |

### Typical Switching Characteristics (Common Emitter)

| V <sub>CC</sub><br>(V) | R <sub>L</sub><br>(Ω) | I <sub>C</sub><br>(A) | V <sub>BB1</sub><br>(V) | V <sub>BB2</sub><br>(V) | I <sub>B1</sub><br>(A) | I <sub>B2</sub><br>(A) | t <sub>on</sub><br>(μs) | t <sub>stg</sub><br>(μs) | t <sub>f</sub><br>(μs) |
|------------------------|-----------------------|-----------------------|-------------------------|-------------------------|------------------------|------------------------|-------------------------|--------------------------|------------------------|
| 150                    | 60                    | 2.5                   | 10                      | -5                      | 0.5                    | -1.0                   | 0.3max                  | 1.0max                   | 0.1max                 |

### External Dimensions FM20(TO220F)

