

SANYO

No.2852

2SC4429

NPN Triple Diffused Planar Silicon Transistor

800V/8A Switching Regulator Applications

Features

- High breakdown voltage, high reliability
- Fast switching speed (t_f : 0.1 μ s typ)
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating easy mounting

Absolute Maximum Ratings at Ta = 25°C

| | | | unit |
|------------------------------|-----------|---|------|
| Collector-to-Base Voltage | V_{CB0} | 1100 | V |
| Collector-to-Emitter Voltage | V_{CE0} | 800 | V |
| Emitter-to Base Voltage | V_{EBO} | 7 | V |
| Collector Current | I_C | 8 | A |
| Collector Current (Pulse) | I_{CP} | $PW \leq 300\mu s, \text{duty cycle} \leq 10\%$ | 25 A |
| Base Current | I_B | 4 | A |
| Collector Dissipation | P_C | 3 | W |
| | | $T_C = 25^\circ C$ | 60 W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55 to +150 | °C |

Electrical Characteristics at Ta = 25°C

| | | | min | typ | max | unit |
|--------------------------|----------------|---|------|-----|-----|---------|
| Collector Cutoff Current | I_{CBO} | $V_{CB} = 800V, I_E = 0$ | | | 10 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 10 | μA |
| DC Current Gain | $h_{FE}(1)^*$ | $V_{CE} = 5V, I_C = 0.6A$ | 10 | | 40 | |
| | $h_{FE}(2)$ | $V_{CE} = 5V, I_C = 3A$ | | 8 | | |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C = 4A, I_B = 0.8A$ | | | 2.0 | V |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C = 4A, I_B = 0.8A$ | | | 1.5 | V |
| Gain-Bandwidth Product | f_T | $V_{CE} = 10V, I_C = 0.6A$ | | 15 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = 10V, f = 1MHz$ | | 155 | | pF |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = 1mA, I_E = 0$ | 1100 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 5mA, R_{BE} = \infty$ | 800 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = 1mA, I_C = 0$ | 7 | | | V |
| C-E Sustain Voltage | $V_{CEX(sus)}$ | $I_C = 4A, I_{B1} = 0.8A$ | 800 | | | V |
| | | $I_{B2} = -0.8A, L = 1mH, \text{clamped}$ | | | | |

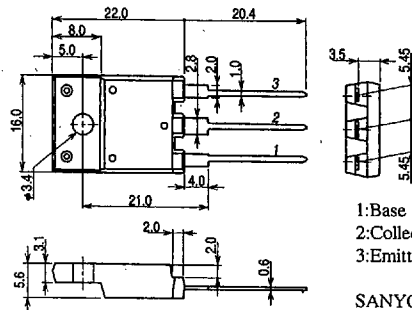
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*: The $h_{FE}(1)$ of the 2SC4429 is classified as follows. When specifying the $h_{FE}(1)$ rank, specify two ranks or more in principle.

| | | |
|---------|---------|---------|
| 10 K 20 | 15 L 30 | 20 M 40 |
|---------|---------|---------|

Package Dimensions 2039D

(unit: mm)



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Turn-on Time

t_{on}

$I_C = 6A, I_{B1} = 1.2A$
 $I_{B2} = -2.4A, R_L = 66.7\Omega$
 $V_{CC} = 400V$

min typ max unit

0.5 μs
 3.0 μs
 0.3 μs

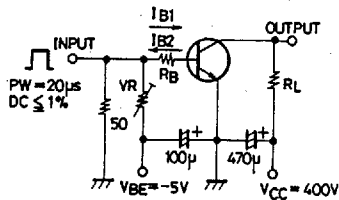
Storage Time

t_{stg}

Fall Time

t_f

Switching Time Test Circuit



Unit (resistance : Ω , capacitance : F)

