

SANYO

No.1252C

2SC3184

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage ($V_{CBO} \geq 900V$).
- Fast switching speed.
- Wide ASO.

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

| | | | unit |
|------------------------------|-----------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | 900 | V |
| Collector-to-Emitter Voltage | V_{CEO} | 800 | V |
| Emitter-to-Base Voltage | V_{EBO} | 7 | V |
| Collector Current | I_C | 0.5 | A |
| Collector Current (Pulse) | I_{CP} | 2 | A |
| Collector Dissipation | P_C | 30 | W |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 to +150 | $^\circ C$ |

$PW \leq 300\mu s$, duty cycle $\leq 10\%$
 $T_c = 25^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

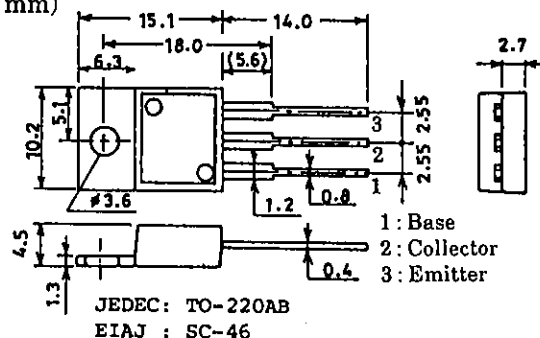
| | | | min | typ | max | unit |
|--------------------------|----------------|--|-----|-----|-----|---------|
| Collector Cutoff Current | I_{CBO} | $V_{CB} = 800V, I_E = 0$ | | | 10 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 10 | μA |
| DC Current Gain | $h_{FE}(1)$ | $V_{CE} = 5V, I_C = 60mA$ | 10※ | | 40※ | |
| | $h_{FE}(2)$ | $V_{CE} = 5V, I_C = 300mA$ | 8 | | | |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C = 300mA, I_B = 60mA$ | | | 2 | V |
| Gain-Bandwidth Product | f_T | $V_{CE} = 10V, I_C = 60mA$ | | 15 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = 10V, f = 1MHz$ | | 20 | | pF |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = 1mA, I_E = 0$ | 900 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 1mA, R_{BE} = \infty$ | 800 | | | V |
| C-E Sustain Time | $V_{CEO(sus)}$ | $I_C = 0.5A, I_B = 0.1A, L = 5mH$ | 800 | | | V |
| | $V_{CEX(sus)}$ | $I_C = 0.5A, I_{B1} = 0.1A, I_{B2} = -0.1A$ $L = 5mH$, clamped | 900 | | | V |
| Turn-ON Time | t_{on} | $I_C = 400mA, I_{B1} = 80mA$ $I_{B2} = -160mA$ | | | 1.0 | μs |
| Storage Time | t_{stg} | $I_C = 400mA, I_{B1} = 80mA$ $I_{B2} = -160mA$ | | | 3.0 | μs |
| Fall Time | t_f | $I_C = 400mA, I_{B1} = 80mA$ $I_{B2} = -160mA$ | | | 1.0 | μs |

※ : For the $h_{FE}(1)$ of the 2SC3184, specify two ranks or more in principle.

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

Package Dimensions 2010C

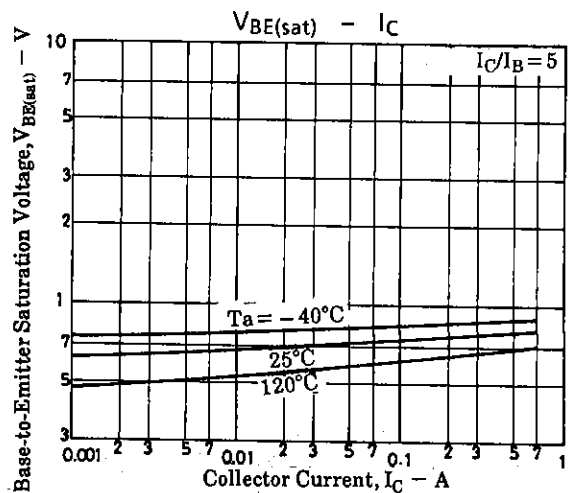
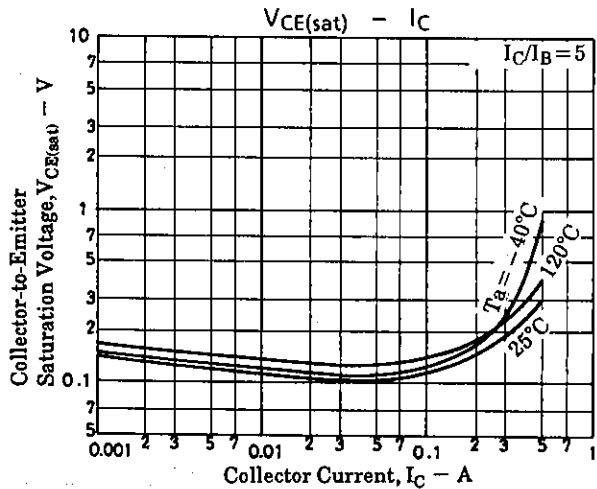
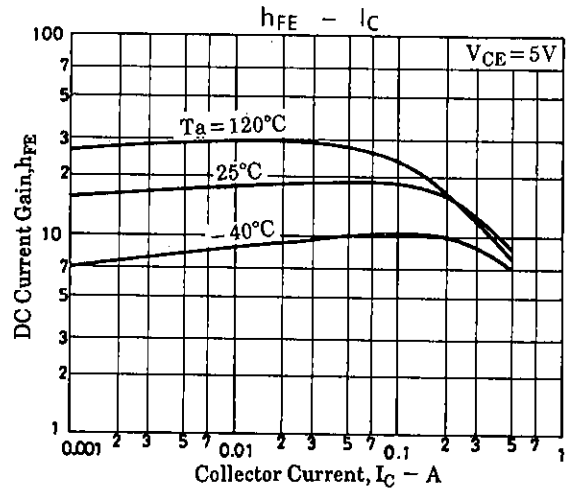
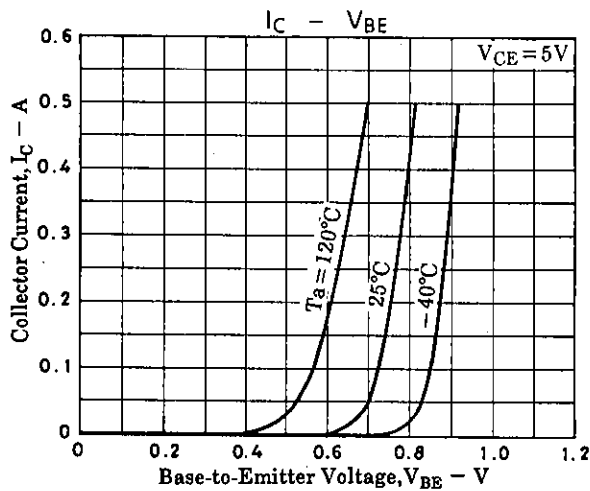
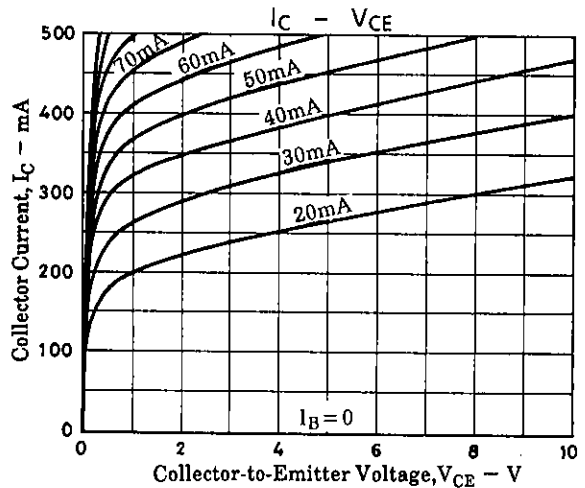
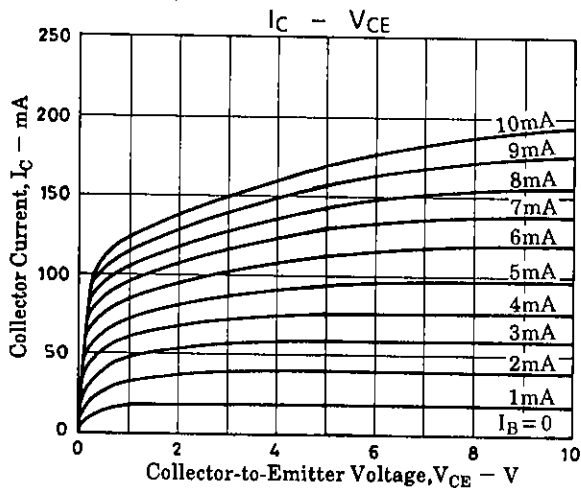
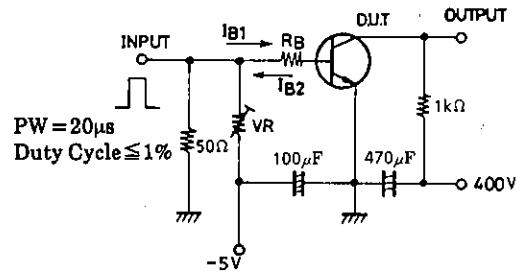
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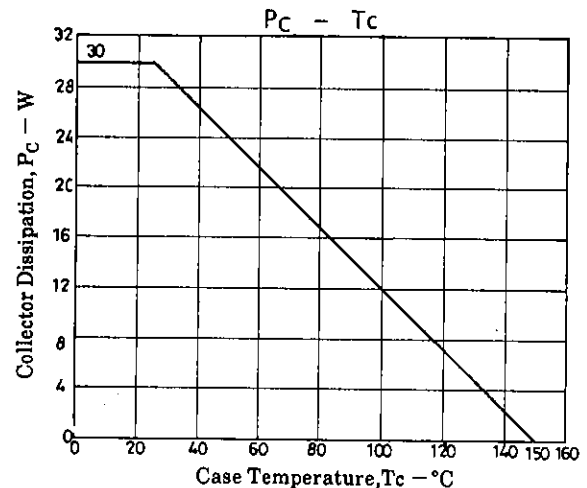
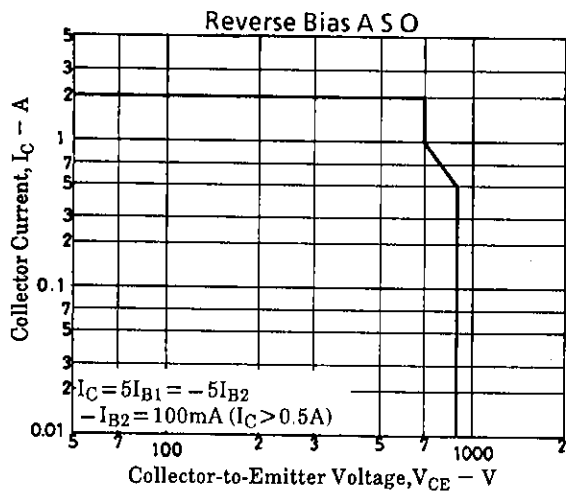
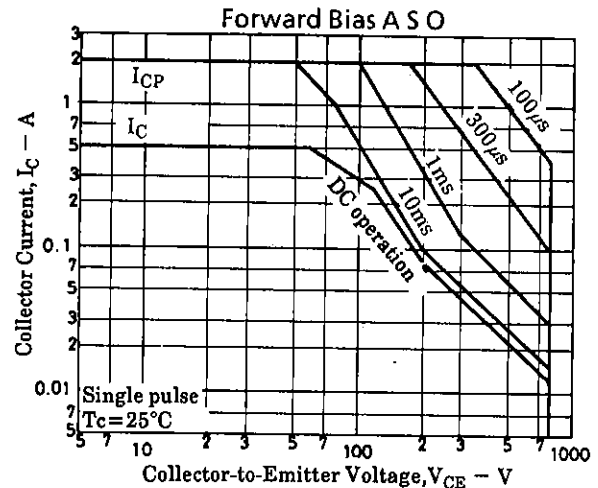
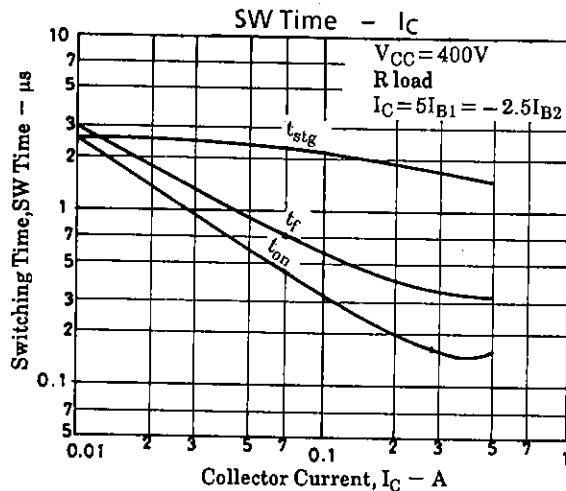
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Switching Time Test Circuit





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