

SANYO

No.2475B

2SC4110

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- . High breakdown voltage and high reliability
- . Fast switching speed
- . Wide ASO
- . Adoption of MBIT process

Absolute Maximum Ratings at Ta=25°C

| | | | unit |
|------------------------------|------------------|------------------------------|------|
| Collector-to-Base Voltage | V _{CB0} | 500 | V |
| Collector-to-Emitter Voltage | V _{CEO} | 400 | V |
| Emitter-to-Base Voltage | V _{EBO} | 7 | V |
| Collector Current | I _C | 25 | A |
| Peak Collector Current | i _{cp} | PW ≤ 300μs, duty cycle ≤ 10% | A |
| Base Current | I _B | 8 | A |
| Collector Dissipation | P _C | 2.5 | W |
| | | T _c =25°C | 160 |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

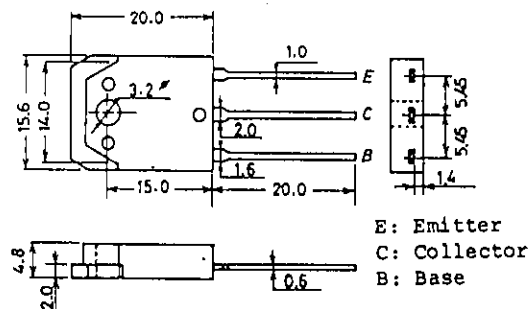
Electrical Characteristics at Ta=25°C

| | | | min | typ | max | unit |
|--------------------------|----------------------|--|-----|-----|-----|------|
| Collector Cutoff Current | I _{CB0} | V _{CB} =400V, 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 =3.2A | 15* | | 50* | |
| | h _{FE(2)} | V _{CE} =5V, I _C =16A | 10 | | | |
| | h _{FE(3)} | V _{CE} =5V, I _C =10mA | 10 | | | |
| C-E Saturation Voltage | V _{CE(sat)} | I _C =16A, I _B =3.2A | | | 0.8 | V |
| B-E Saturation Voltage | V _{BE(sat)} | I _C =16A, I _B =3.2A | | | 1.5 | V |
| Gain-Bandwidth Product | f _T | V _{CE} =10V, I _C =3.2A | | 20 | | MHz |
| Output Capacitance | c _{ob} | V _{CB} =10V, f=1MHz | | 300 | | pF |

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*: The h_{FE1} of the 2SC4110 is classified as follows. When specifying the h_{FE1} rank, specify two ranks or more in principle.

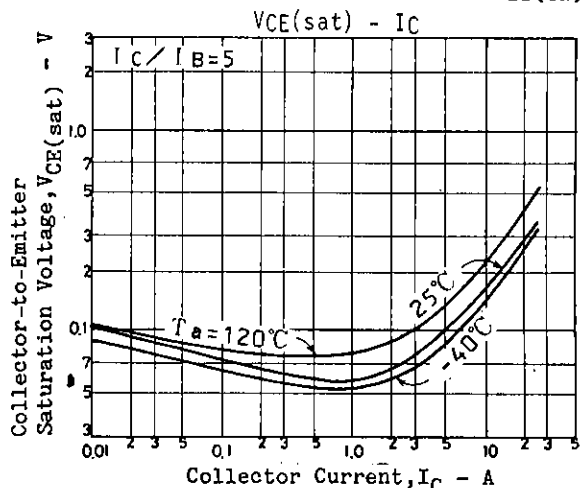
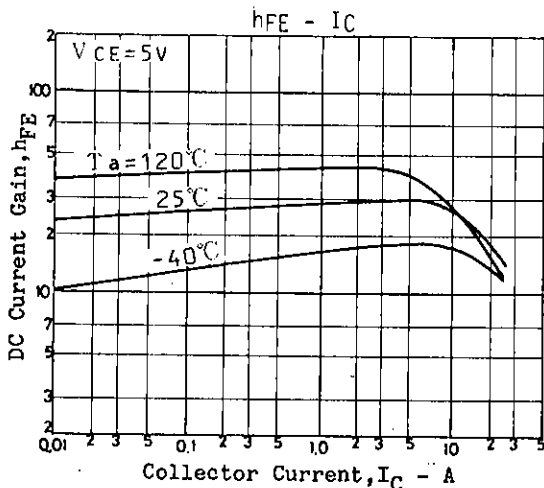
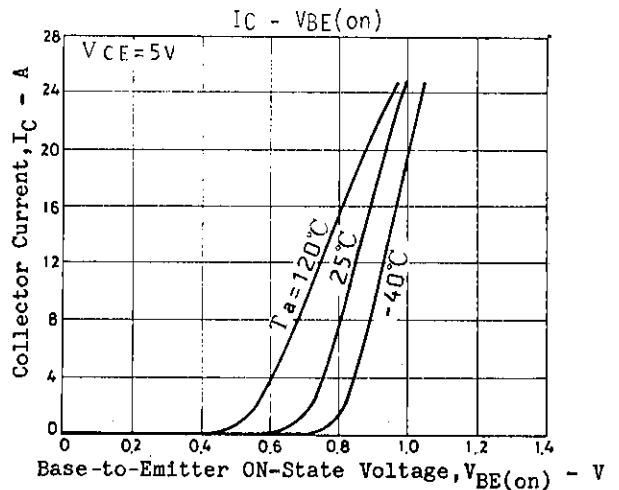
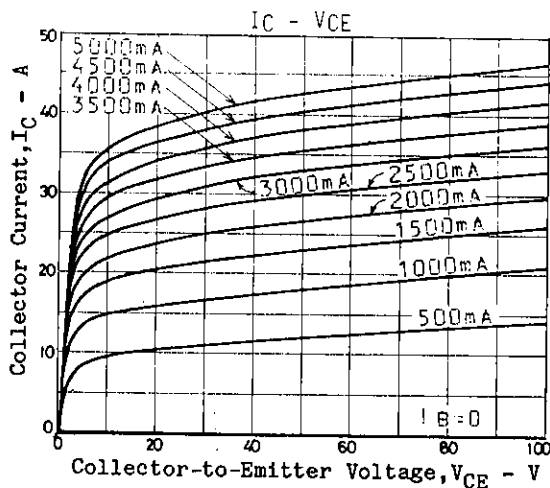
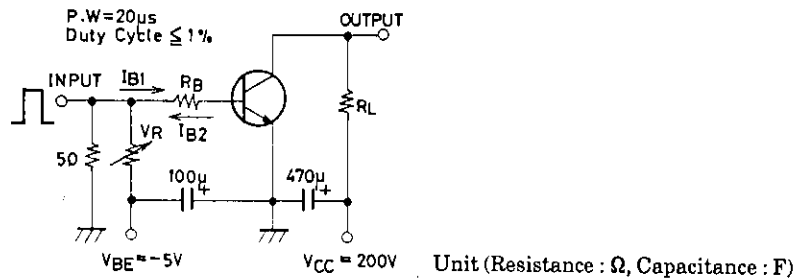
| | | | | | | | | |
|----|---|----|----|---|----|----|---|----|
| 15 | L | 30 | 20 | M | 40 | 30 | N | 50 |
|----|---|----|----|---|----|----|---|----|

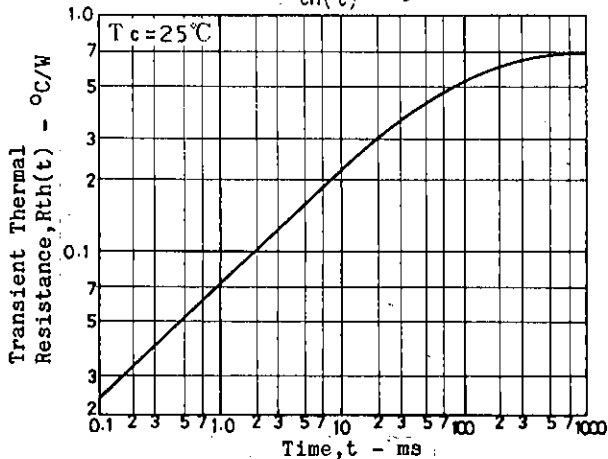
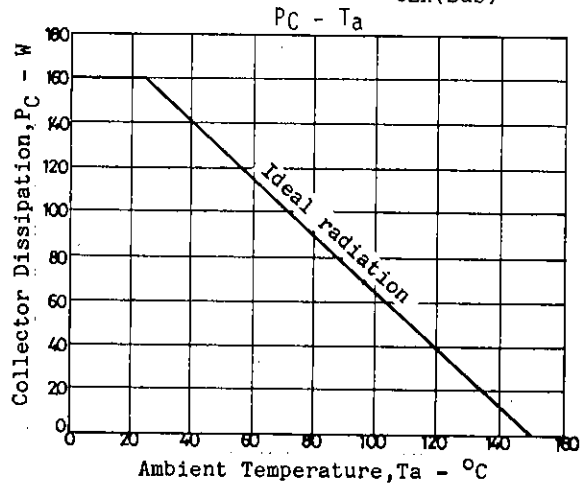
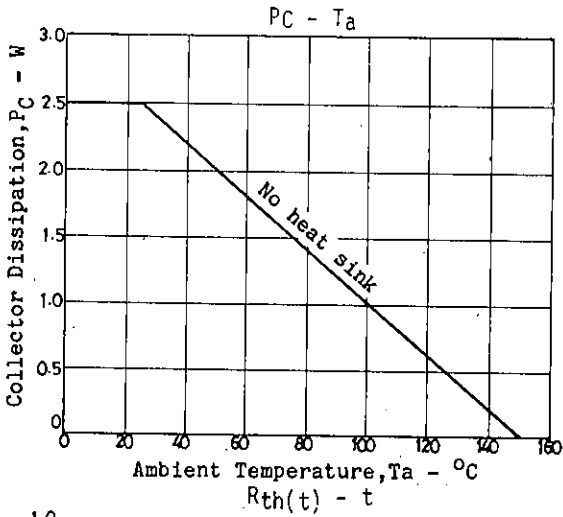
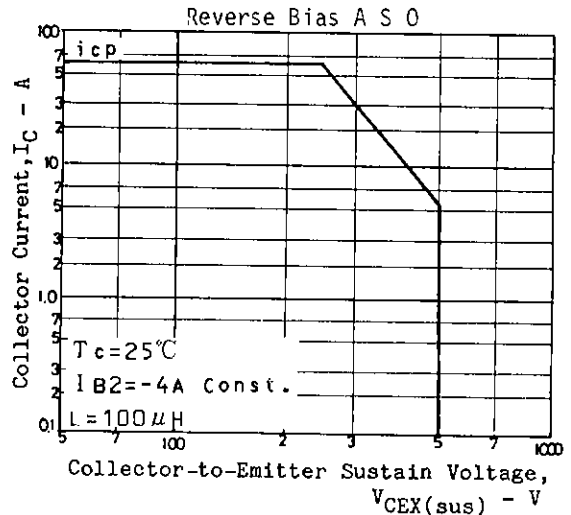
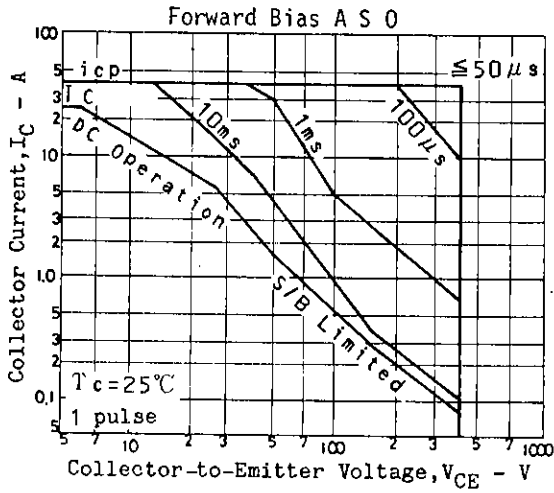
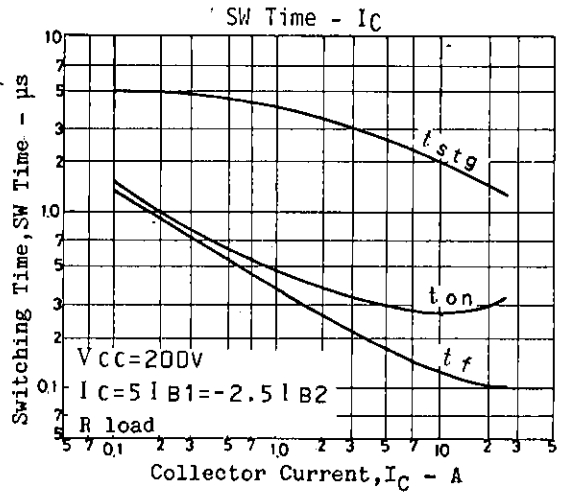
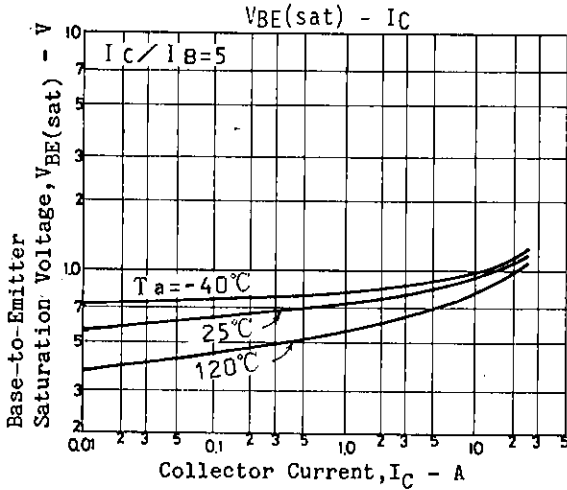
Package Dimensions 2022
(unit:mm)

Continued from preceding page.

| | | | min | typ | max | unit |
|-----------------------|----------------|---|-----|-----|-----|---------|
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=1mA, I_E=0$ | 500 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=10mA, R_{BE}=\infty$ | 400 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=1mA, I_C=0$ | 7 | | | V |
| C-E Sustain Voltage | $V_{CEX(sus)}$ | $I_C=10A, I_{B1}=1A,$ $I_{B2}=-4A, L=200\mu H,$ clamped | 400 | | | V |
| Turn-on Time | t_{on} | $I_C=20A, I_{B1}=4A,$ $I_{B2}=-8A, R_L=10ohms,$ $V_{CC}=200V$ | | | 0.5 | μs |
| Storage Time | t_{stg} | $I_C=20A, I_{B1}=4A,$ $I_{B2}=-8A, R_L=10ohms,$ $V_{CC}=200V$ | | | 2.5 | μs |
| Fall Time | t_f | $I_C=20A, I_{B1}=4A,$ $I_{B2}=-8A, R_L=10ohms,$ $V_{CC}=200V$ | | | 0.3 | μs |

Switching Time Test Circuit





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