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| SANYO | No. 1544B | 2SC3446 |
| | NPN Triple Diffused Planar Silicon Transistor FOR SWITCHING REGULATORS | |

Features

- High breakdown voltage and high reliability
- Fast switching speed (t_f : 0.1 μ s typ.)
- Wide ASO
- Adoption of MBIT process

Absolute Maximum Ratings at Ta=25°C

| | | | unit |
|------------------------------|------------------|--|------|
| Collector-to-Base Voltage | V _{CB0} | 800 | V |
| Collector-to-Emitter Voltage | V _{CE0} | 500 | V |
| Emitter-to-Base Voltage | V _{EB0} | 7 | V |
| Collector Current | I _C | 3 | A |
| Peak Collector Current | i _{cp} | PW \leq 300 μ s, Duty Cycle \leq 10% | 6 A |
| Base Current | I _B | 1 | A |
| Collector Dissipation | P _C | T _C =25°C | 40 W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

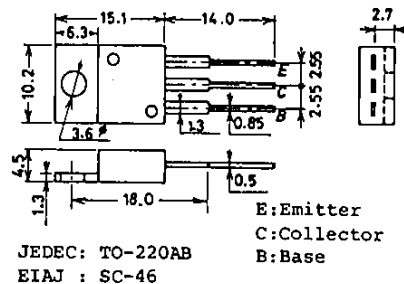
| | | | min | typ | max | unit |
|--------------------------|----------------------|---|-----|-----|-----|---------|
| Collector Cutoff Current | I _{CBO} | V _{CB} =500V, I _E =0 | | | 10 | μ A |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =5V, I _C =0 | | | 10 | μ A |
| DC Current Gain | h _{FE} (1) | V _{CE} =5V, I _C =0.3A | 15* | | | |
| | h _{FE} (2) | V _{CE} =5V, I _C =1.5A | 8 | | | |
| Gain Bandwidth Product | f _T | V _{CE} =10V, I _C =0.3A | | 18 | | MHz |
| Output Capacitance | c _{ob} | V _{CB} =10V, f=1MHz | | 50 | | pF |
| C-E Saturation Voltage | V _{CE(sat)} | I _C =1.5A, I _B =0.3A | | | 1.0 | V |
| B-E Saturation Voltage | V _{BE(sat)} | I _C =1.5A, I _B =0.3A | | | 1.5 | V |
| C-B Breakdown Voltage | V(BR)CBO | I _C =1mA, I _E =0 | 800 | | | V |
| C-E Breakdown Voltage | V(BR)CEO | I _C =5mA, R _{BE} = ∞ | 500 | | | V |
| E-B Breakdown Voltage | V(BR)EBO | I _E =1mA, I _C =0 | 7 | | | V |

*: The h_{FE}(1) of the 2SC3446 is classified as follows. When specifying the h_{FE}(1) rank, specify two ranks or more in principle.

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

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Package Dimensions 2010A
(unit:mm)



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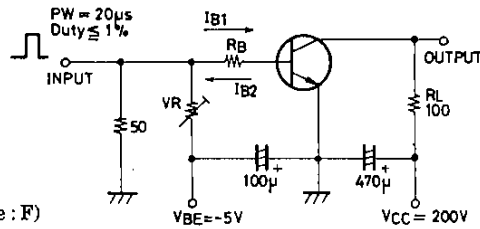
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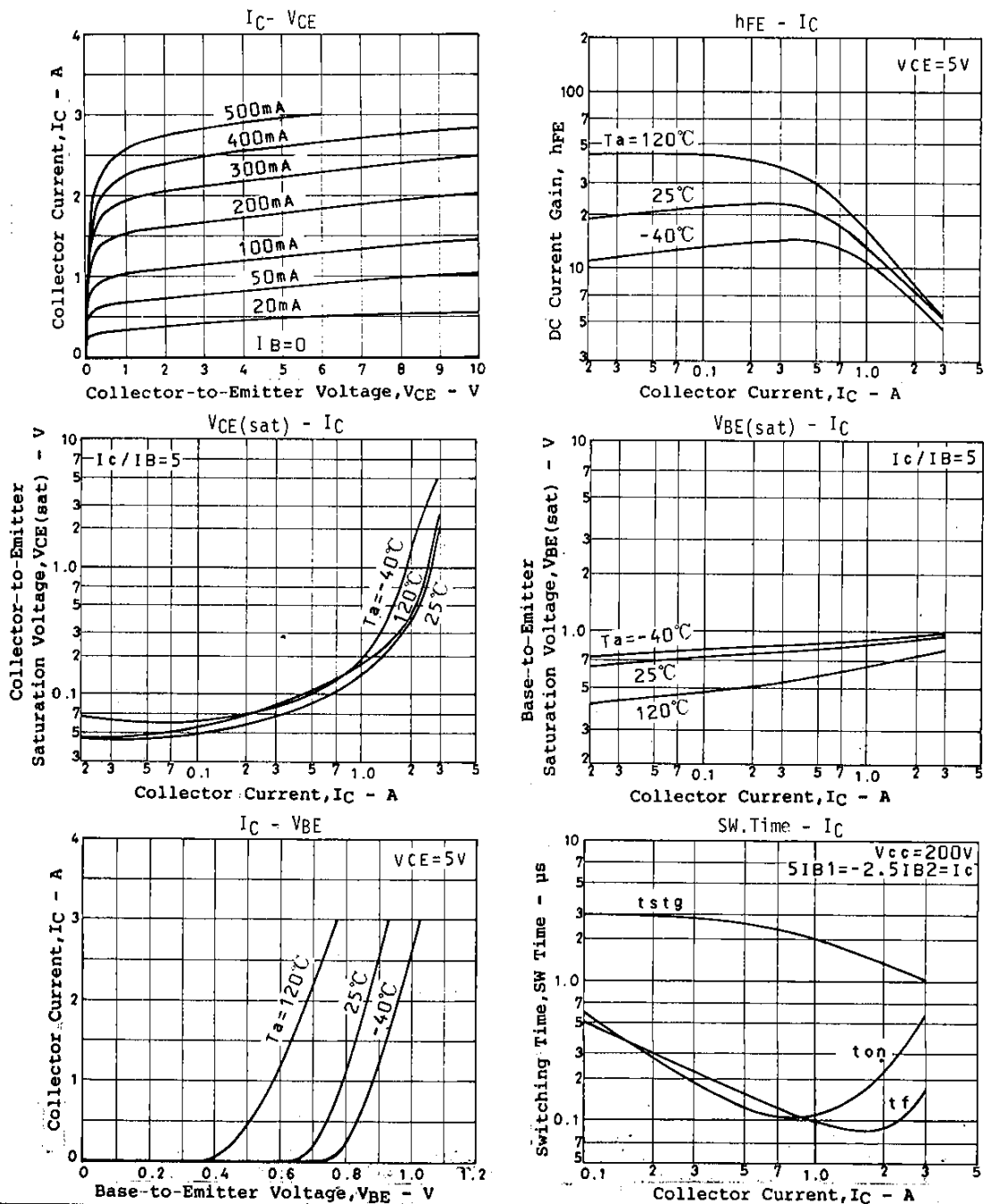
| | | min | typ | max | unit |
|---------------------|---------------------------|-----|-----|-----|---------|
| C-E Sustain Voltage | $V_{CEX}(sus)$ $I_C=1.5A$ | 500 | | | V |
| Turn-on Time | t_{on} | | | 0.5 | μs |
| Storage Time | t_{stg} | | | 3.0 | μs |
| Fall Time | t_f | | | 0.3 | μs |

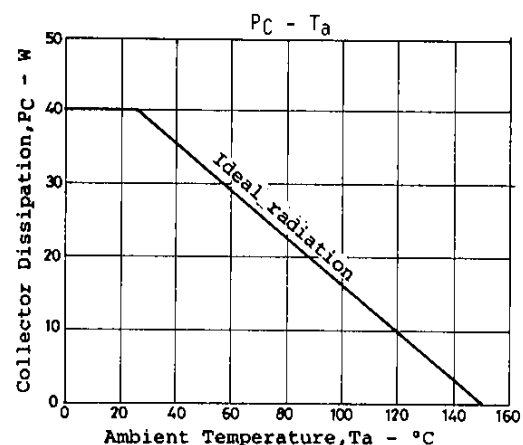
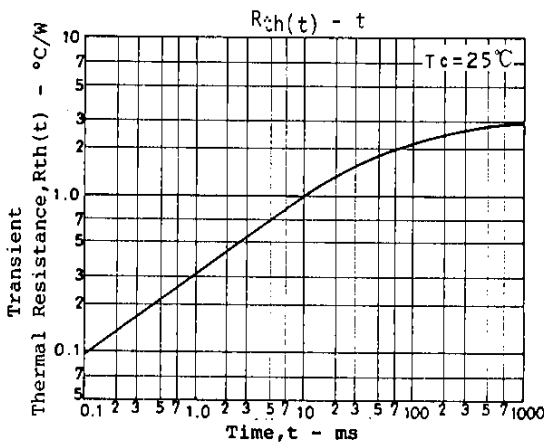
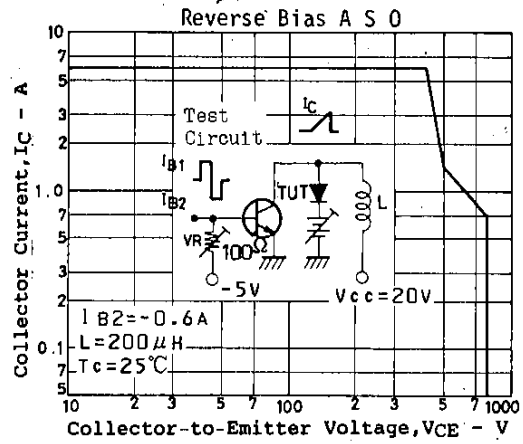
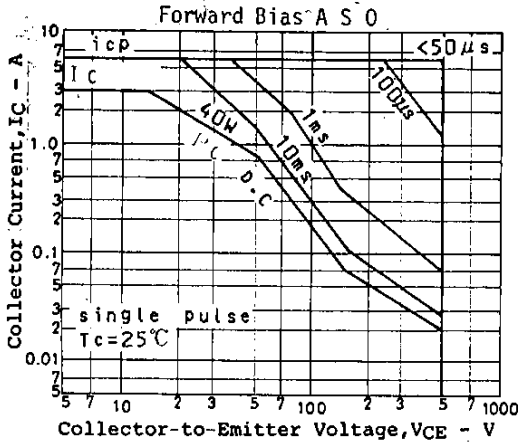
$I_{B1}=-I_{B2}=0.6A,$
 $L=2mH, \text{clamped}$
 $V_{CC}=200V,$
 $5I_{B1}=-2.5I_{B2}=I_C=2A,$
 $R_L=100ohms$

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)





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