

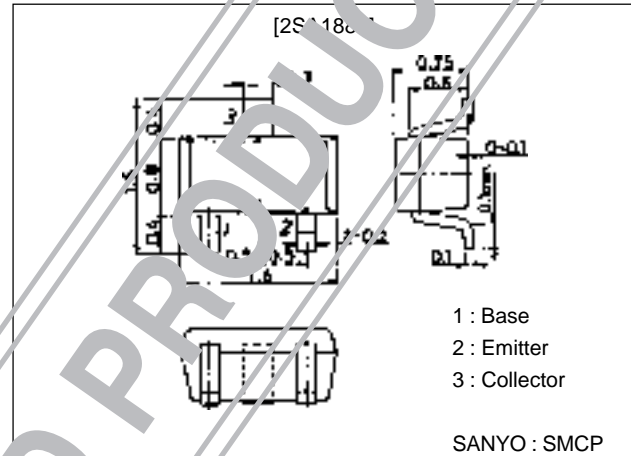
SANYO**2SA1883****High-Speed Switching Applications****Features**

- Fast switching speed.
- Low collector saturation voltage.
- High gain-bandwidth product.
- Small collector capacitance.
- Very small-sized package permitting 2SA1883-applied sets to be made small and slim.
- Complementary pair with the 2SC4987.

Package Dimensions

unit:mm

2106A

**Specifications****Absolute Maximum Ratings** at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------|-------------|------------------|
| Collector-to-Base Voltage | V_{CB0} | | -15 | V |
| Collector-to-Emitter Voltage | V_{CE0} | | -15 | V |
| Emitter-to-Base Voltage | V_{EB0} | | -5 | V |
| Collector Current | I_C | | -200 | mA |
| Collector Current (Pulse) | I_{CP} | | -500 | mA |
| Base Current | I_B | | -40 | mA |
| Collector Dissipation | P_C | | 150 | mW |
| Junction Temperature | T_J | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ\text{C}$ |

Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--|---------|-------|-------|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-8\text{V}, I_E=0$ | | | -0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=-3\text{V}, I_C=0$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-1\text{V}, I_C=-10\text{mA}$ | 50 | 80 | 140 | |
| Gain-Bandwidth Product | f_T^* | $V_{CE}=-10\text{V}, I_C=-10\text{mA}$ | 450 | 1000 | | MHz |
| Output Capacitance | C_{ob}^* | $V_{CB}=-5\text{V}, f=1\text{MHz}$ | | 1.8 | 3.0 | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-10\text{mA}, I_B=-1\text{mA}$ | | -0.07 | -0.20 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-10\text{mA}, I_B=-1\text{mA}$ | | -0.80 | -0.90 | V |

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91098HA (KT)/81094MT BX-1673, BX-0842 No.4660-1/4

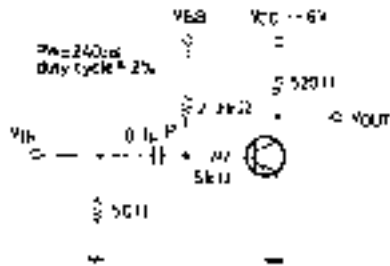
2SA1883

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|-------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = -10\mu A, I_E = 0$ | -15 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = -1mA, R_{BE} = \infty$ | -15 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = -10\mu A, I_C = 0$ | -5 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 11 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | 21 | | ns |
| Turn-OFF Time | t_{off} | See specified Test Circuit. | | 19 | | ns |

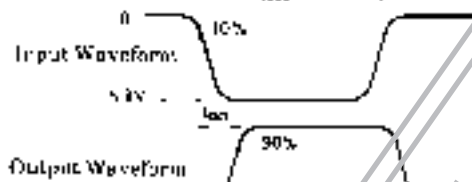
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Switching Time Test Circuit

t_{on}, t_{off} Test Circuit



t_{on} Test Waveform ($V_{BB} = GND$)



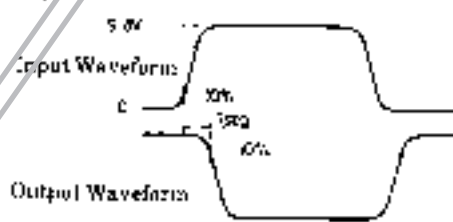
t_{off} Test Waveform ($V_{BB} = -8.0V$)



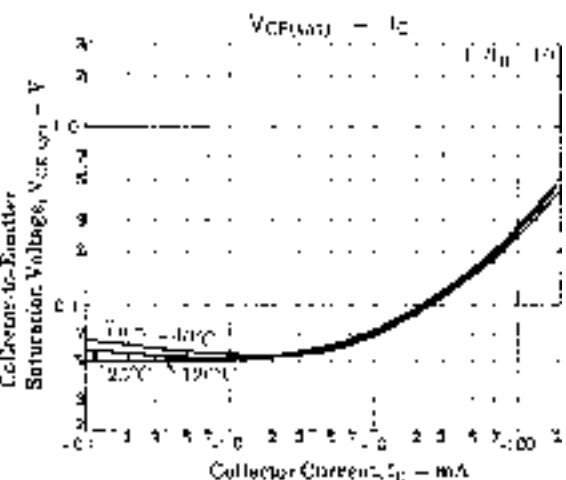
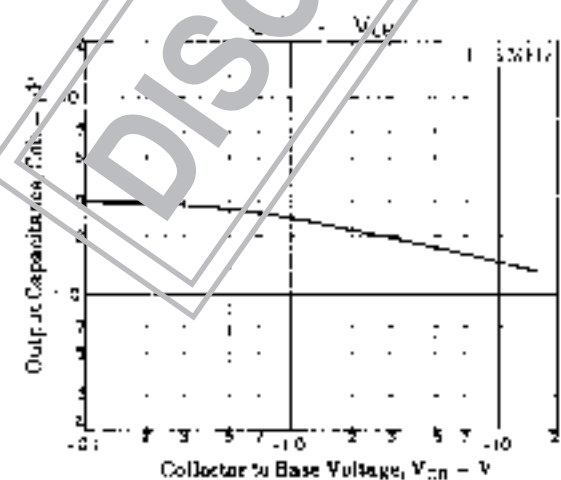
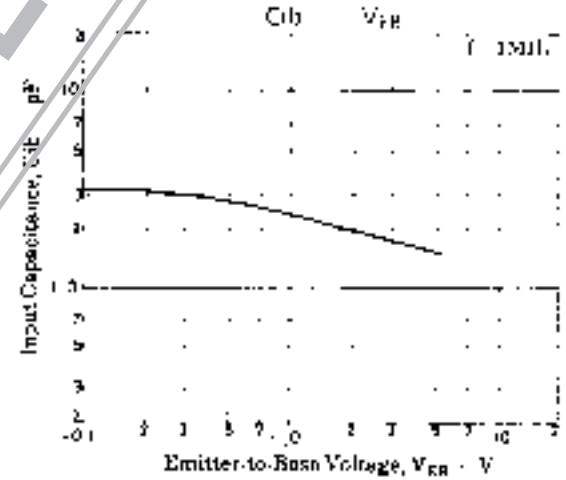
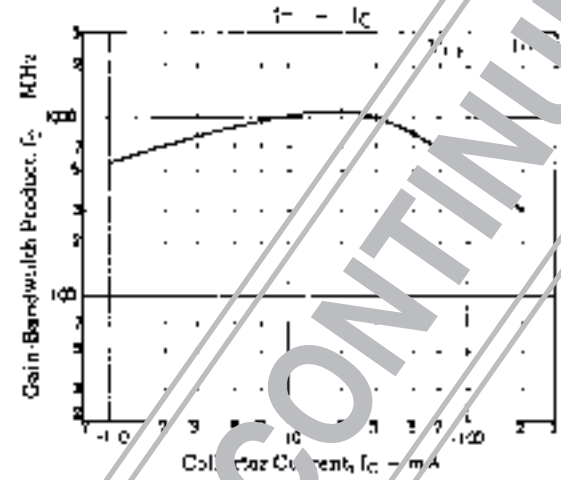
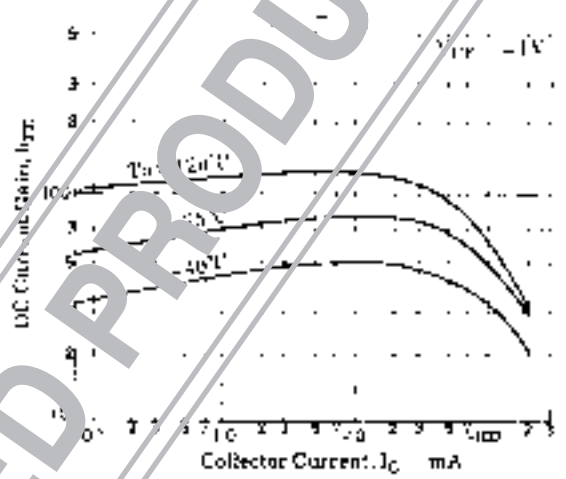
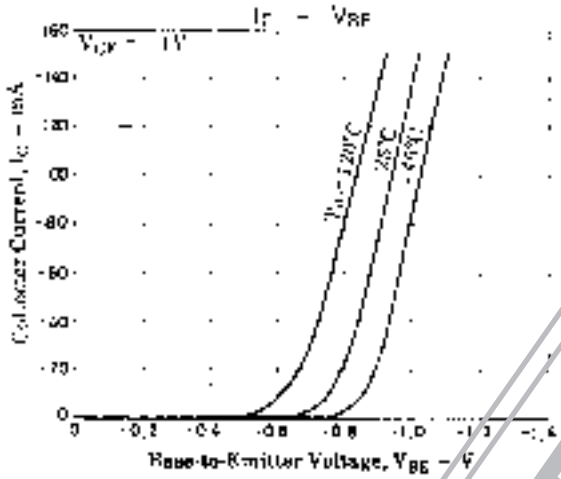
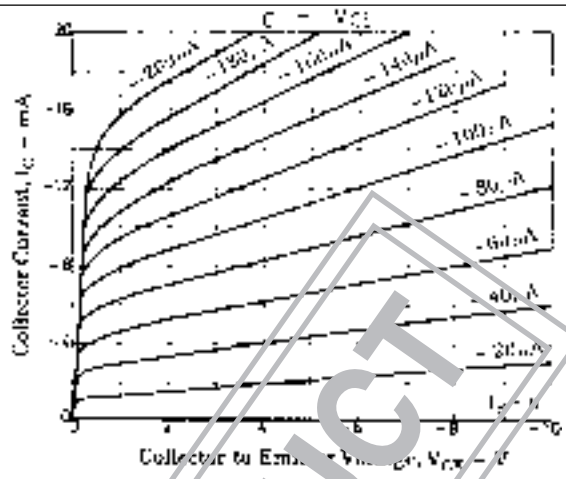
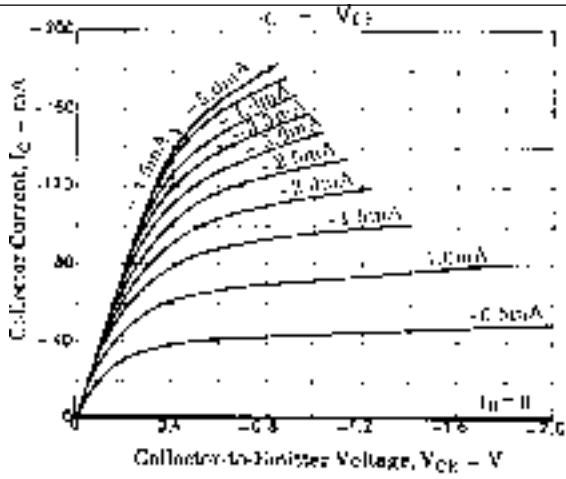
t_{stg} Test Circuit

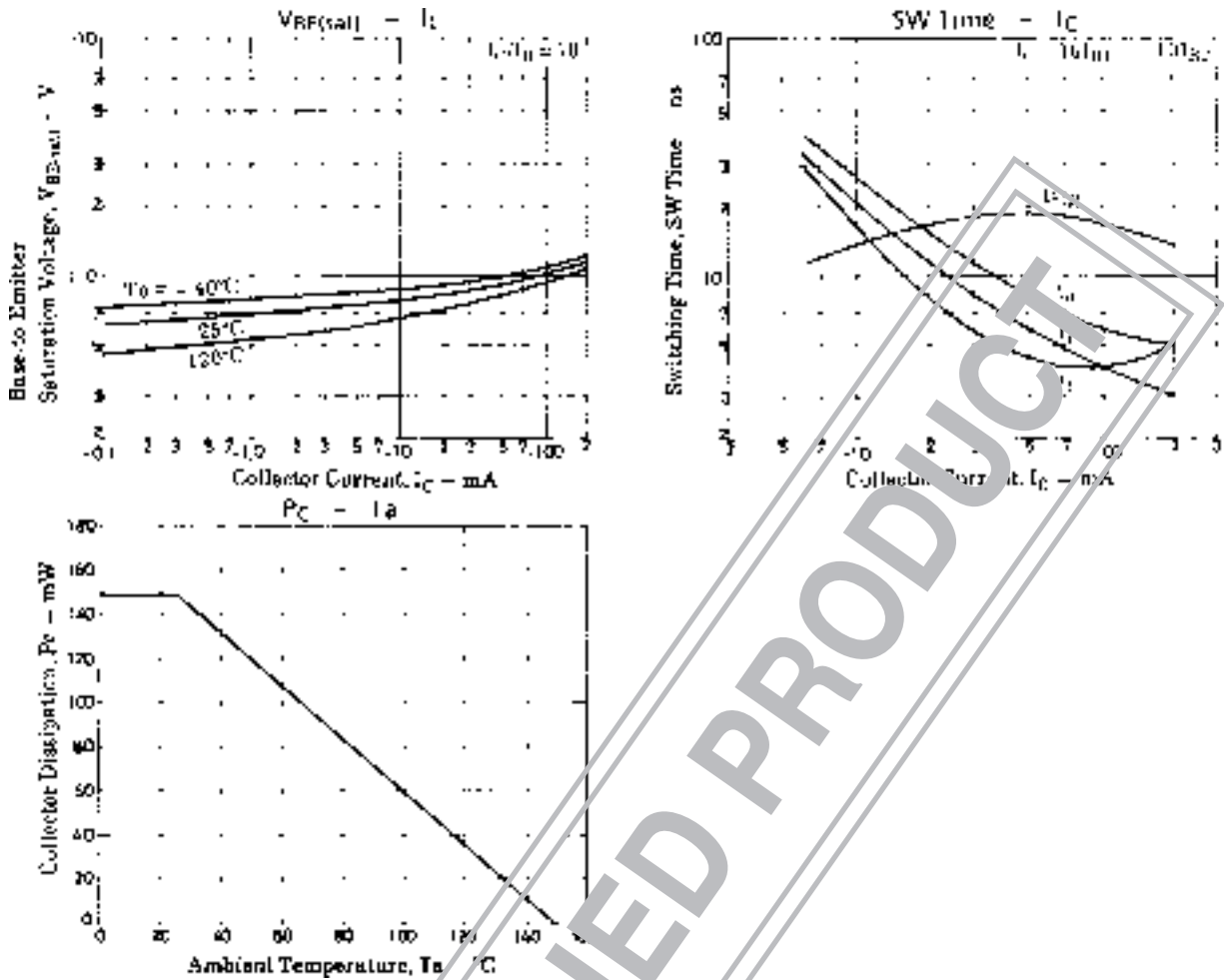


t_{stg} Test Waveform



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