



PNP Epitaxial Planar Silicon Transistor

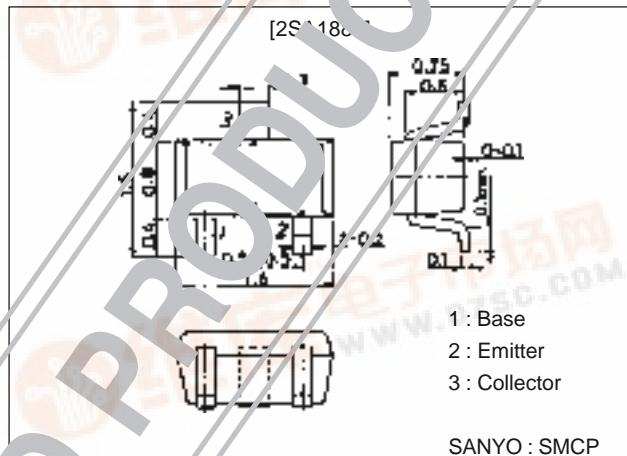
**2SA1883****High-Speed Switching Applications****Features**

- 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 Ta = 25°C**

Parameter	Symbol	Conditions	Ratings		Unit
Collector-to-Base Voltage	V <sub>CBO</sub>			-15	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>			-15	V
Emitter-to-Base Voltage	V <sub>EBO</sub>			-5	V
Collector Current	I <sub>C</sub>			-200	mA
Collector Current (Pulse)	I <sub>CP</sub>			-500	mA
Base Current	I <sub>B</sub>			-40	mA
Collector Dissipation	P <sub>C</sub>			150	mW
Junction Temperature	T <sub>J</sub>			150	°C
Storage Temperature	T <sub>Stg</sub>			-55 to +150	°C

**Electrical Characteristics at T<sub>a</sub> = 25°C**

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =-8V, I <sub>E</sub> =0			-0.1	µA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-3V, I <sub>C</sub> =0			-0.1	µA
DC Current Gain	β <sub>FE</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	50	80	140	
Gain-Bandwidth Product	β <sub>T*</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-10mA	450	1000		MHz
Output Capacitance	C <sub>ob*</sub>	V <sub>CB</sub> =-5V, f=1MHz		1.8	3.0	pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA		-0.07	-0.20	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA		-0.80	-0.90	V

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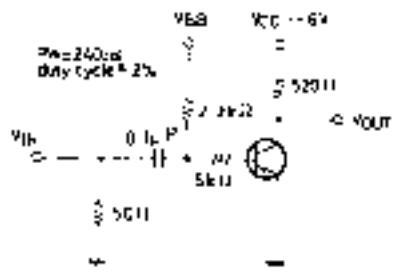
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-15			V
Emitter-to-Base 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

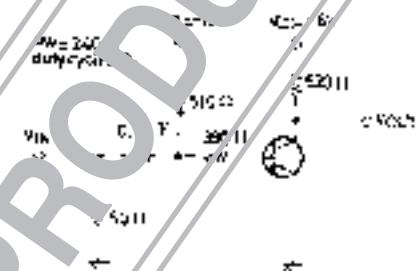
Marking : HA

### Switching Time Test Circuit

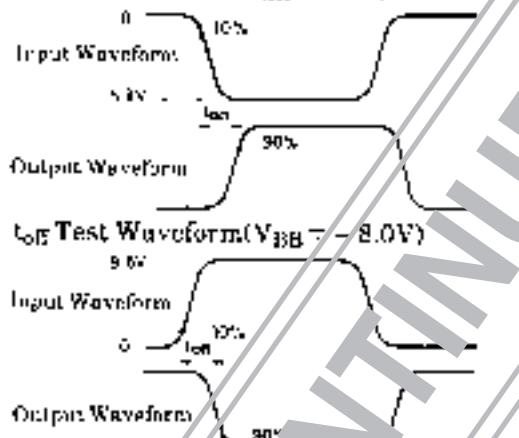
$t_{on}, t_{off}$  Test Circuit



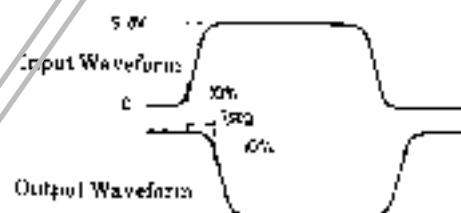
$t_{on}$  Test Circuit



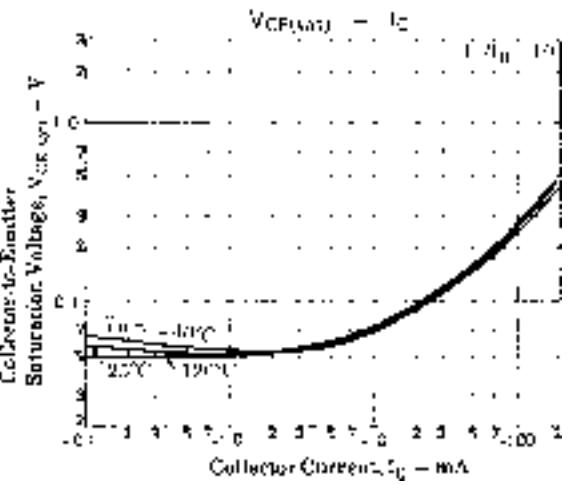
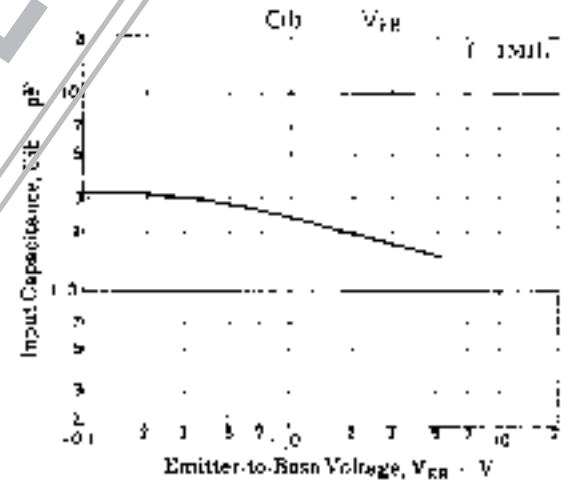
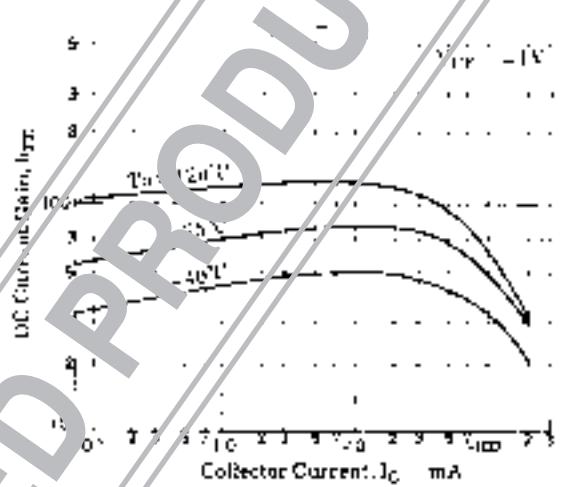
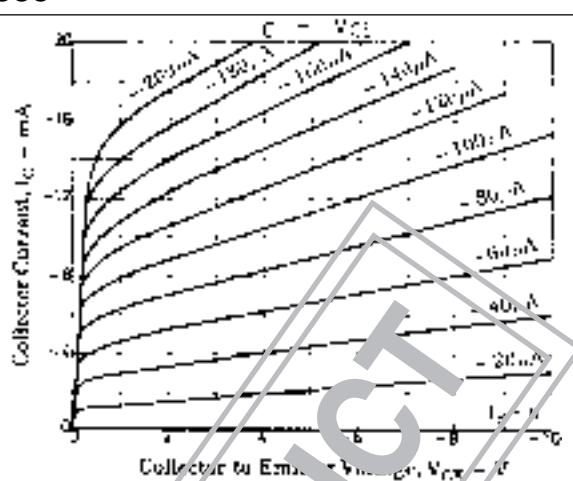
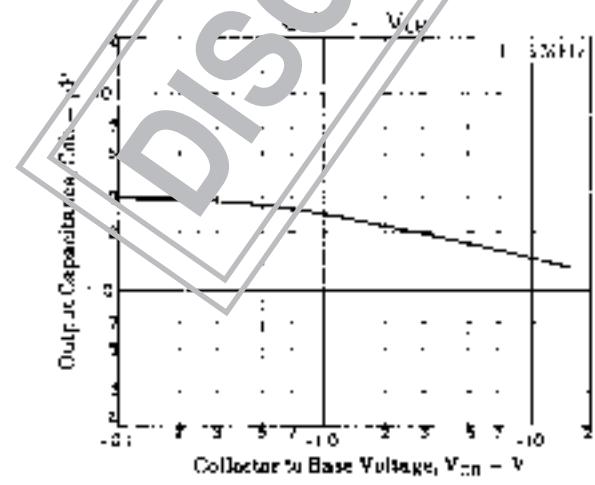
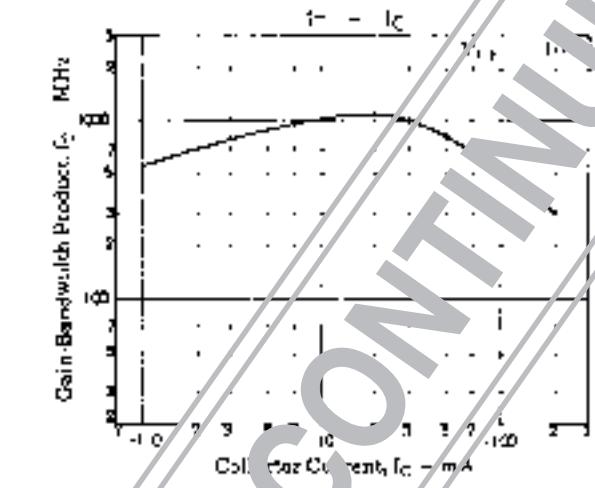
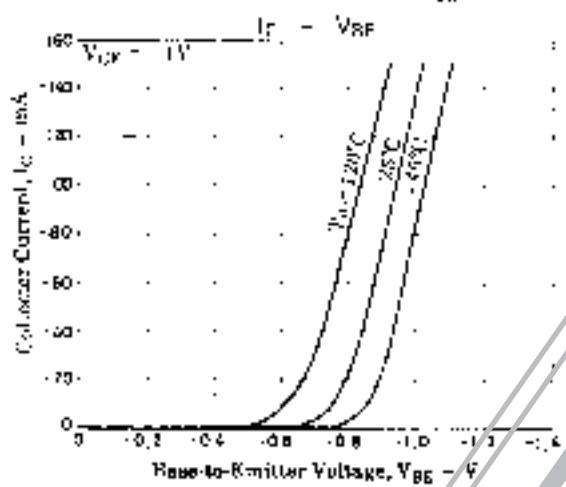
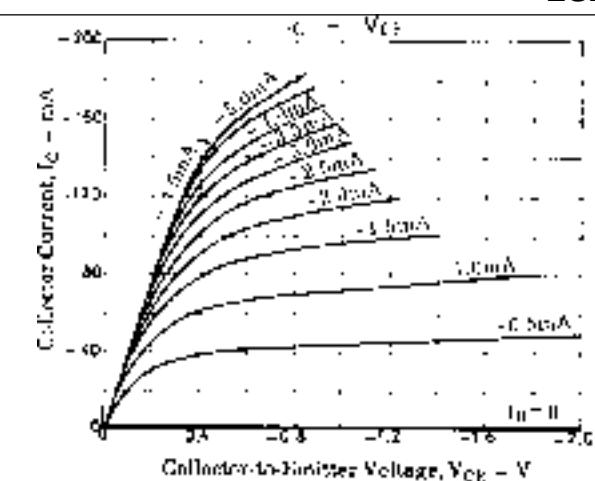
$t_{on}$  Test Waveform ( $V_{BB} = GND$ )



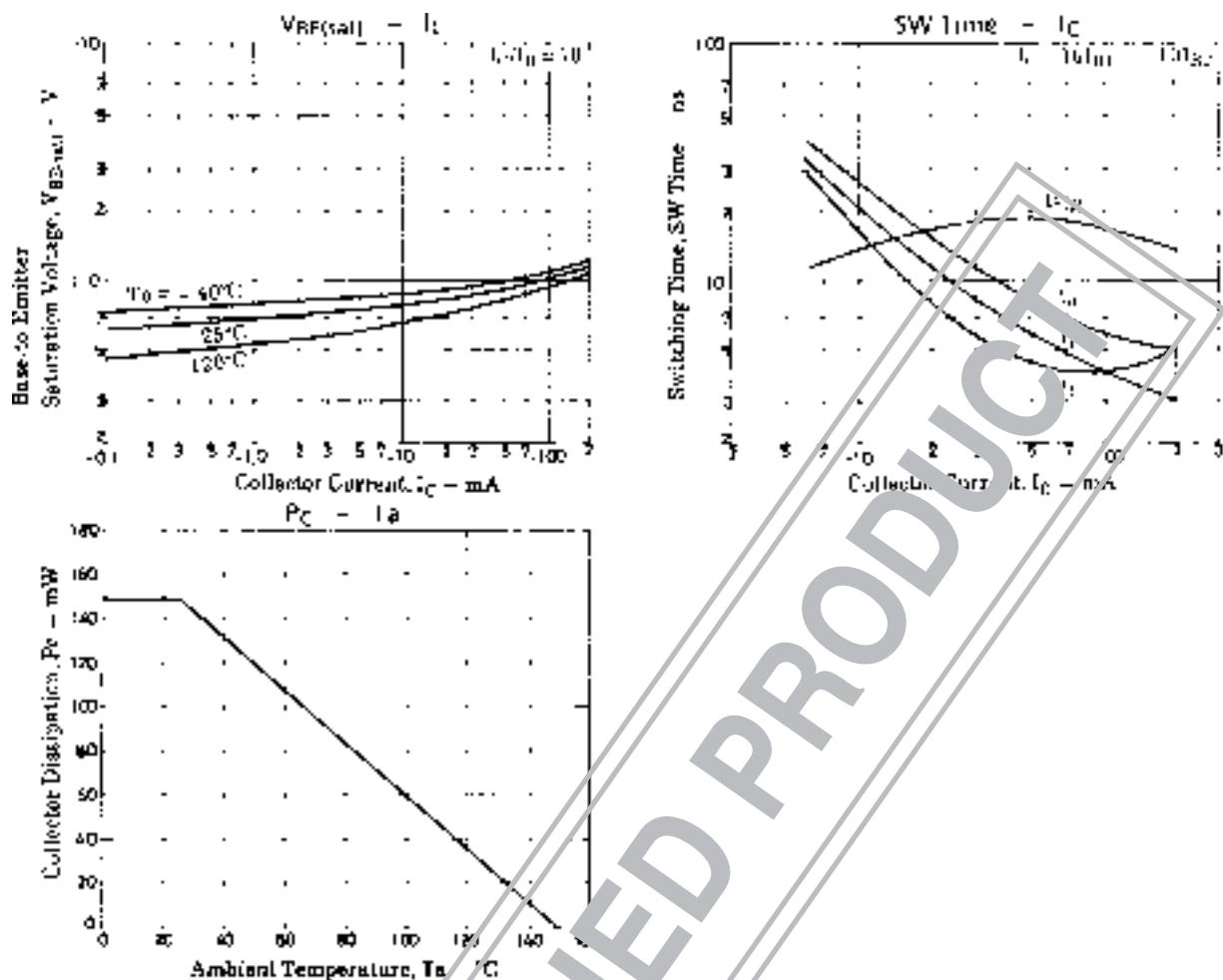
$t_{off}$  Test Waveform



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