

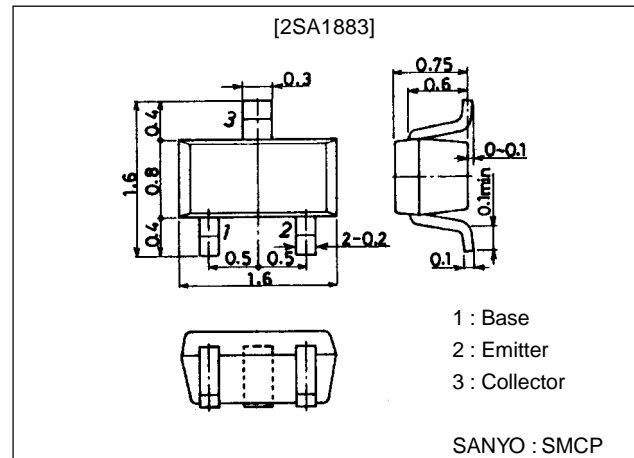
**2SA1883****High-Speed Switching Applications****Features**

- 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_{CEO}		-15	V
Emitter-to-Base Voltage	V_{EBO}		-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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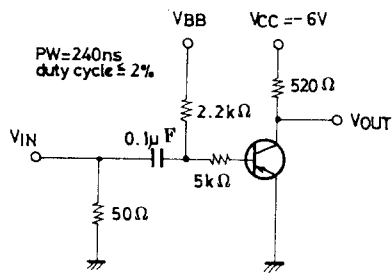
2SA1883

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

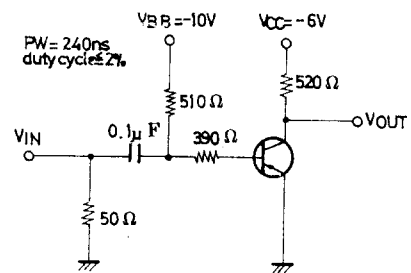
Marking : HA

Switching Time Test Circuit

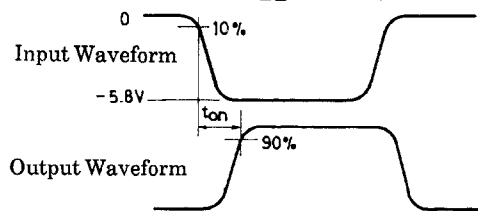
t_{on}, t_{off} Test Circuit



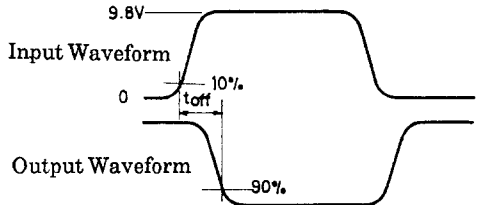
t_{stg} Test Circuit



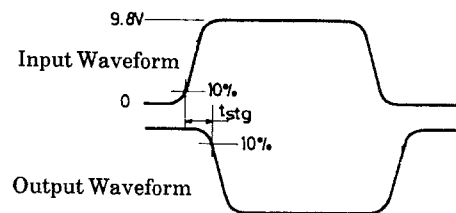
t_{on} Test Waveform ($V_{BB} = GND$)



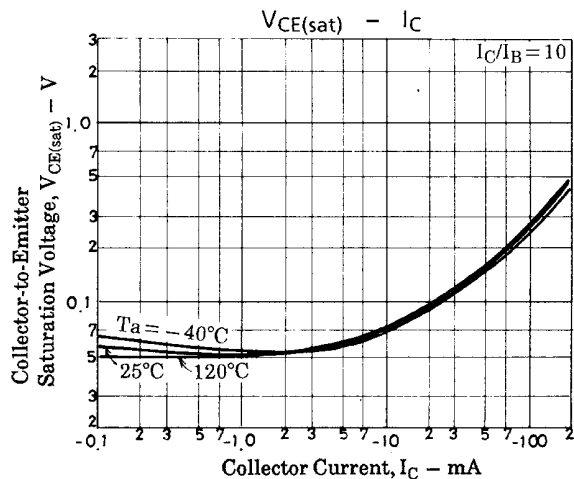
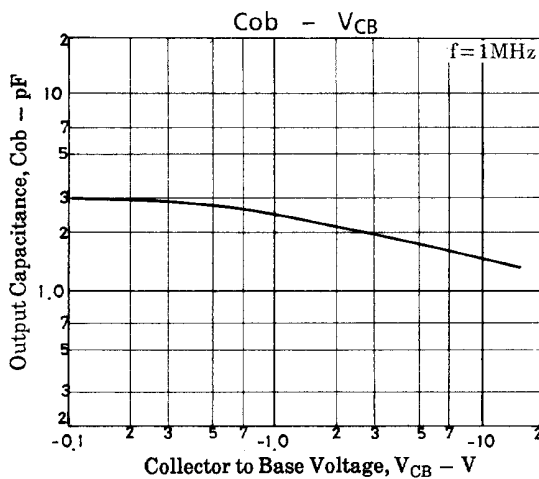
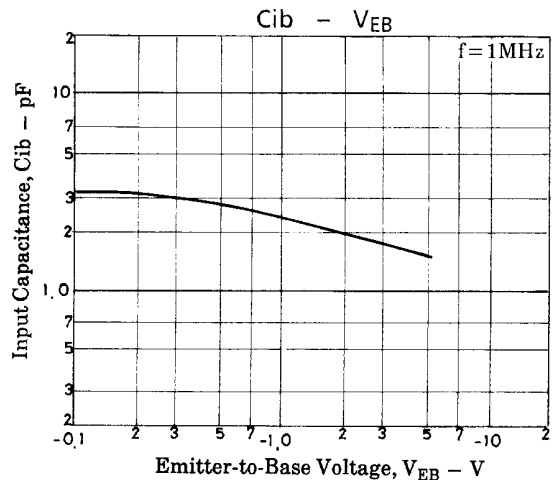
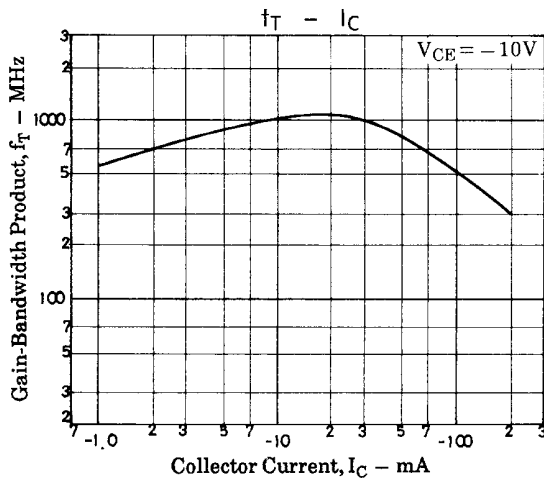
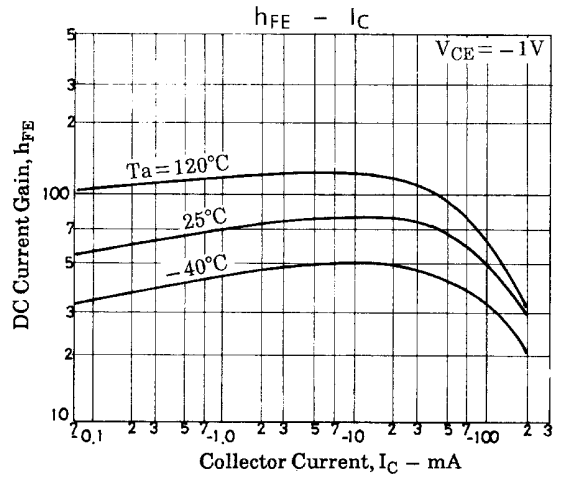
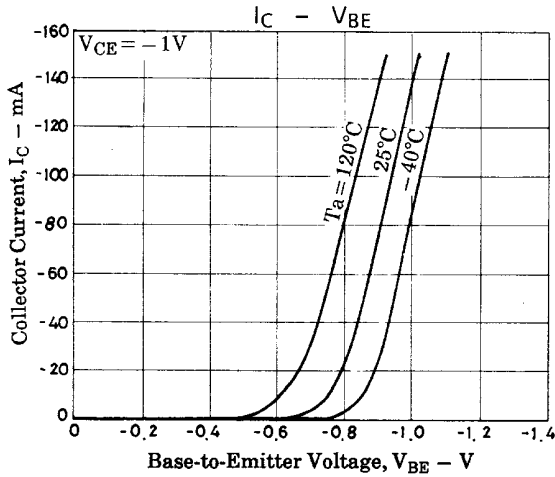
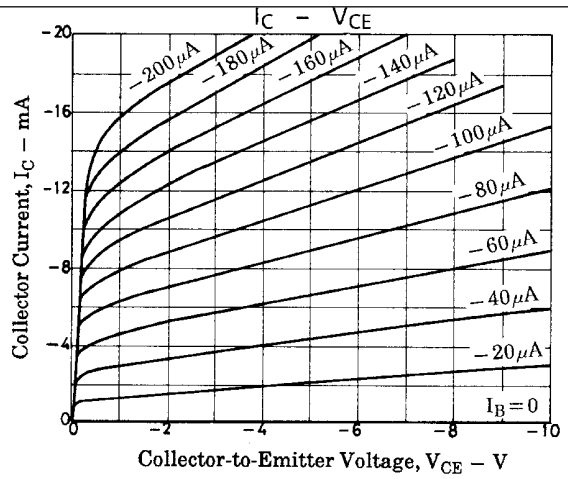
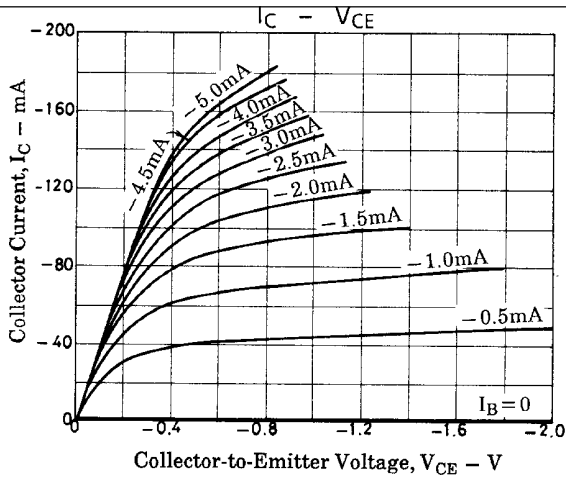
t_{off} Test Waveform ($V_{BB} = -8.0V$)

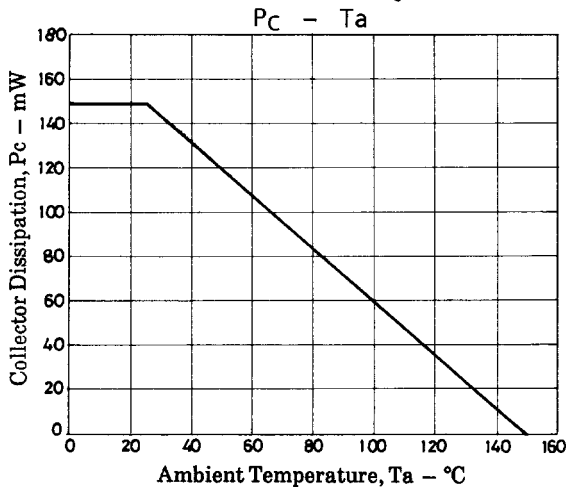
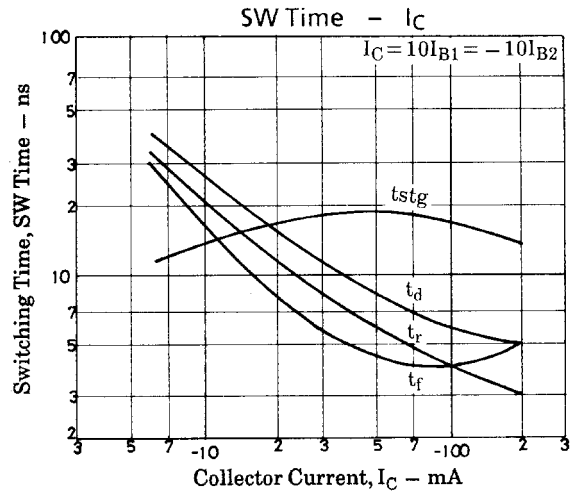
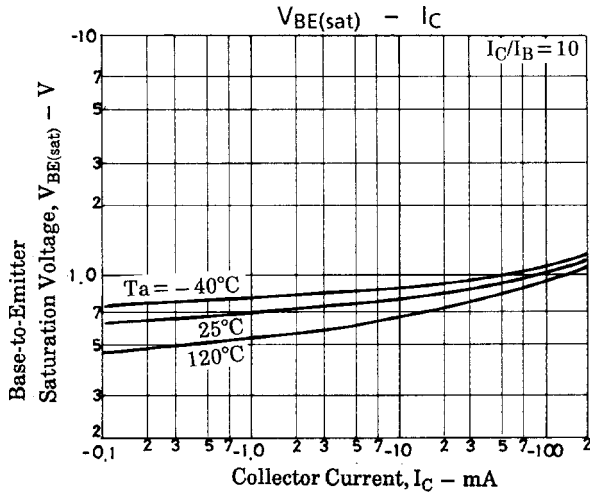


t_{stg} Test Waveform



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