Ordering number:EN4723

NPN Epitaxial Planar Silicon Transistor

2SC4987

High-Speed Switching Applications

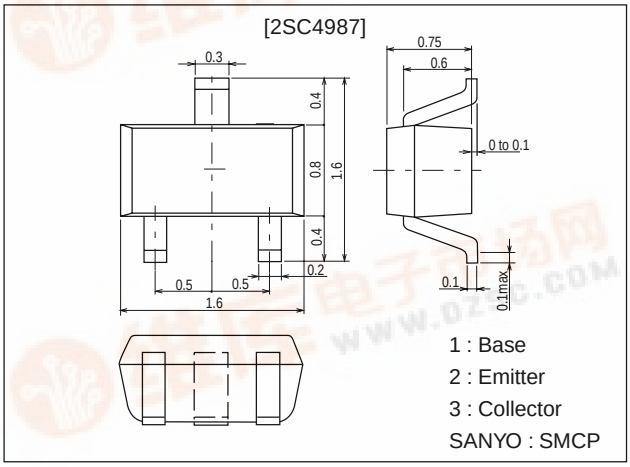
Features

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

Package Dimensions

unit:mm

2106A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		40	V
Collector-to-Emitter Voltage	V_{CES}		40	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	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=20V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=3V, I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=1V, I_C=10mA	50*	90	200*	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=10mA	450	750		MHz
Output Capacitance	Cob	V_{CB}=5V, f=1MHz		1.4	4.0	pF

* : The 2SC4987 is classified by 10mA h_{FE} as follows :

Marking	B4	B5	B6
h_{FE}	50 to 100	70 to 140	100 to 200

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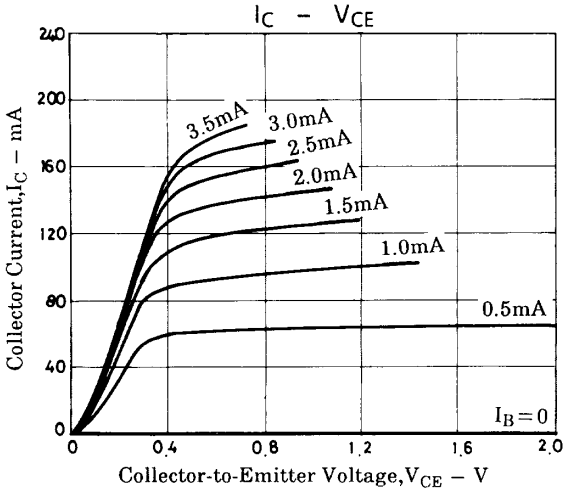
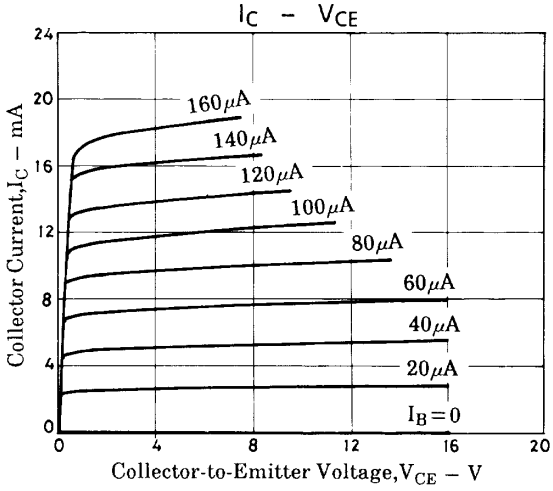
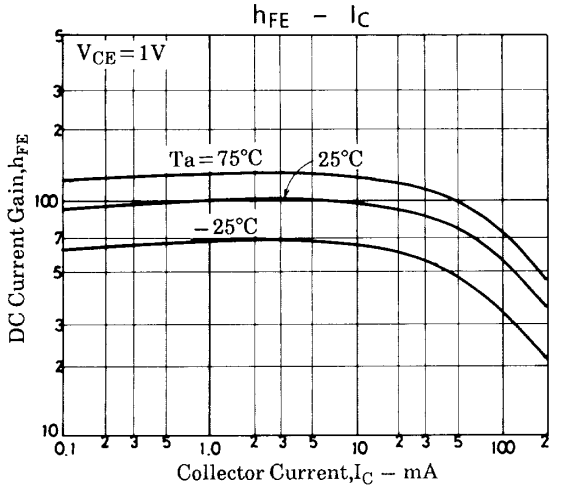
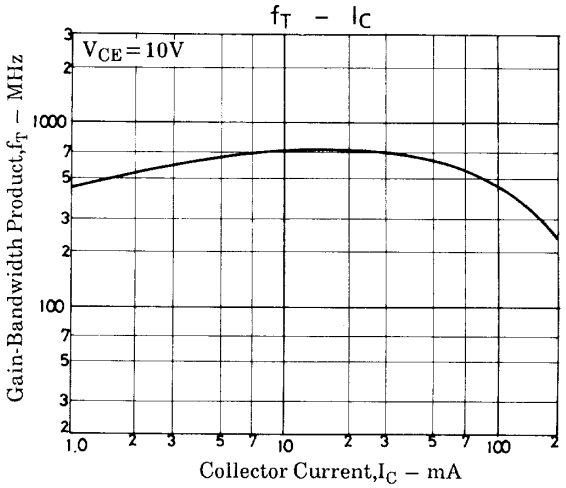
2SC4987

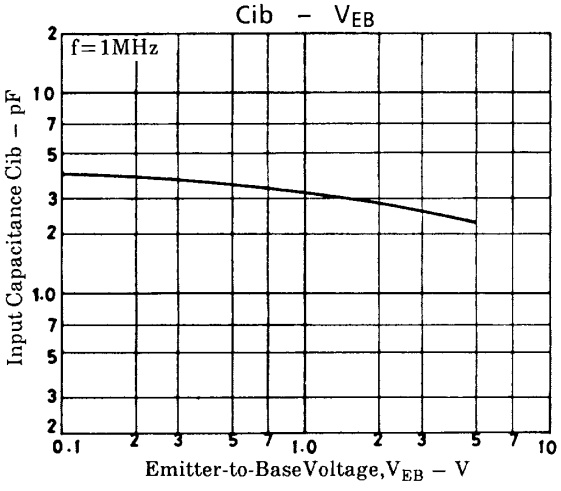
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA		0.13	0.25	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA		0.80	0.85	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Turn-ON Time	t_{on}	See specified test circuit.		8.0		ns
Storage Time	t_{stg}	See specified test circuit.		6.0		ns
Fall Time	t_f	See specified test circuit.		12		ns

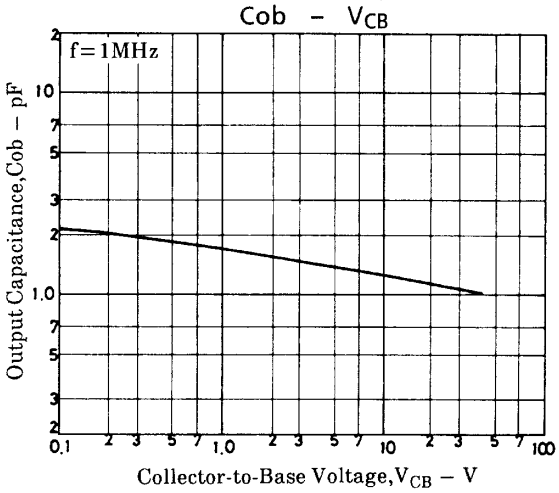


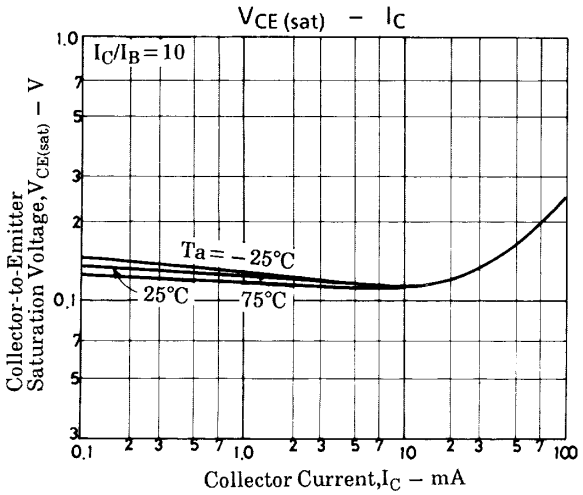


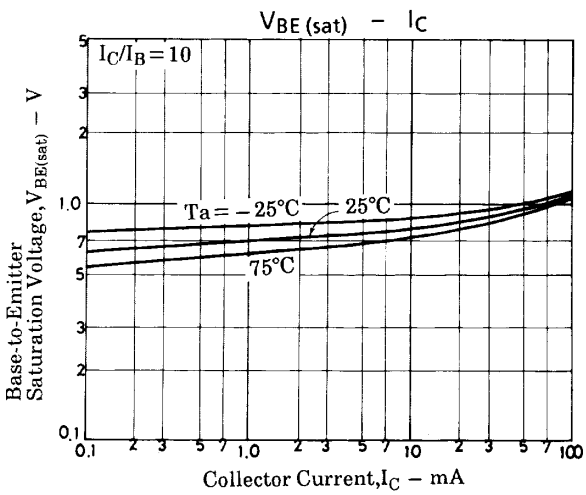


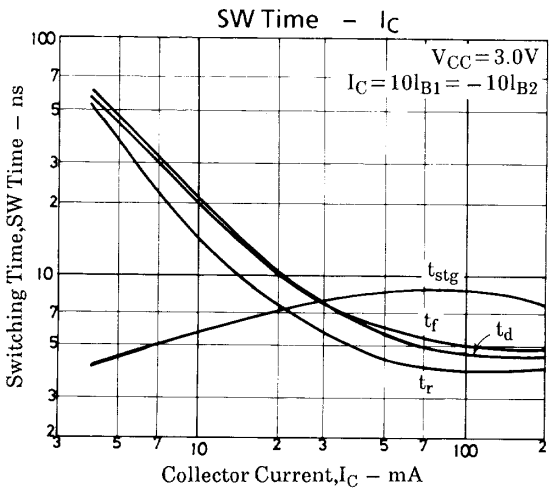


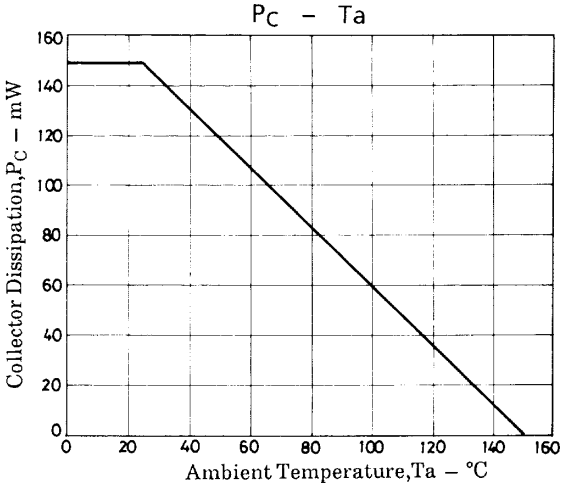












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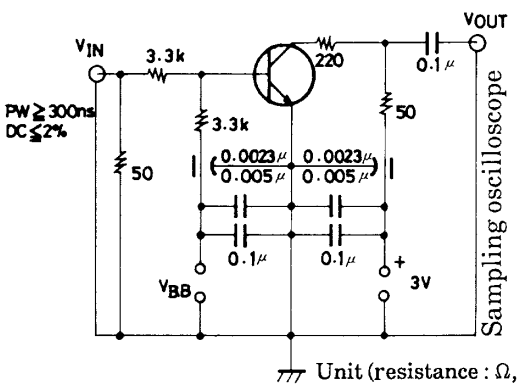

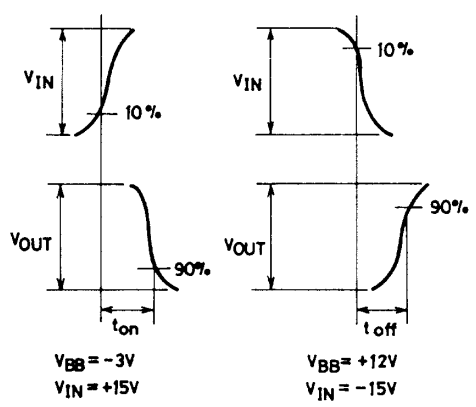

tstg Test Circuit