

SANYO

No.2812

2SC4453

NPN Epitaxial Planar Silicon Transistor

High-Speed Switching Applications

Features

- Fast switching speed
- Low collector saturation voltage
- High gain-bandwidth product
- Small collector capacity
- Very small-sized package permitting the 2SC4453-applied sets to be made small and slim

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

			unit
Collector to Base Voltage	V_{CB0}	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	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

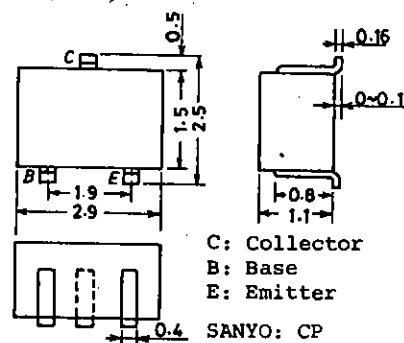
Electrical Characteristics at $T_a = 25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 20\text{V}, I_E = 0$			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	90	*200	
Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	450	750		MHz
Collector Capacitance	c_{ob}	$V_{CB} = 5\text{V}, f = 1\text{MHz}$		1.4	4.0	pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$		0.13	0.25	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$		0.80	0.85	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	40			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	15			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		8.0		ns
Storage Time	t_{stg}			6.0		ns
Turn-OFF Time	t_{off}			12		ns

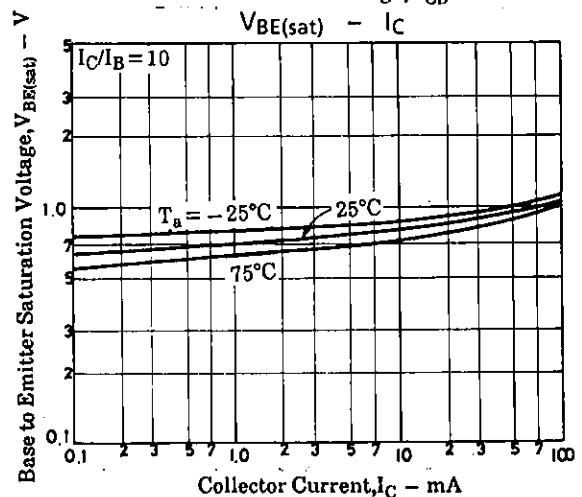
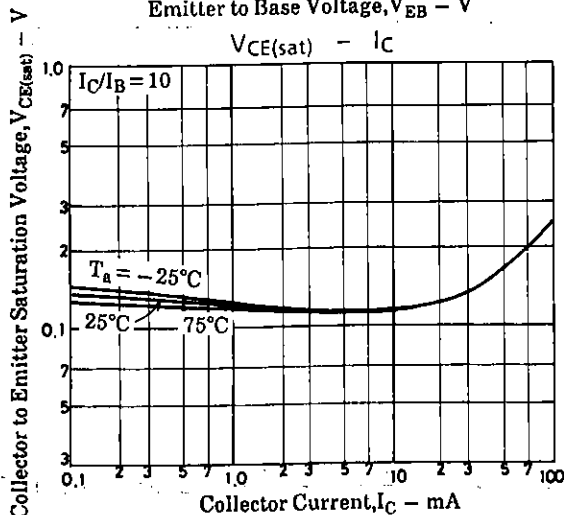
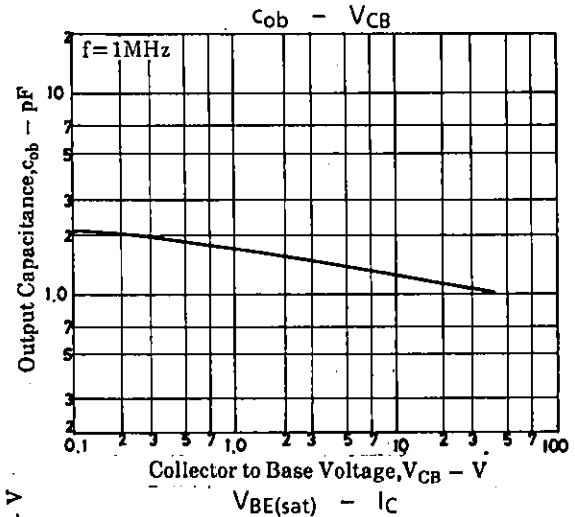
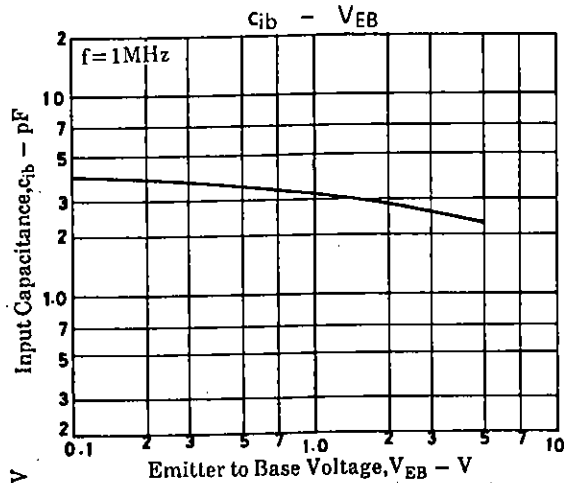
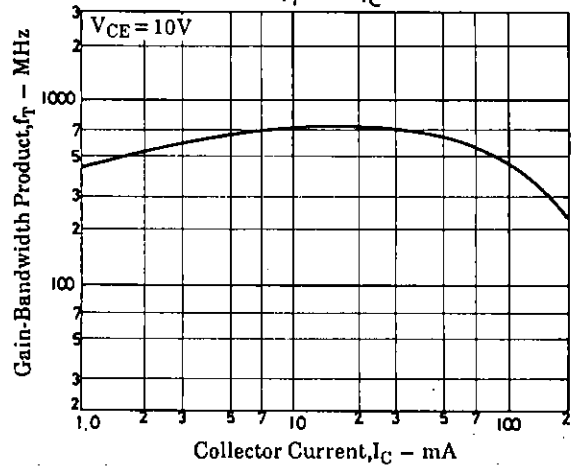
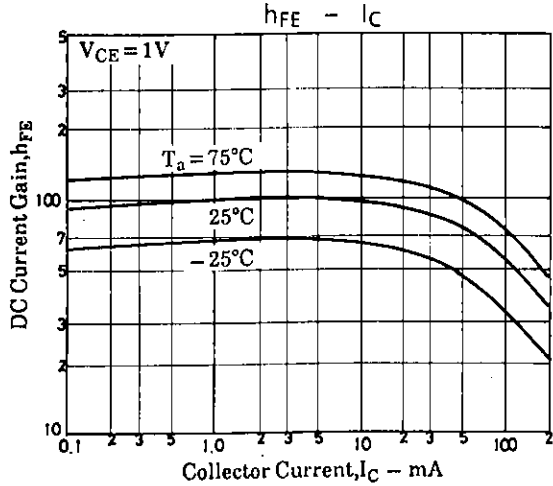
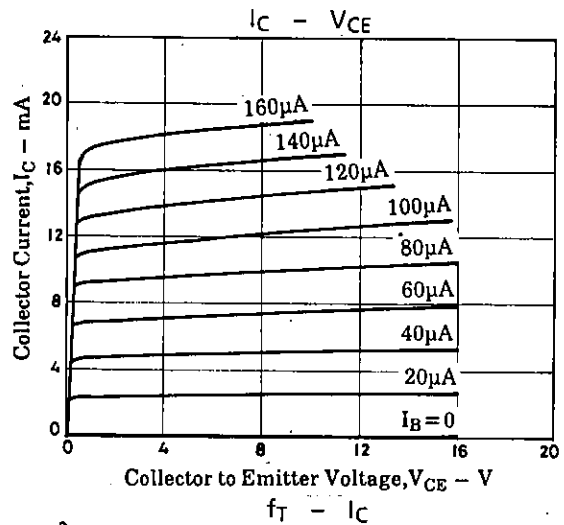
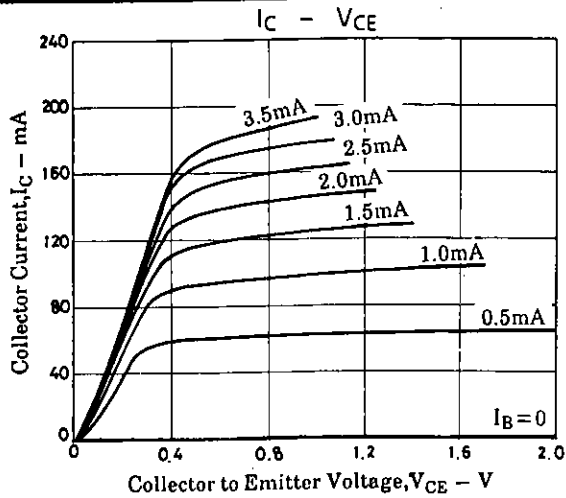
*: The 2SC4453 is classified by 10mA h_{FE} as follows:

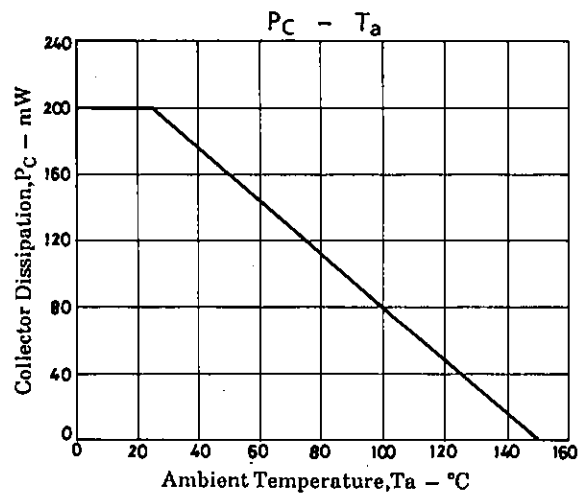
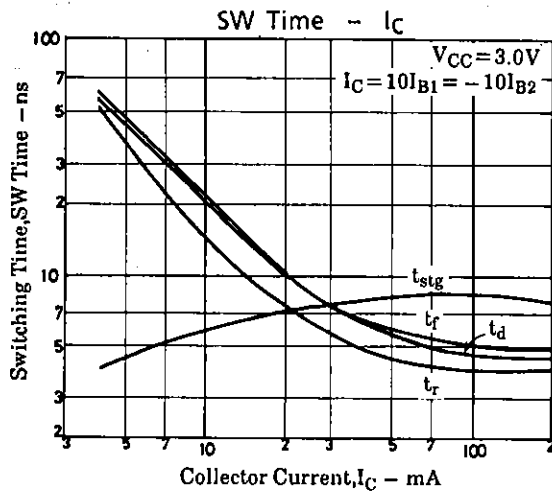
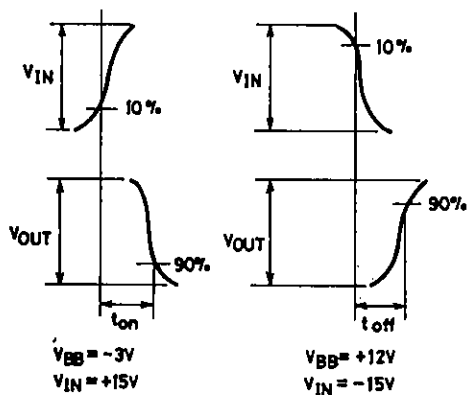
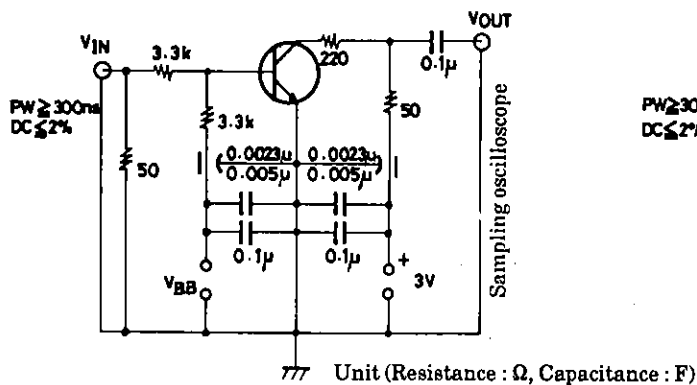
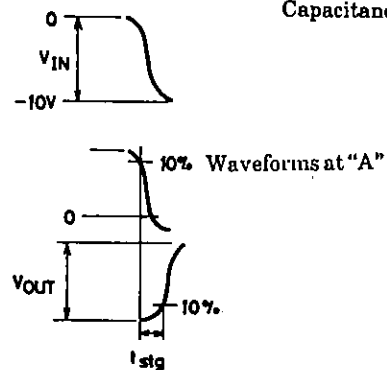
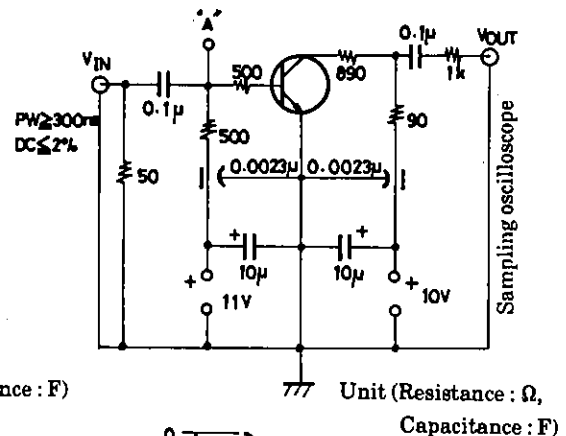
50	2	100	70	3	140	100	4	200
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Marking: ST

 h_{FE} rank: 2,3,4**Package Dimensions 2018A**
(unit: mm)**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

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

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