

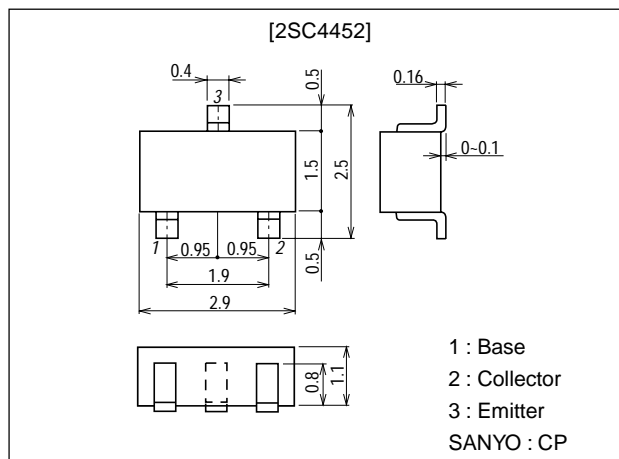
**2SC4453****High-Speed Switching Applications****Features**

- 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.

**Package Dimensions**

unit:mm

2018B

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		40	V
Collector-to-Emitter Voltage	$V_{CES}$		40	V
	$V_{CEO}$		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	°C
Storage Temperature	$T_{stg}$		-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	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
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	$C_{ob}$	$V_{CB}=5V, f=1MHz$		1.4	4.0	pF

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

Marking : ST

 $h_{FE}$  rank : 2, 3, 4

50	2	100	70	3	140	100	4	200
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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

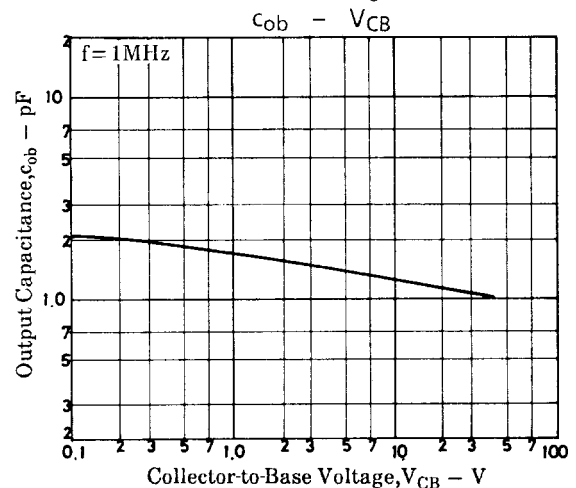
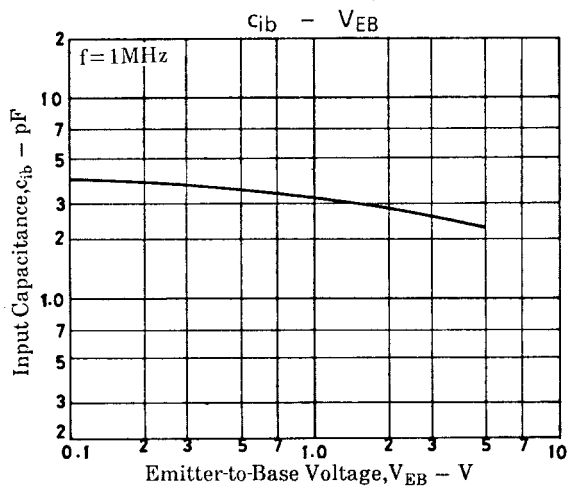
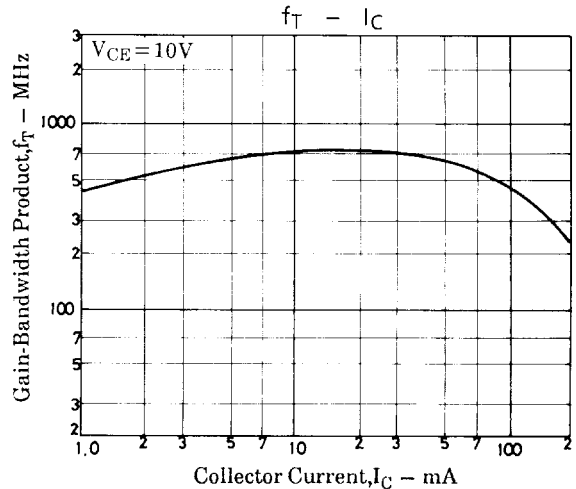
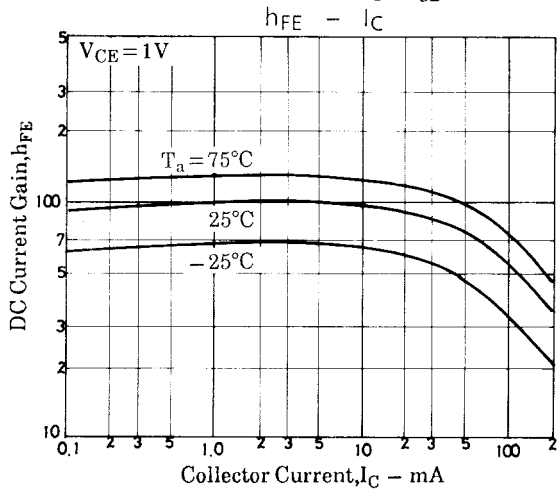
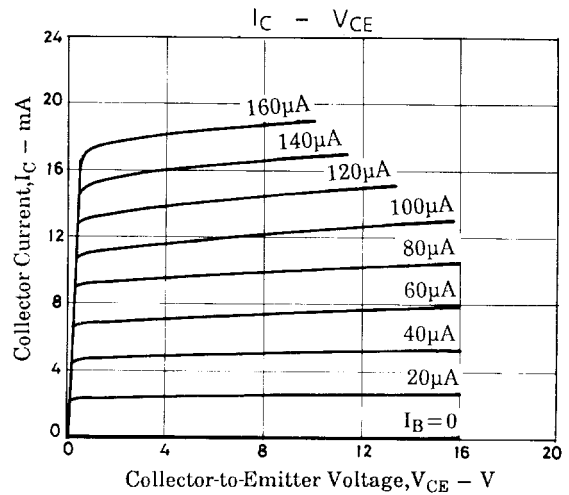
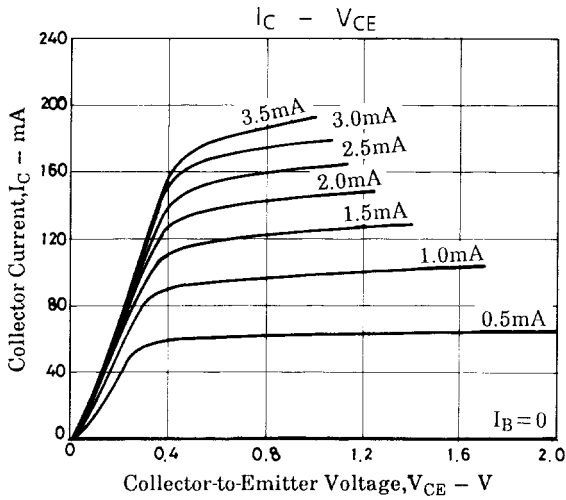
**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

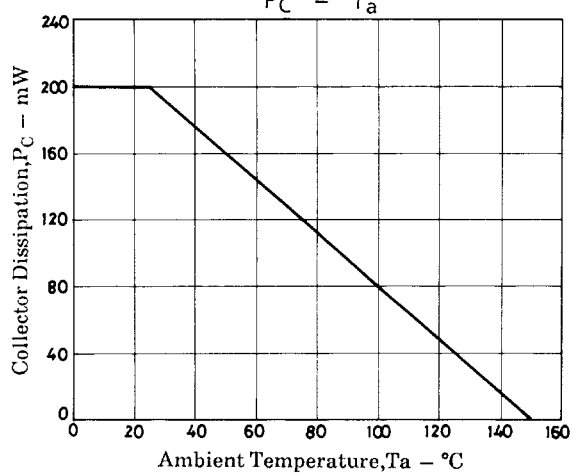
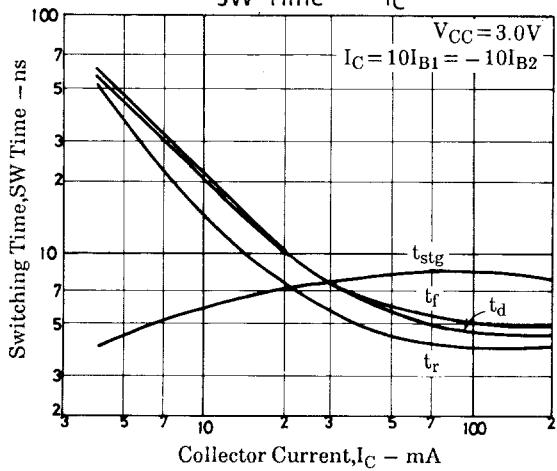
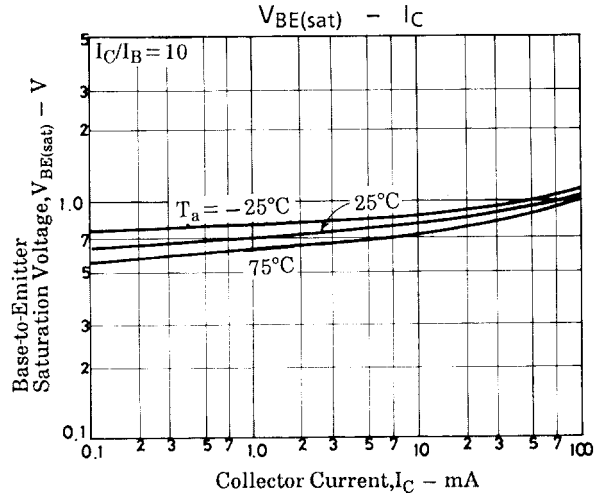
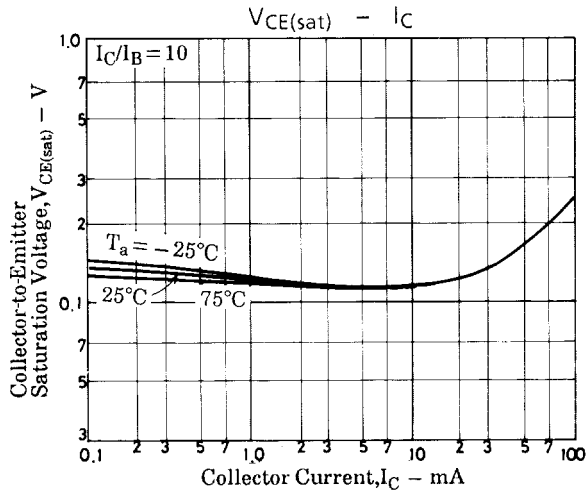
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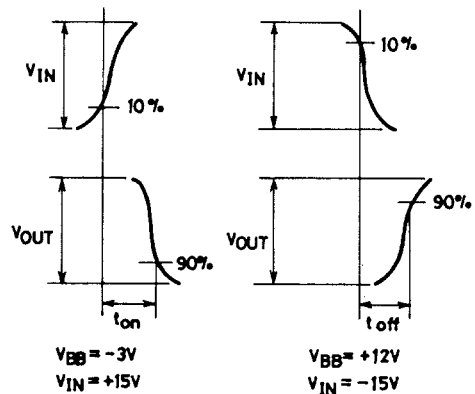
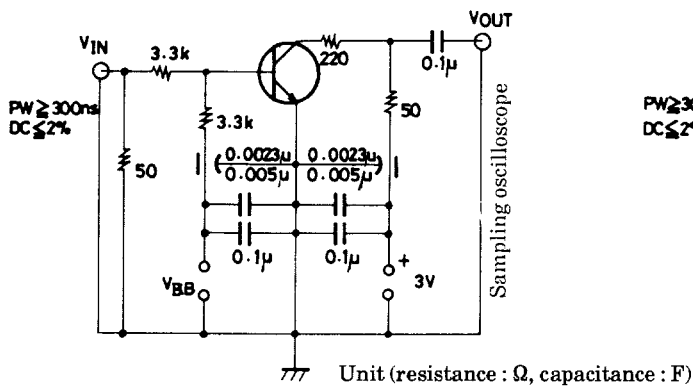
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$		0.13	0.25	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$		0.80	0.85	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40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



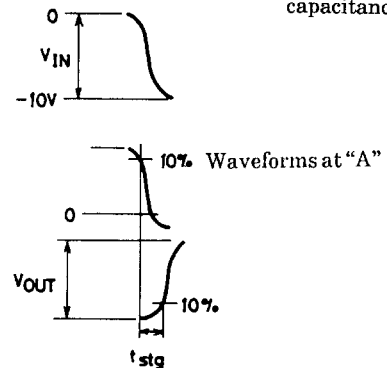
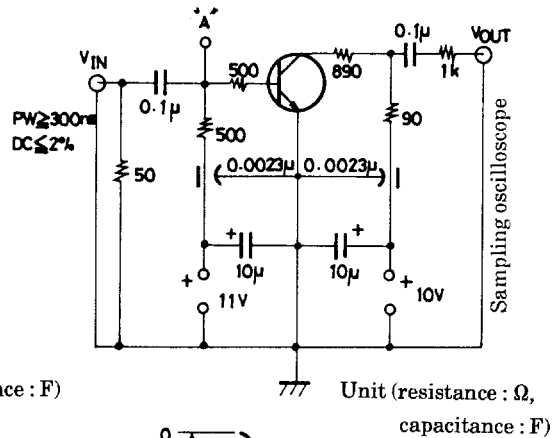
# 2SC4453



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



## $t_{stg}$ Test Circuit



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