

Ordering number : ENN2812A

NPN Epitaxial Planar Silicon Transistor



2SC4453

High-Speed Switching Applications

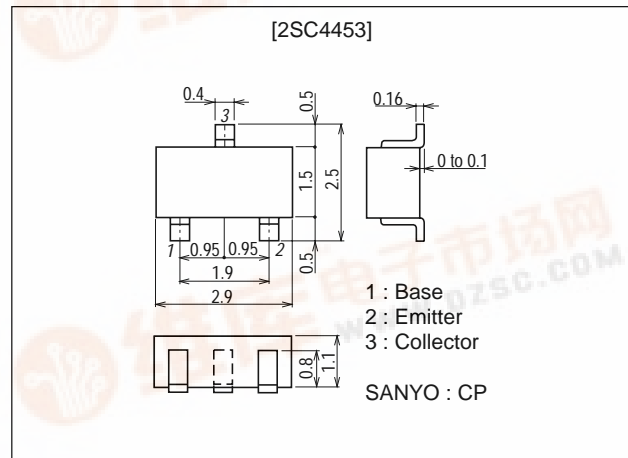
Features

- Fast switching speed.
- Low collector saturation voltage.
- High gain-bandwidth product.
- Small collector capacity.
- Ultrasmall-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
Collector-to-Emmitter 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	°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	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*	

Marking : ST

* : The 2SC4453 is classified by 5mA h_{FE} as follows :

Rank	2	3	4
h _{FE}	50 to 100	70 to 140	100 to 200

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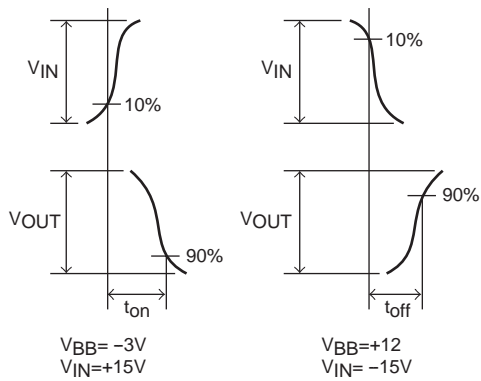
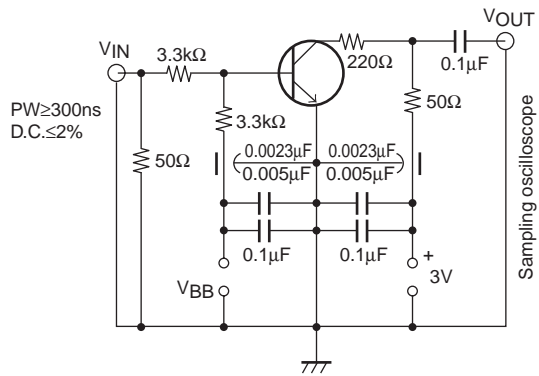


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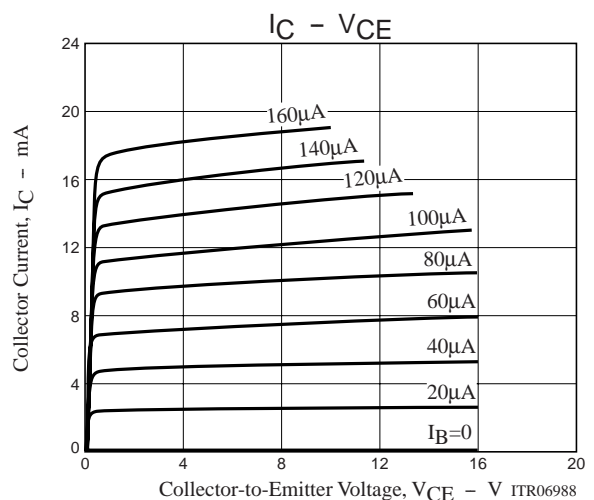
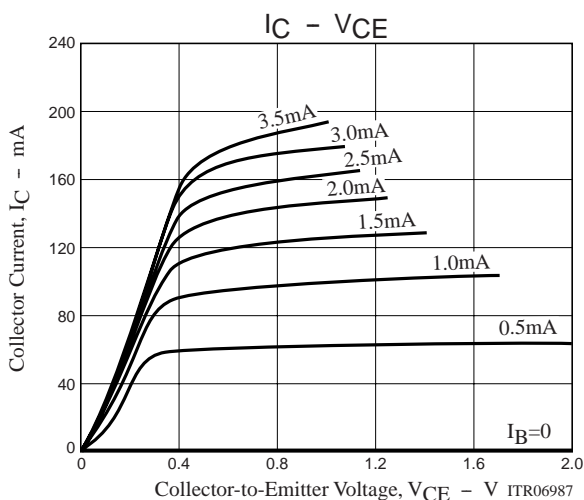
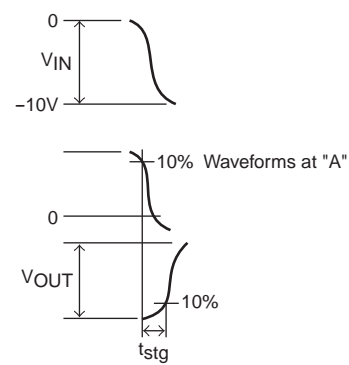
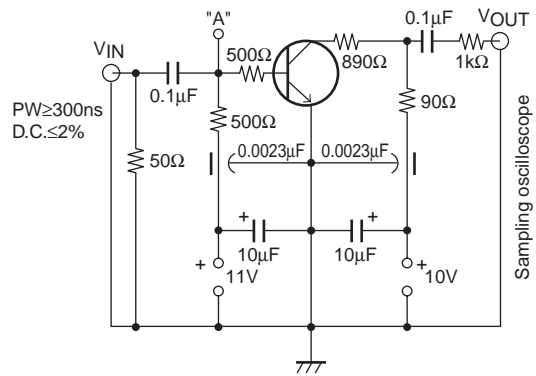
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=10mA$	450	750		MHz
Output Capacitance	C_{ob}	$V_{CB}=5V, f=1MHz$		1.4	4.0	pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$		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

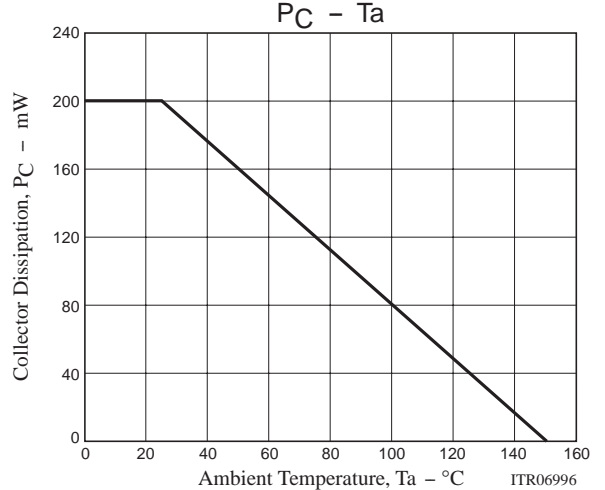
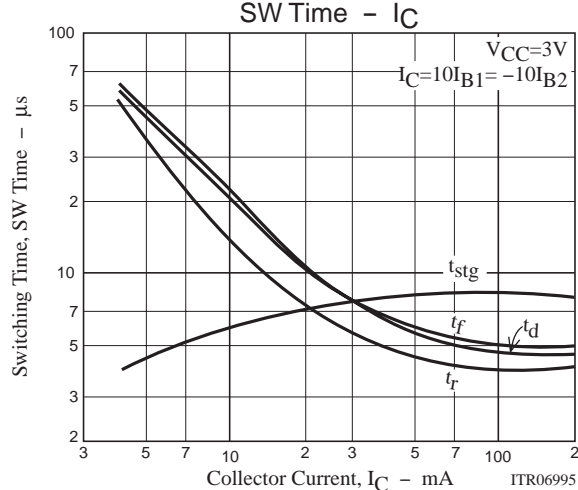
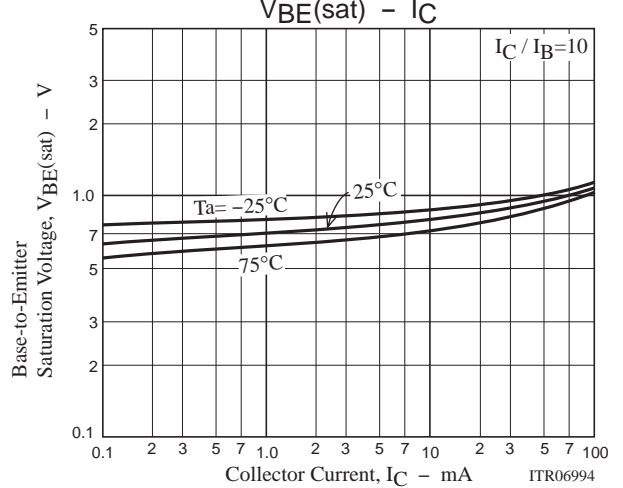
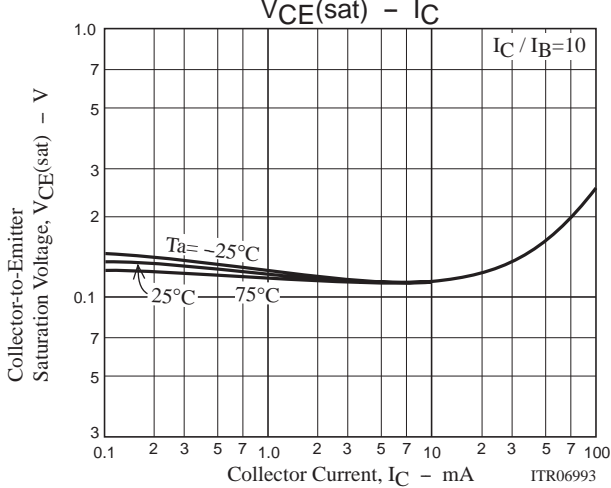
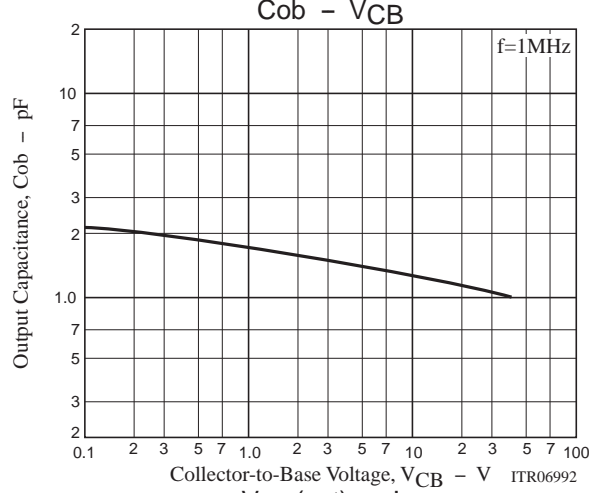
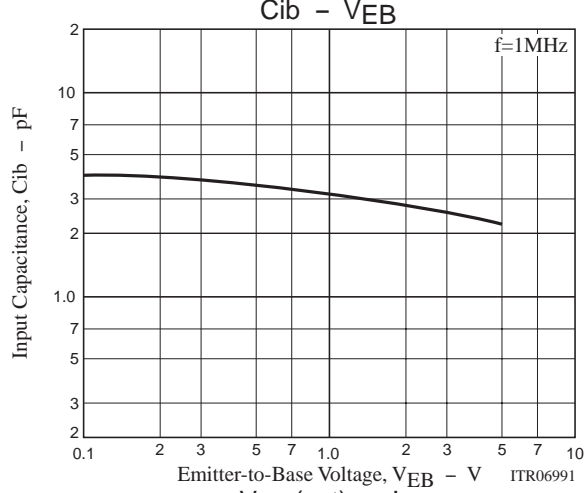
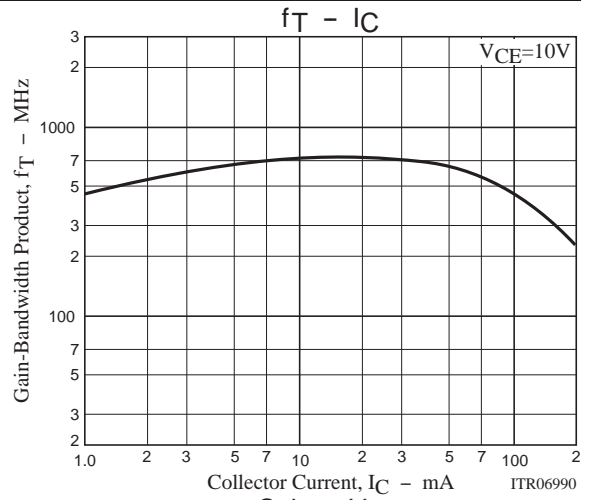
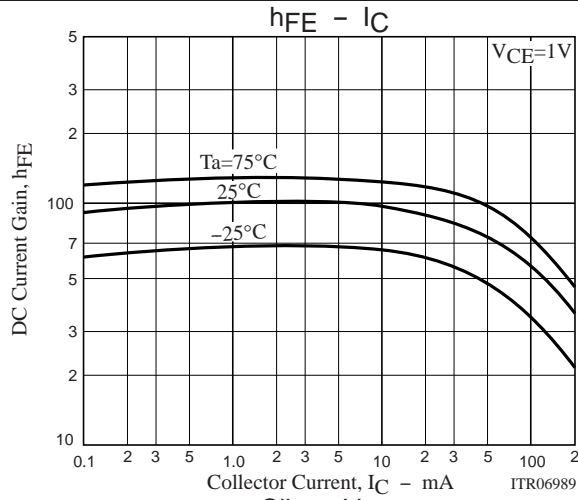
ton, toff Test Circuit



tstg Test Circuit



2SC4453



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