



SOP8501

PNP Epitaxial Planar Silicon Transistor
NPN Triple Diffused Planar Silicon Transistor

High-Voltage Driver Applications

Features

- High breakdown voltage. ($V_{CE0} \geq 400V$)
- Excellent h_{FE} linearity.

Specifications

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

Parameter	Symbol	Conditions	PNP	NPN	Unit
Collector-to-Base Voltage	V_{CBO}		-400	400	V
Collector-to-Emitter Voltage	V_{CEO}		-400	400	V
Emitter-to-Base Voltage	V_{EBO}		-5	5	V
Collector Current	I_C		-1	0.2	A
Collector Current (Pulse)	I_{CP}		-2	0.4	A
Collector Dissipation	P_C	Mounted on a ceramic board (2000mm ² ×0.8mm) 1unit	1.3		W
	P_T	Mounted on a ceramic board (2000mm ² ×0.8mm) 1unit	1.6		W
Junction Temperature	T_J		150		°C
Storage Temperature	T_{stg}		-55 to +150		°C

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[PNP]						
Collector Cutoff Current	I_{CBO}	$V_{CB} = -300V, I_E = 0$			-1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-1.0	μA
DC Current Gain	h_{FE}	$V_{CE} = -10V, I_C = -100mA$	40		200	
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -50mA$		50		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -200mA, I_B = -20mA$			-1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -200mA, I_B = -20mA$			-1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-400			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Output Capacitance	C_{ob}	$V_{CB} = -30V, f = 1MHz$		12		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		0.25		μs
Storage Time	t_{stg}	See specified Test Circuit.		3.0		μs
Fall Time	t_f	See specified Test Circuit		0.3		μs

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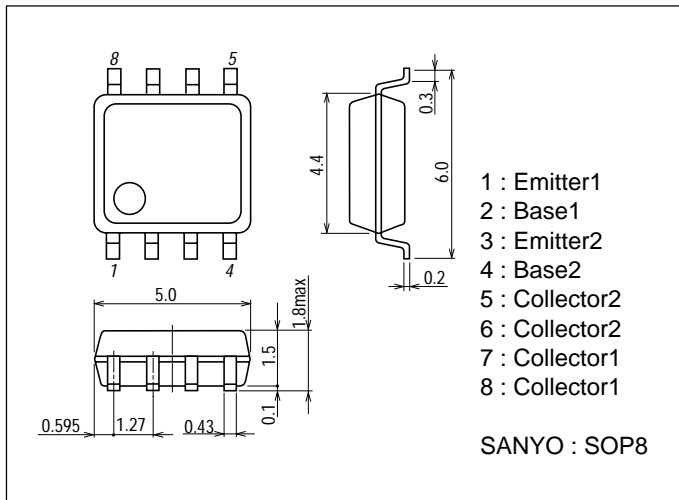
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[NPN]						
Collector Cutoff Current	I_{CBO}	$V_{CB}=300V, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=10V, I_C=50mA$	60		200	
Gain-Bandwidth Product	f_T	$V_{CE}=30V, I_C=10mA$		70		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.6	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$			1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	400			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
Output Capacitance	C_{ob}	$V_{CB}=30V, f=1MHz$		4		pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=30V, f=1MHz$		3		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		0.25		μs
Turn-OFF Time	t_{off}	See specified Test Circuit.		5.0		μs

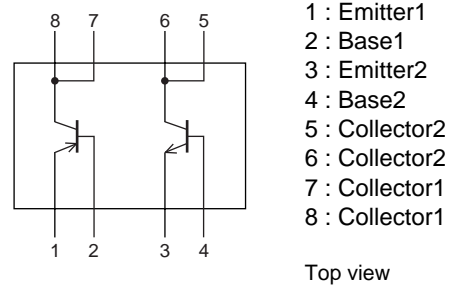
Package Dimensions

unit : mm

2233



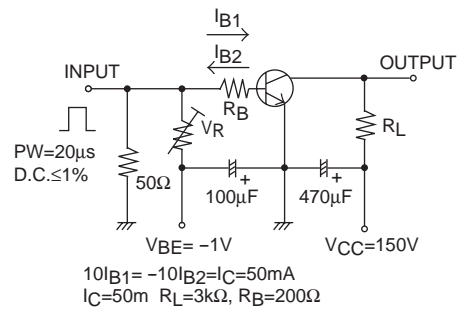
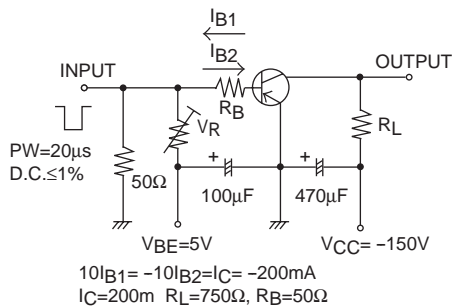
Electrical Connection



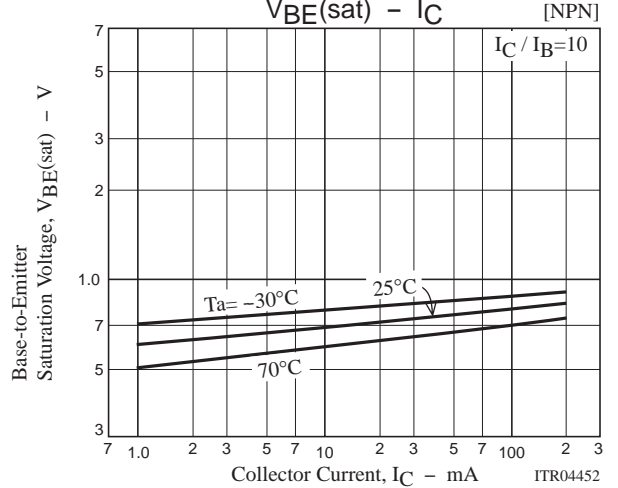
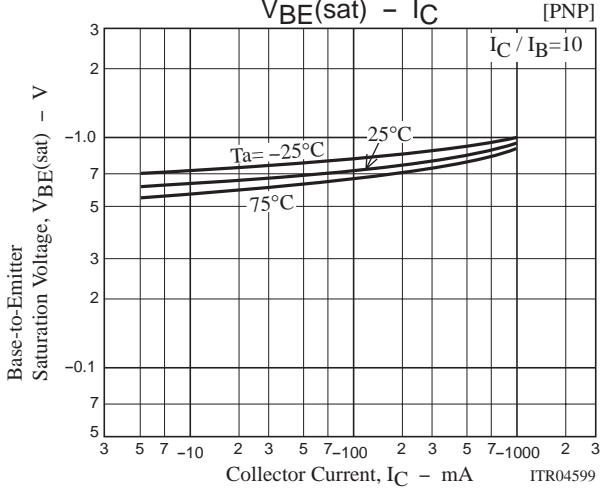
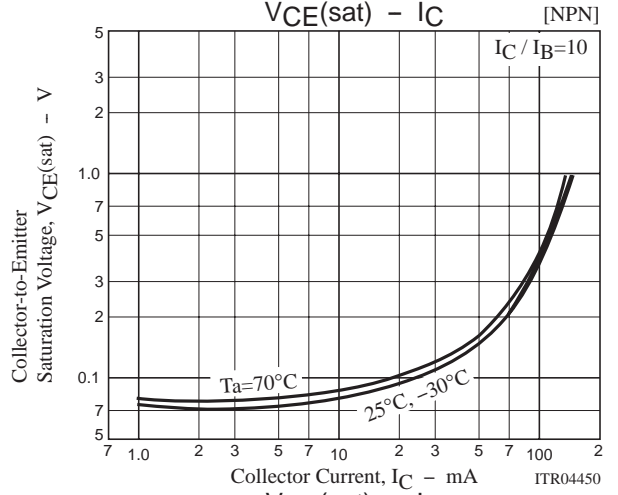
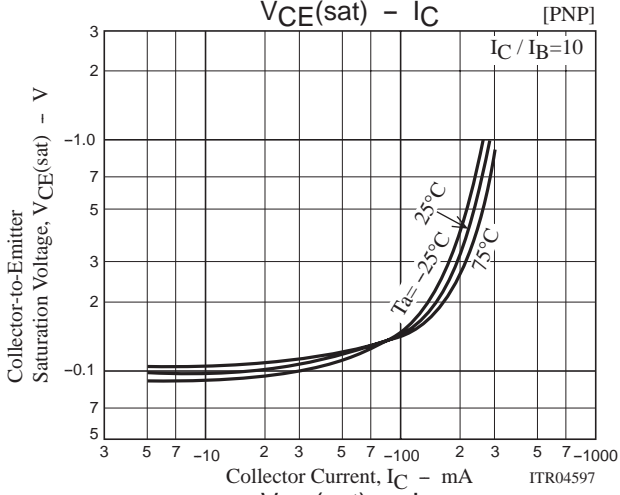
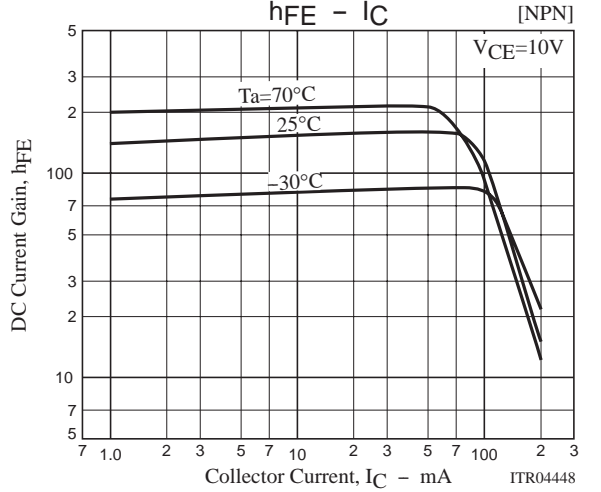
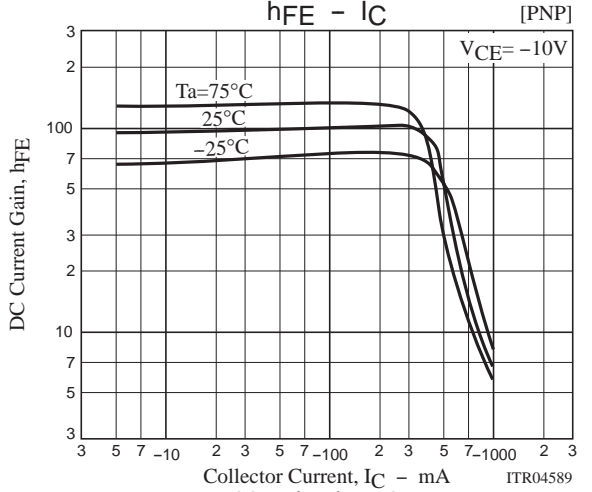
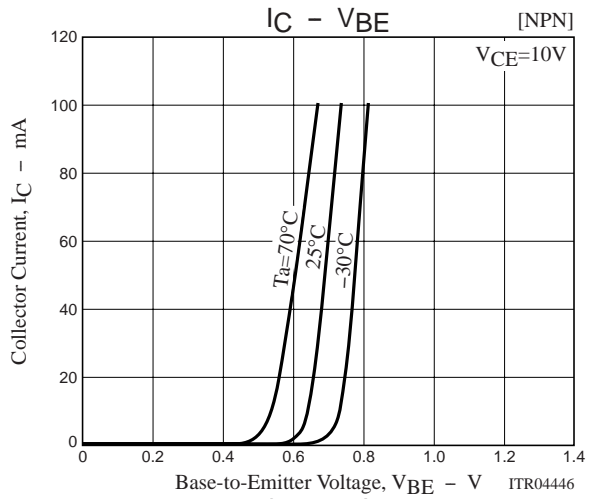
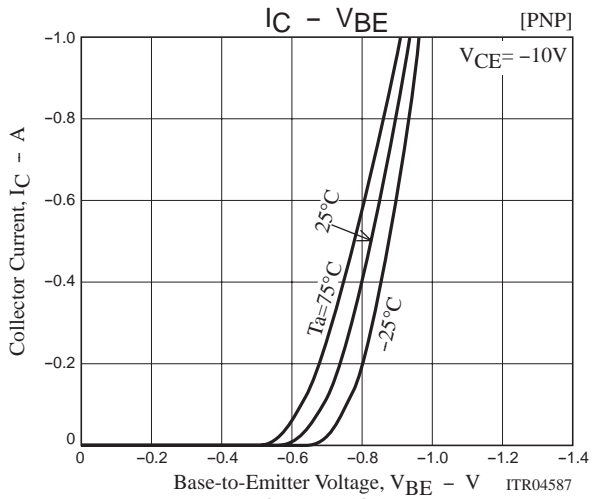
Switching Time Test Circuit

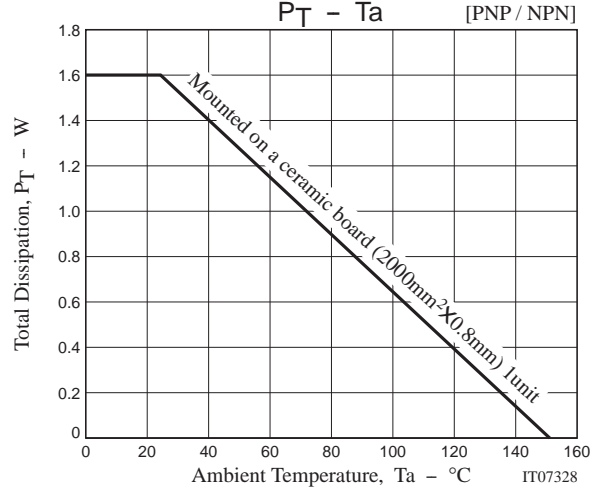
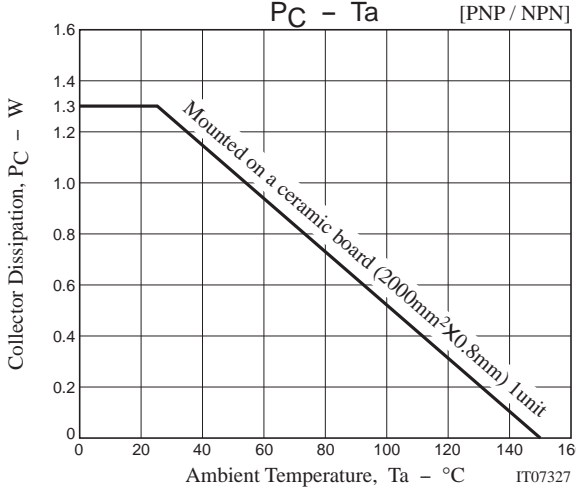
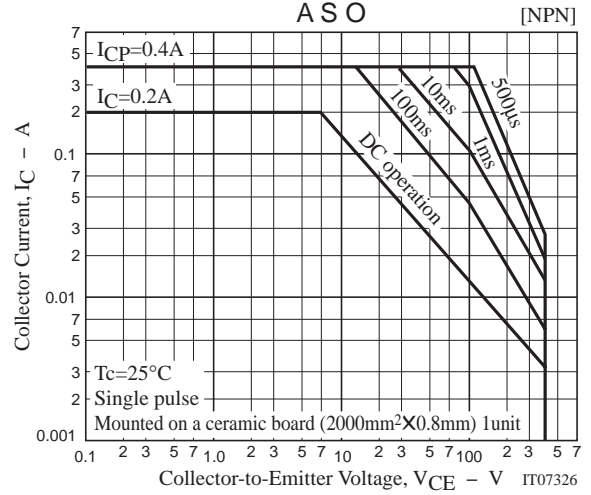
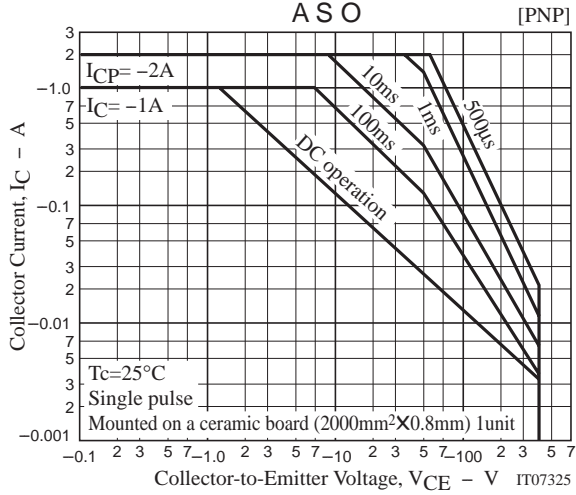
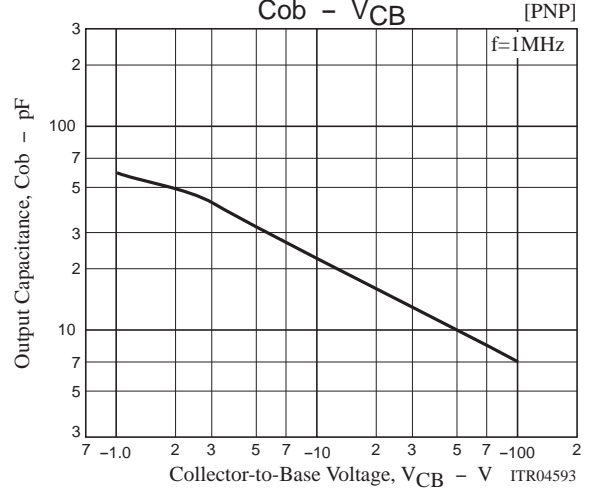
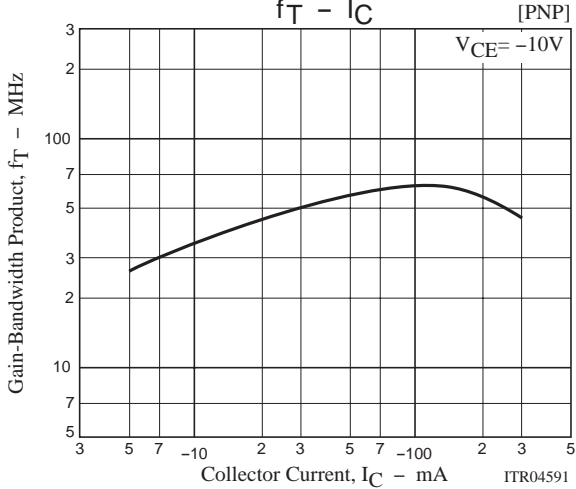
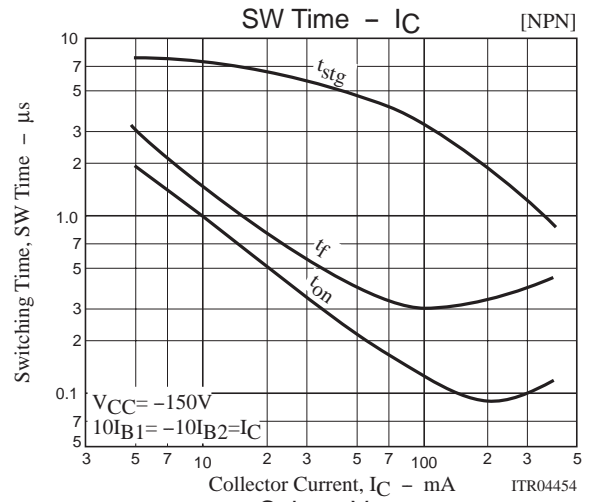
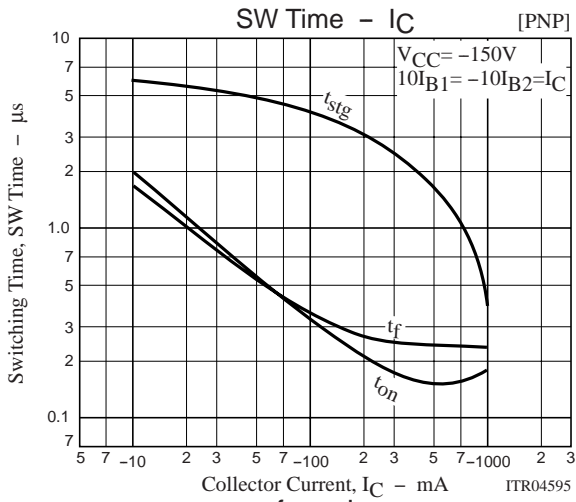
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