



SANYO Semiconductors

DATA SHEET

SFT1102

PNP Epitaxial Planar Silicon Transistor

High-Voltage Switching Applications

Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers.

Features

- Adoption of FBET, MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- High allowable power dissipation.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-150	V
Collector-to-Emitter Voltage	V_{CES}		-150	V
Collector-to-Emitter Voltage	V_{CEO}		-150	V
Emitter-to-Base Voltage	V_{EBO}		-7	V
Collector Current	I_C		-2	A
Collector Current (Pulse)	I_{CP}		-3	A
Base Current	I_B		-400	mA
Collector Dissipation	P_C		1	W
		$T_c=25^{\circ}\text{C}$	15	W
Junction Temperature	T_J		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^{\circ}\text{C}$

Marking : T1102

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SANYO Semiconductor Co., Ltd.

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

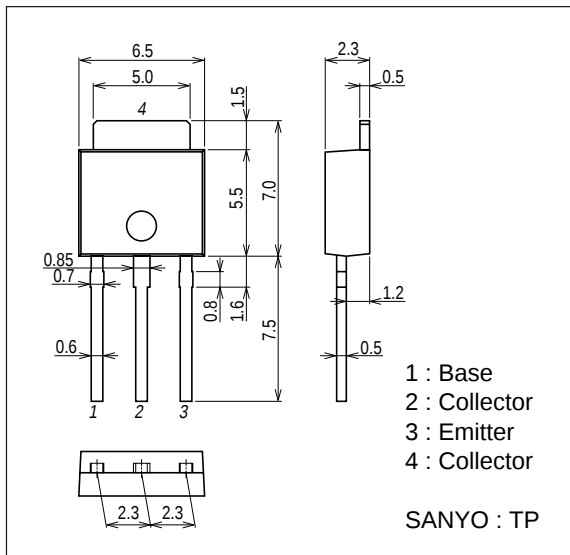
Electrical Characteristics at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-80\text{V}$, $I_E=0\text{A}$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0\text{A}$			-1	μA
DC Current Gain	h_{FE}	$V_{CE}=-5\text{V}$, $I_C=-100\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}$, $I_C=-100\text{mA}$		70		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$		20		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=-1\text{A}$, $I_B=-100\text{mA}$		-200	-400	mV
	$V_{CE(sat)2}$	$I_C=-0.5\text{A}$, $I_B=-50\text{mA}$		-100	-200	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1\text{A}$, $I_B=-100\text{mA}$		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$, $I_E=0\text{A}$	-150			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=-100\mu\text{A}$, $R_{BE}=0\Omega$	-150			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $R_{BE}=\infty$	-150			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$, $I_C=0\text{A}$	-7			V
Turn-ON Time	t_{on}	See specified Test Circuit.		55		ns
Storage Time	t_{stg}	See specified Test Circuit.		840		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

Package Dimensions

unit : mm (typ)

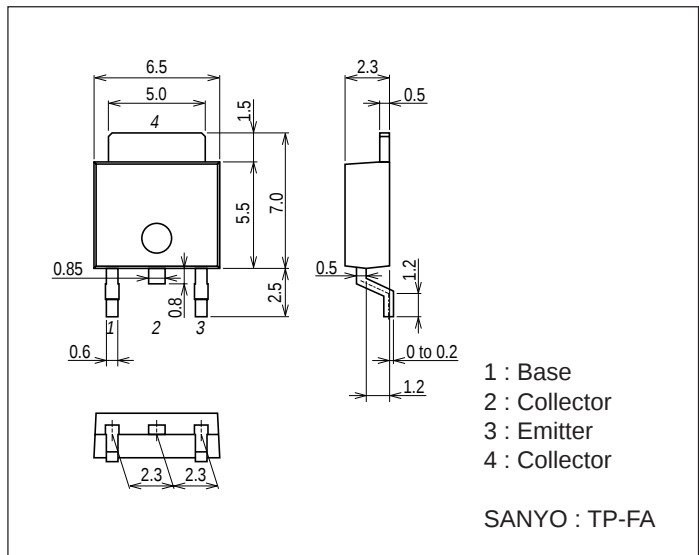
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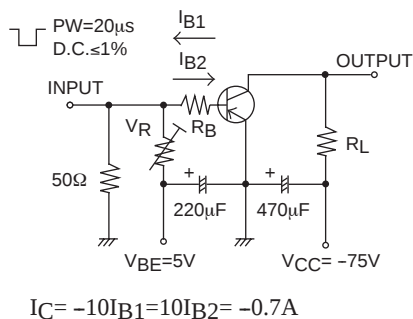
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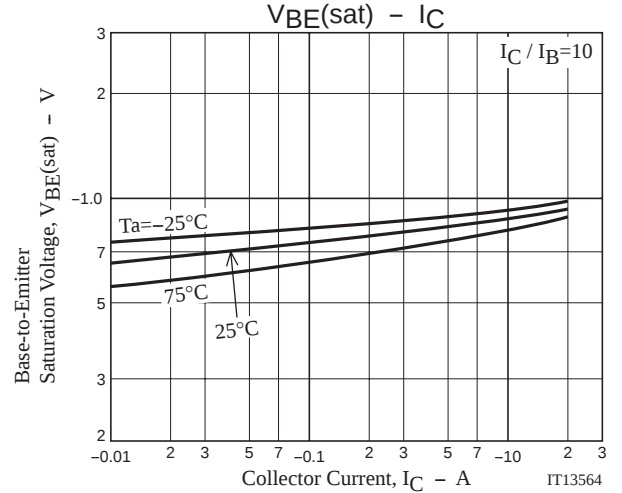
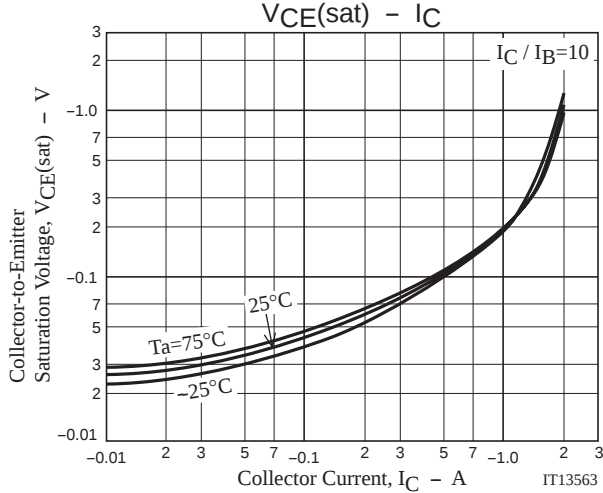
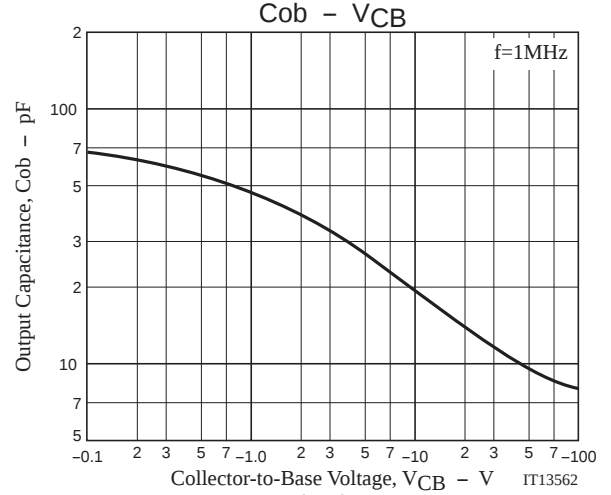
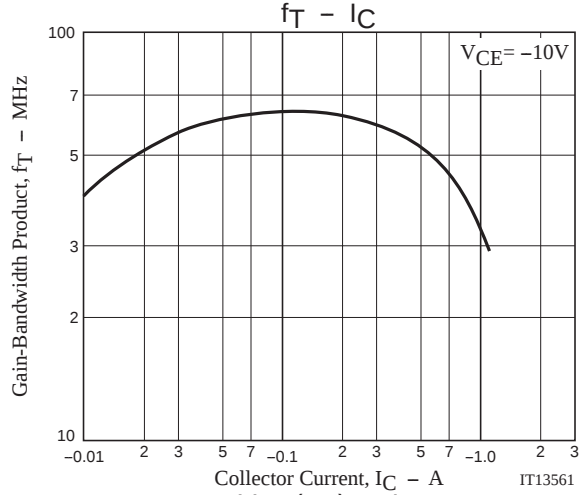
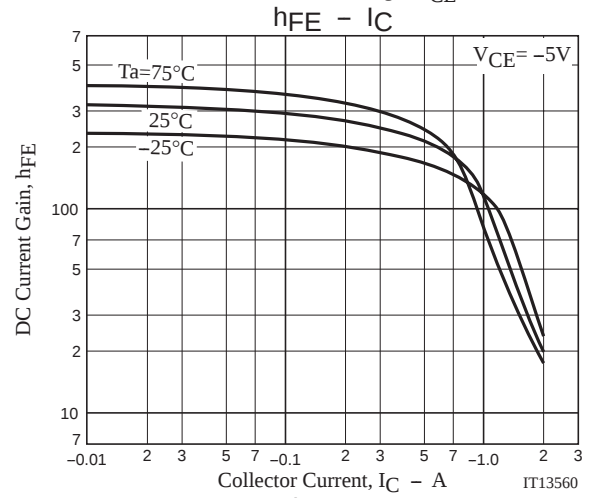
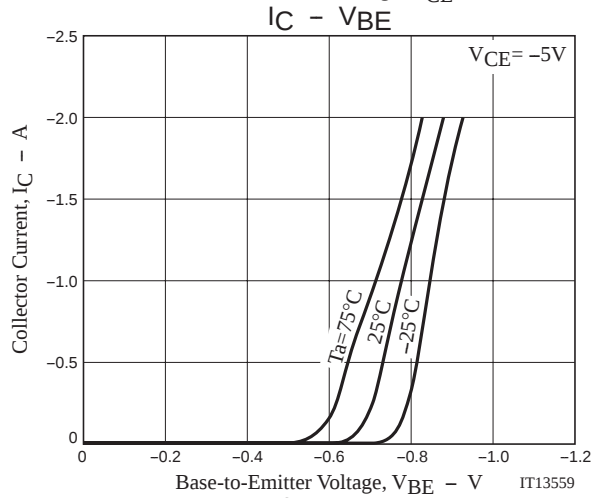
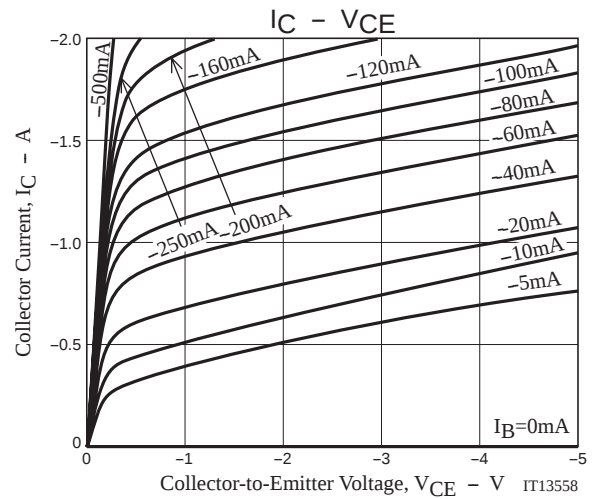
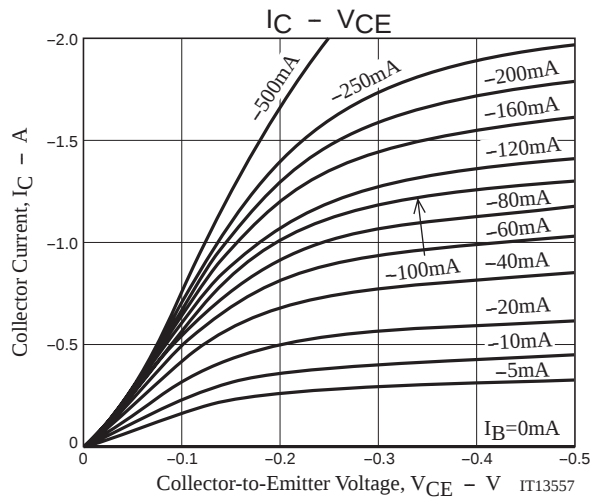
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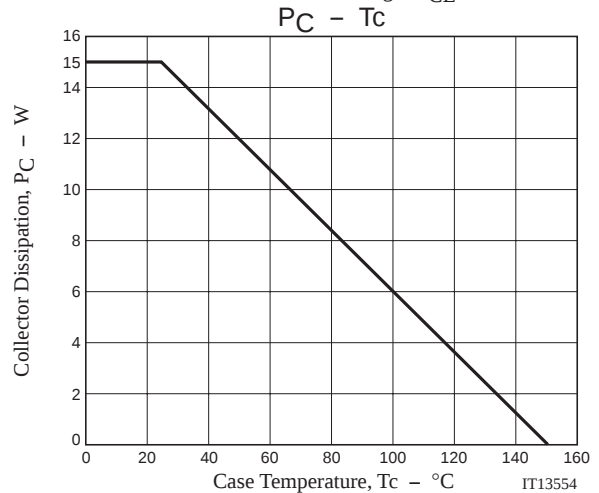
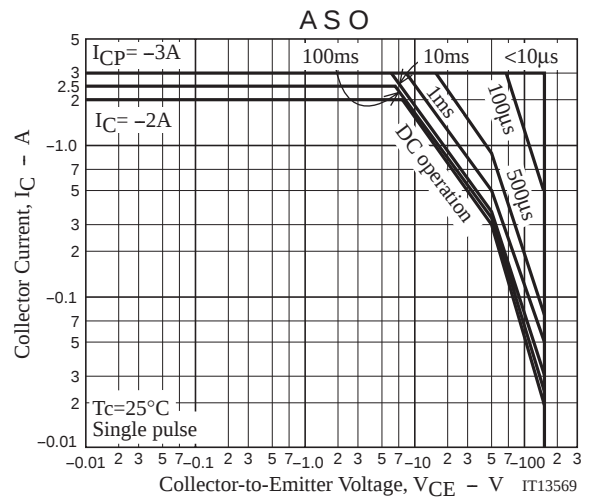
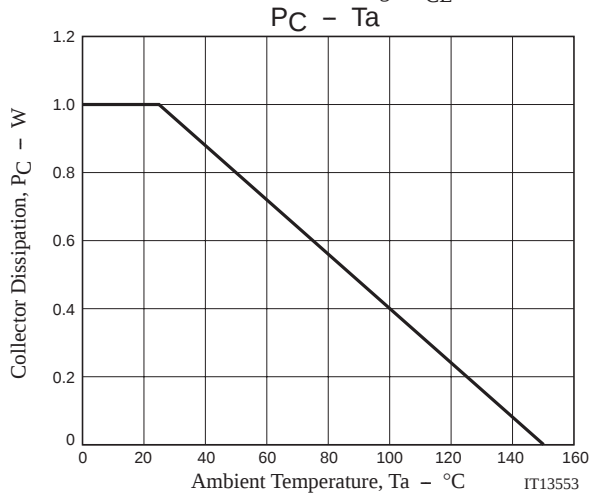
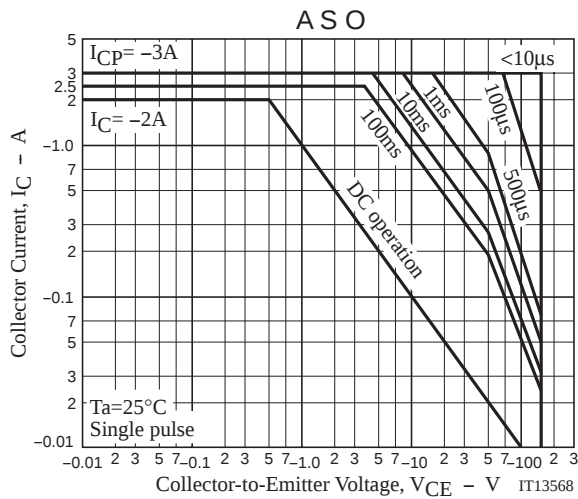
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Switching Time Test Circuit







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