



SANYO Semiconductors

DATA SHEET

2SA2222 — PNP Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- Relay drivers, lamp drivers, motor drivers.

Features

- Adoption of MBIT process.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CE0}		-50	V
Emitter-to-Base Voltage	V_{EB0}		-6	V
Collector Current	I_C		-10	A
Collector Current (Pulse)	I_{CP}		-13	A
Base Current	I_B		-2	A
Collector Dissipation	P_C		2	W
		$T_c=25^{\circ}\text{C}$	25	W
Junction Temperature	T_J		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^{\circ}\text{C}$

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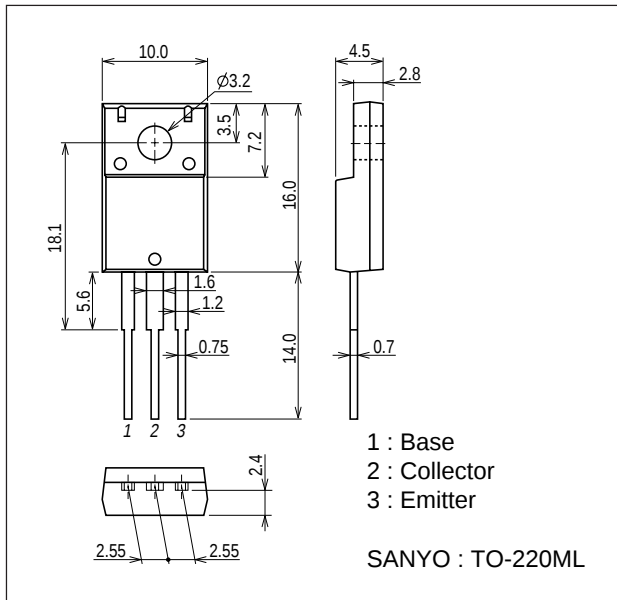
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}$, $I_E=0\text{A}$			-10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0\text{A}$			-10	μA
DC Current Gain	h_{FE}	$V_{CE}=-2\text{V}$, $I_C=-270\text{mA}$	150		450	
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}$, $I_C=-1\text{A}$		230		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$		115		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-6\text{A}$, $I_B=-300\text{mA}$		-250	-500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-6\text{A}$, $I_B=-300\text{mA}$			-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$, $I_E=0\text{A}$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $R_{BE}=\infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}$, $I_C=0\text{A}$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}	See specified Test Circuit.		240		ns
Fall Time	t_f	See specified Test Circuit.		22		ns

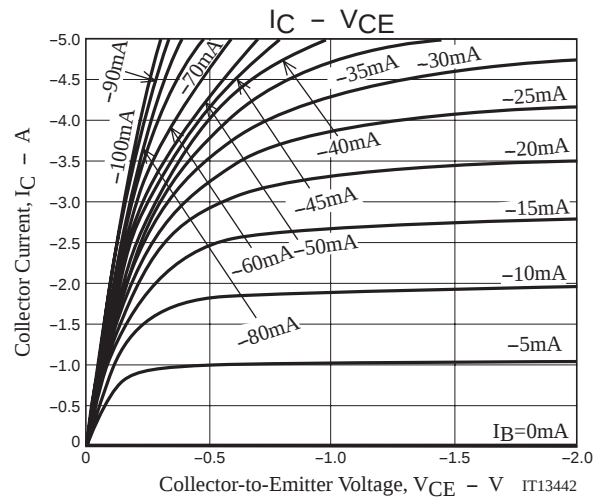
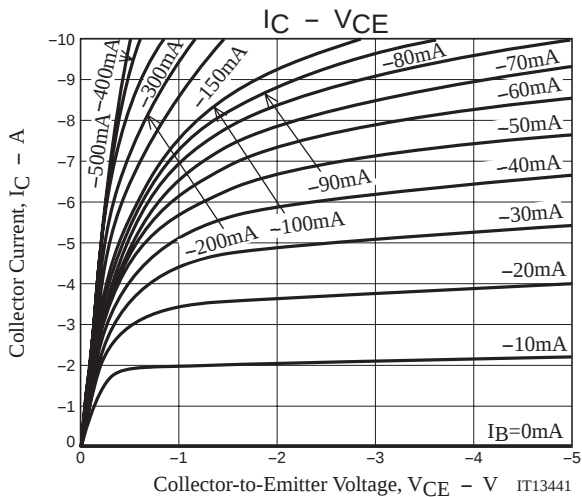
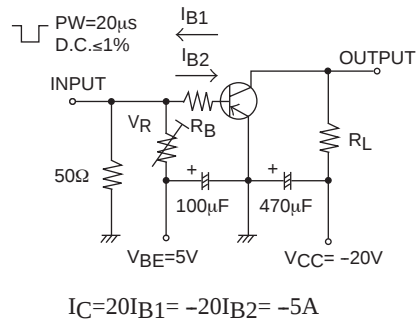
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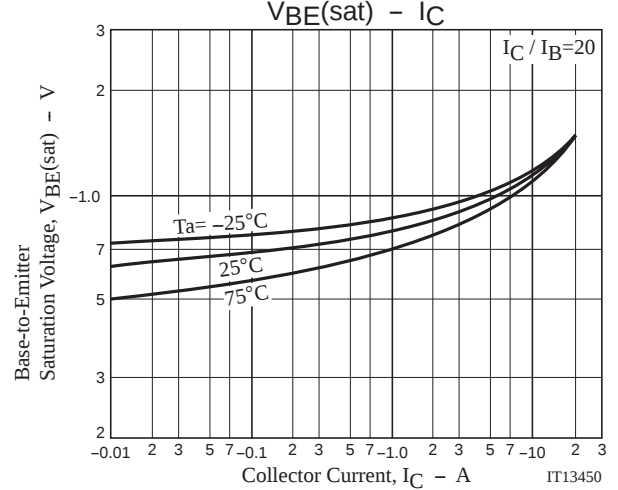
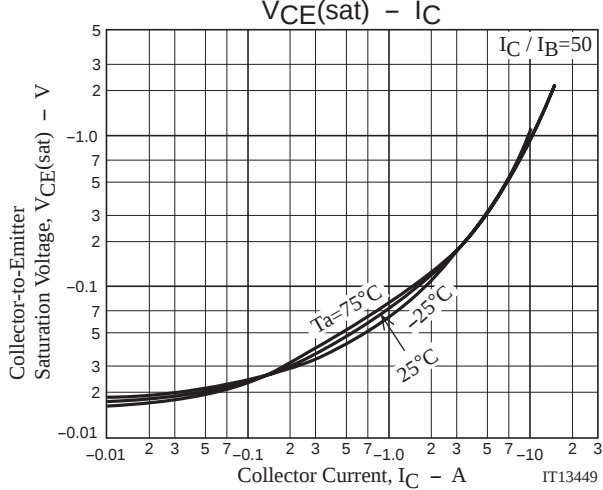
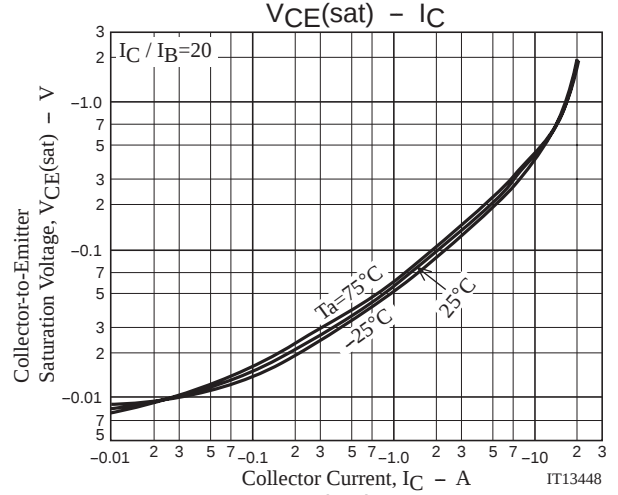
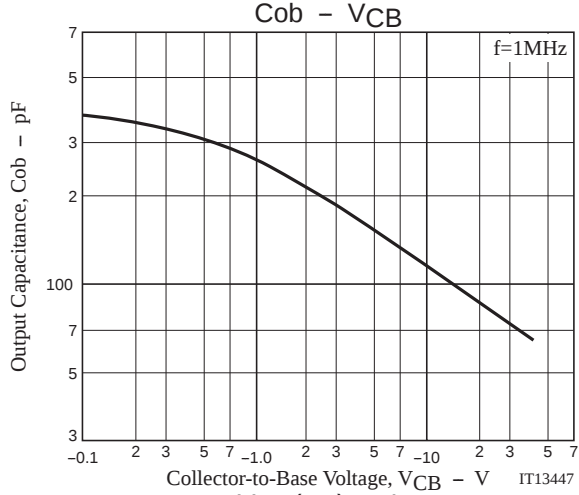
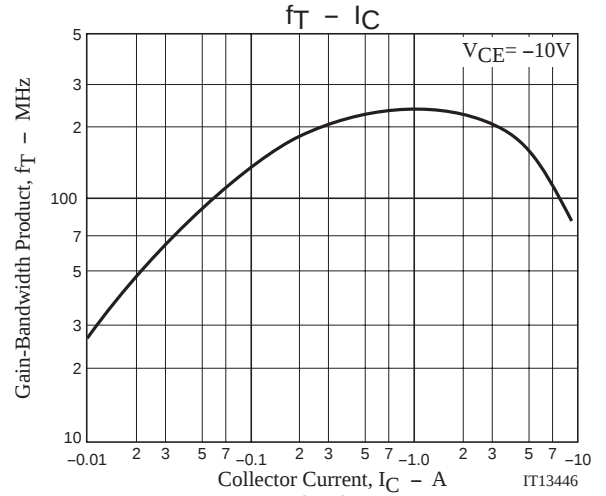
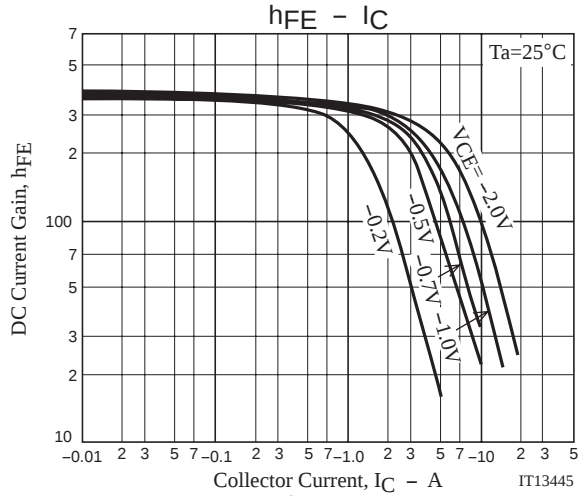
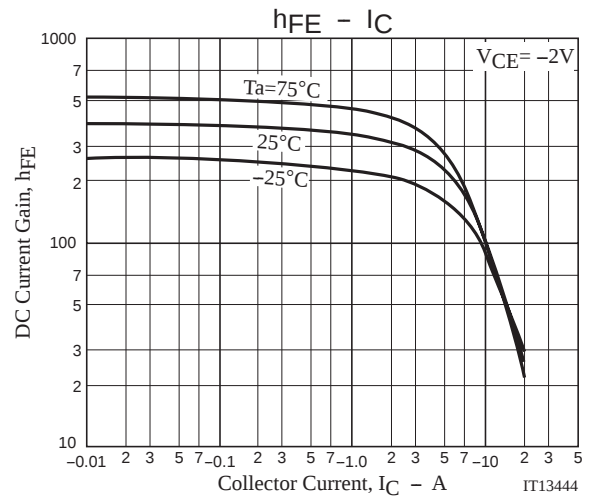
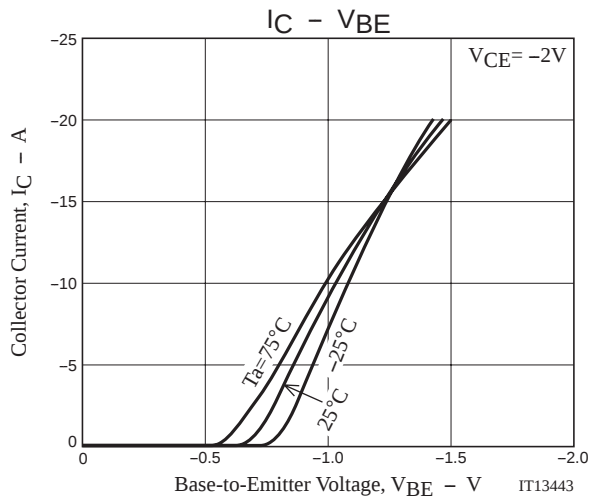
unit : mm (typ)

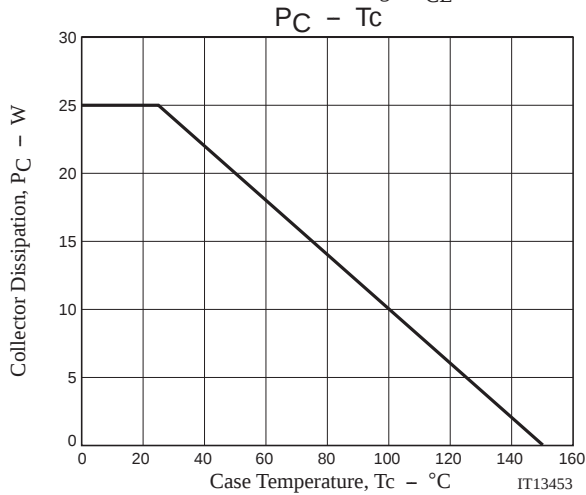
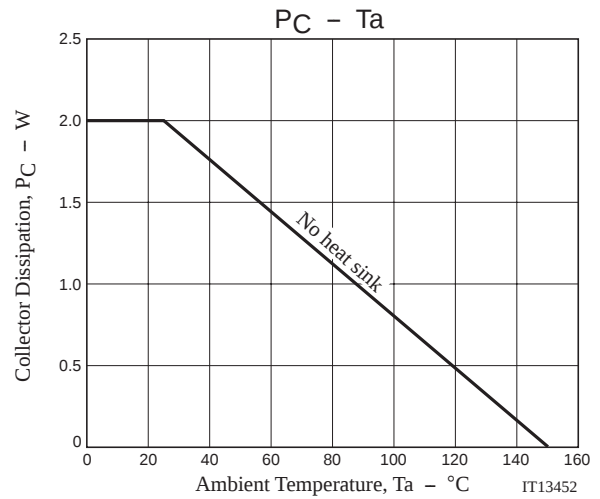
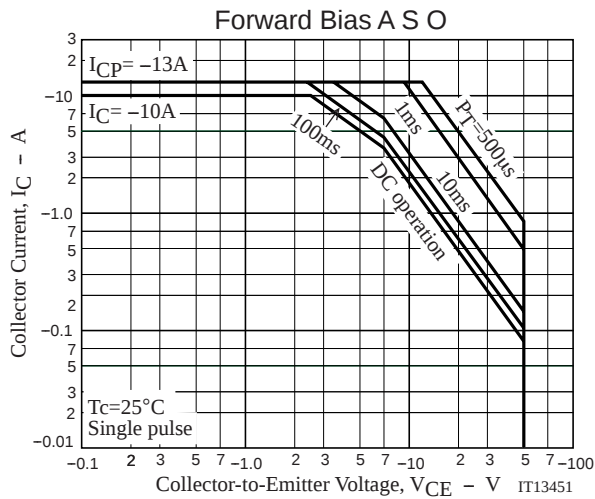
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Switching Time Test Circuit







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