



SANYO Semiconductors

DATA SHEET

2SA1730

 — PNP Epitaxial Planar Silicon Transistor
High-Speed Switching Applications

Features

- Adoption of FBET, MBIT processes.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Small-sized package.

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_{CEO}		-40	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-6	A
Collector Dissipation	P_C	Mounted on a ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0\text{A}$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-3\text{V}, I_C=0\text{A}$			-1	μA

Marking : AH

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	hFE1	$V_{CE}=-2V, I_C=-500mA$	70*		280*	
	hFE2	$V_{CE}=-2V, I_C=-3A$	25			
Gain-Bandwidth Product	f_T	$V_{CE}=-2V, I_C=-500mA$		300		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		35		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.5A, I_B=-75mA$		-0.3	-0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.5A, I_B=-75mA$		-0.95	-1.3	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0A$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-40			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0A$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		50	100	ns
Storage Time	t_{stg}	See specified Test Circuit.		120	220	ns
Turn-OFF Time	t_{off}	See specified Test Circuit.		150	300	ns

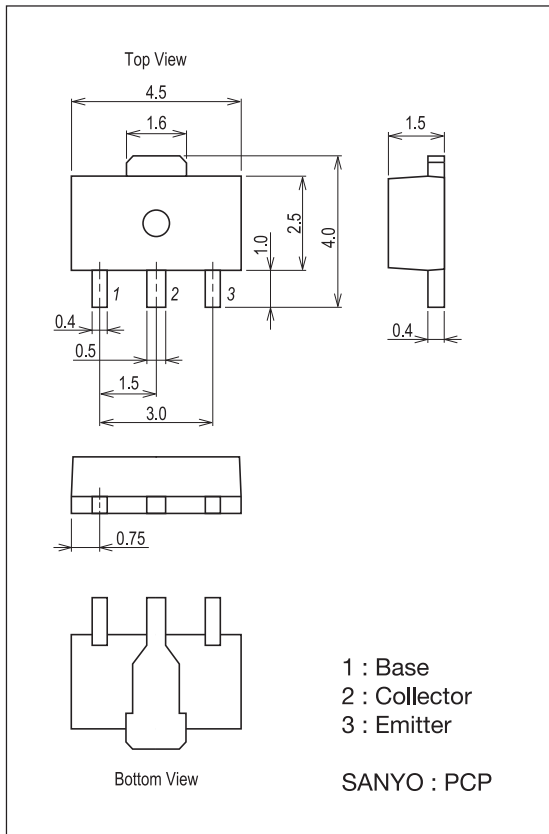
*: The 2SA1730 is classified by 500mA hFE as follows:

Rank	Q	R	S
hFE	70 to 140	100 to 200	140 to 280

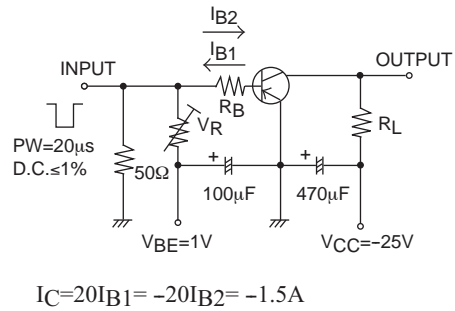
Package Dimensions

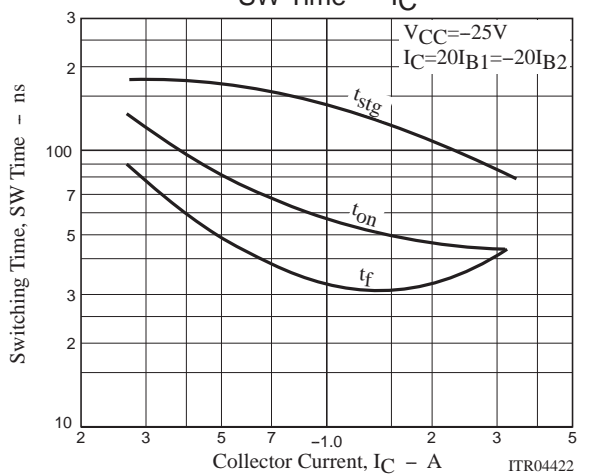
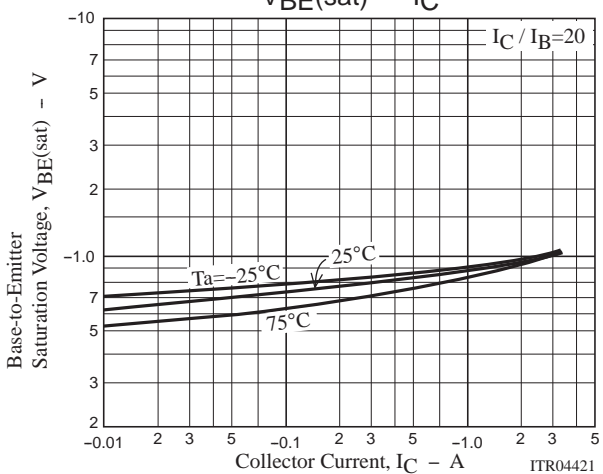
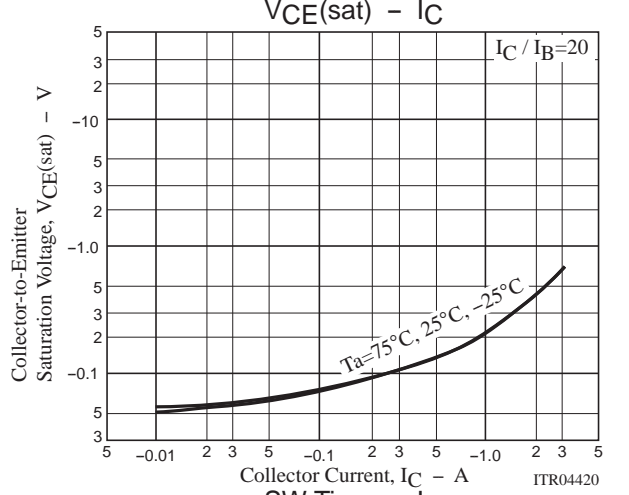
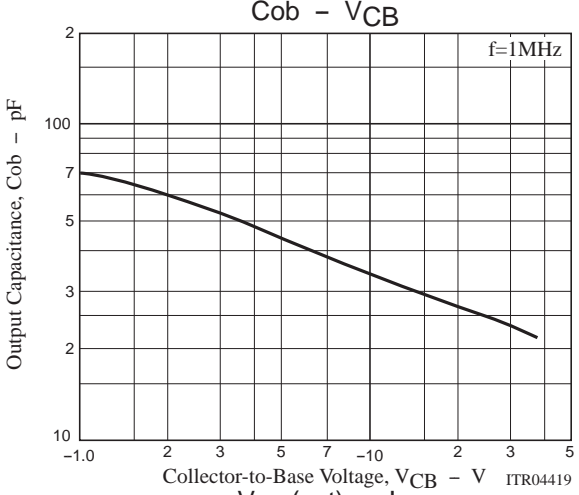
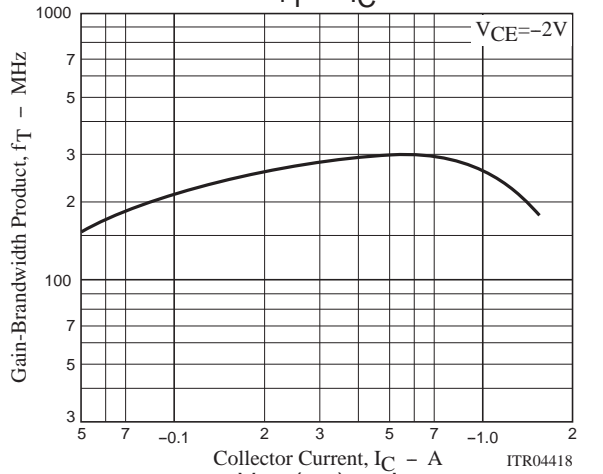
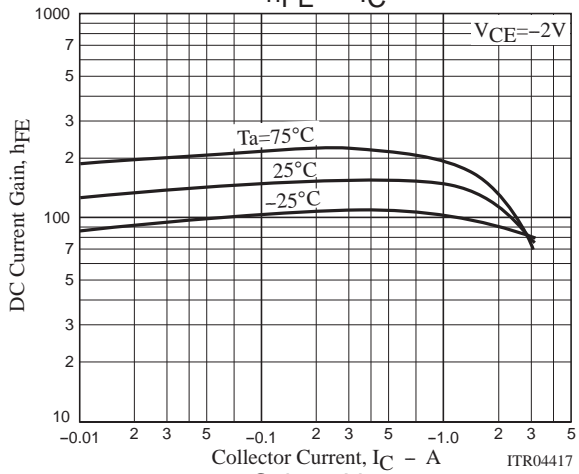
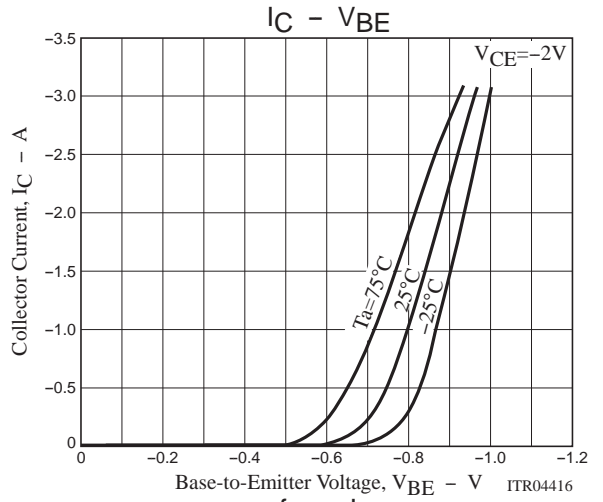
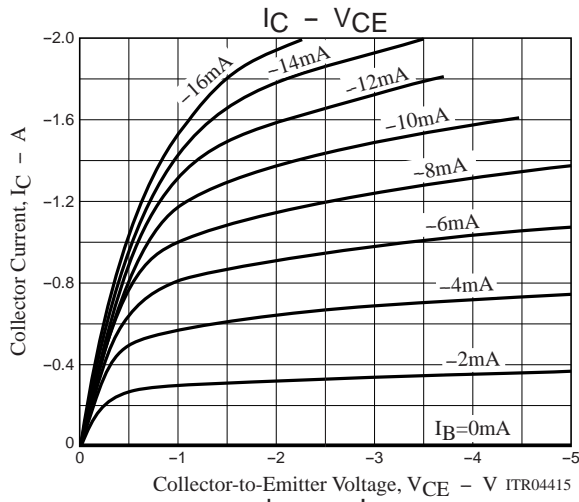
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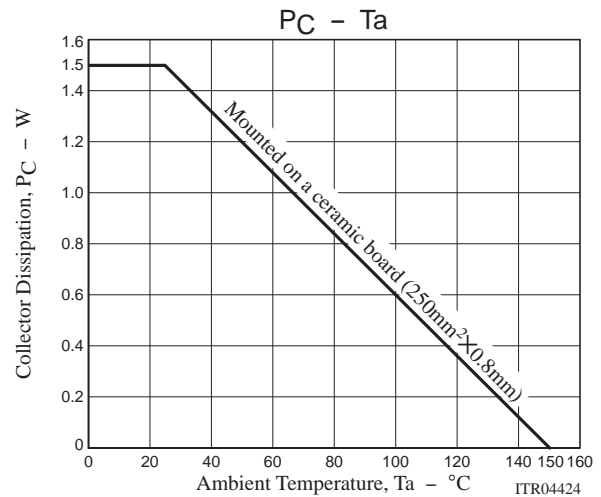
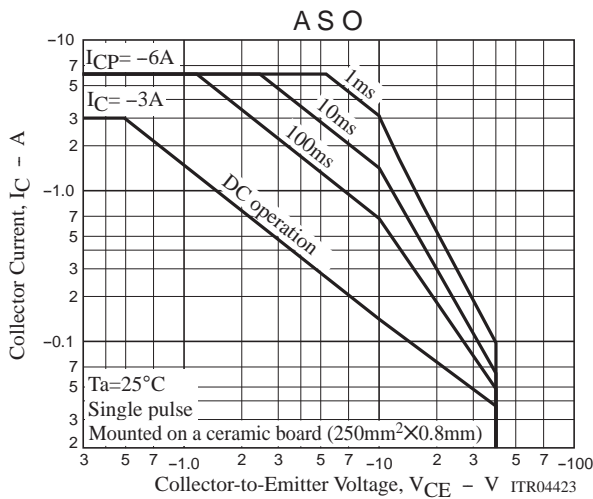
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Switching Time Test Circuit







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