



SANYO Semiconductors

DATA SHEET

2SA1729 — 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 Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		-50	V
Collector-to-Emitter Voltage	VCEO		-40	V
Emitter-to-Base Voltage	VEBO		-5	V
Collector Current	IC		-1.5	A
Collector Current (Pulse)	ICP		-3	A
Collector Dissipation	PC	Mounted on a ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =-40V, I _E =0A			-1	μA
Emitter Cutoff Current	IEBO	V _{EB} =-3V, I _C =0A			-1	μA

Marking : AG

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=-100mA$	70*		280*	
	h_{FE2}	$V_{CE}=-2V, I_C=-1.5A$	25			
Gain-Bandwidth Product	f_T	$V_{CE}=-2V, I_C=-100mA$		300		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		18		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-800mA, I_B=-40mA$		-0.3	-0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-800mA, I_B=-40mA$		-0.9	-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

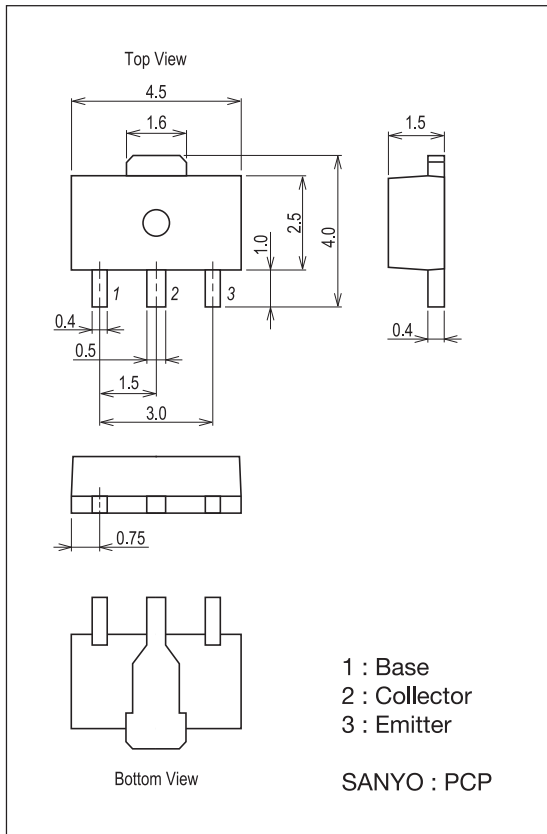
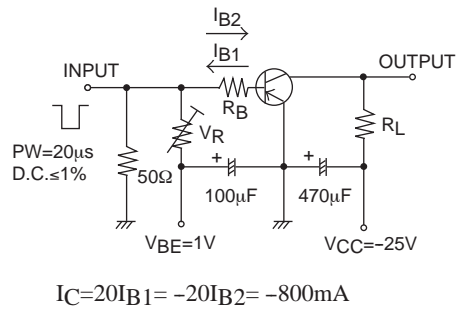
*: The 2SA1729 is classified by 100mA h_{FE} as follows:

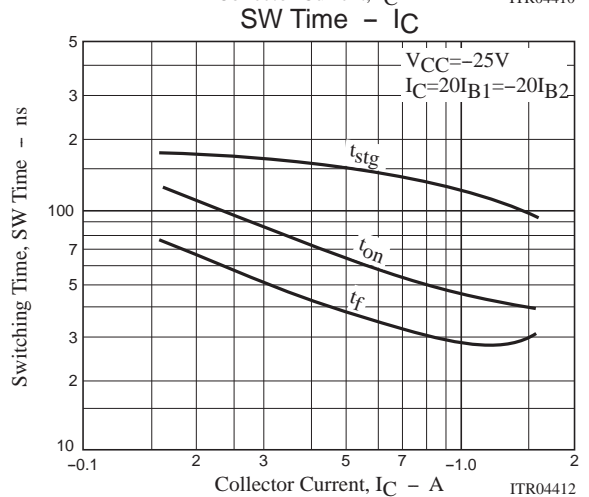
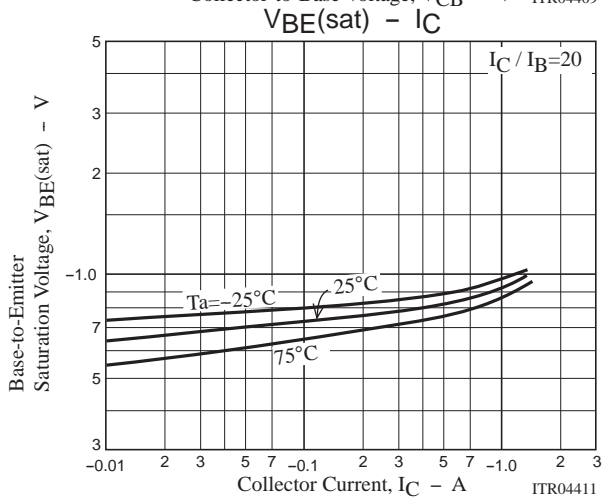
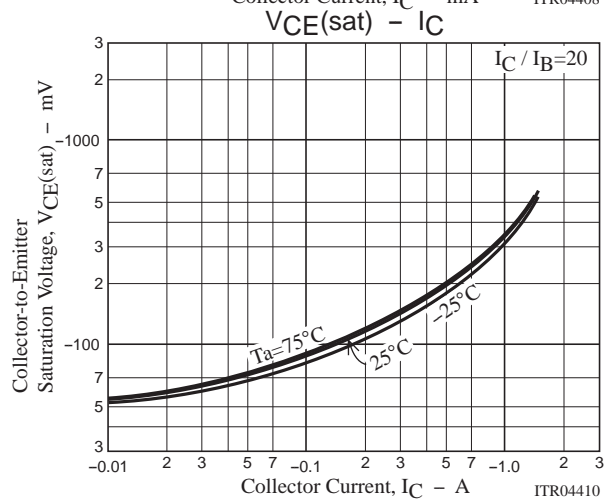
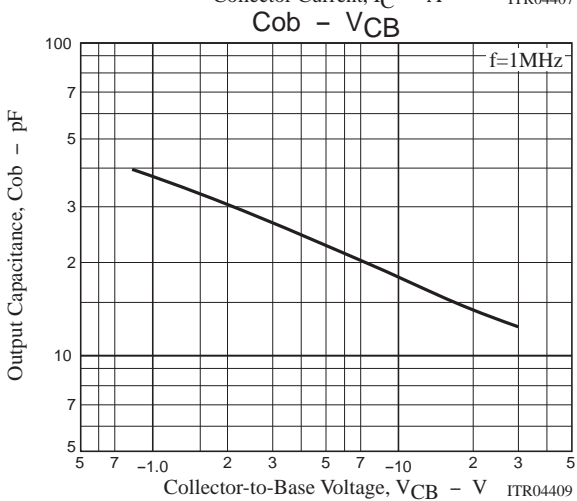
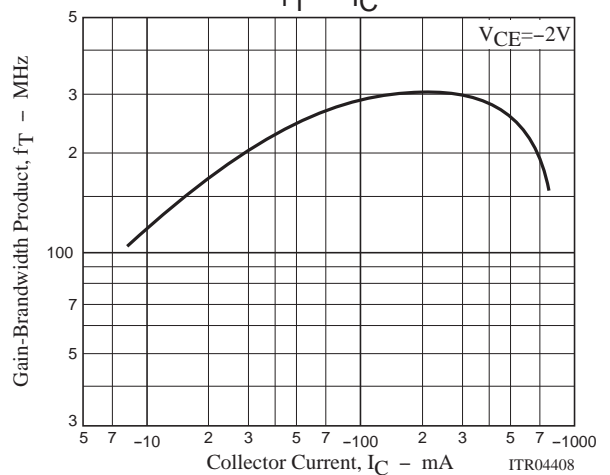
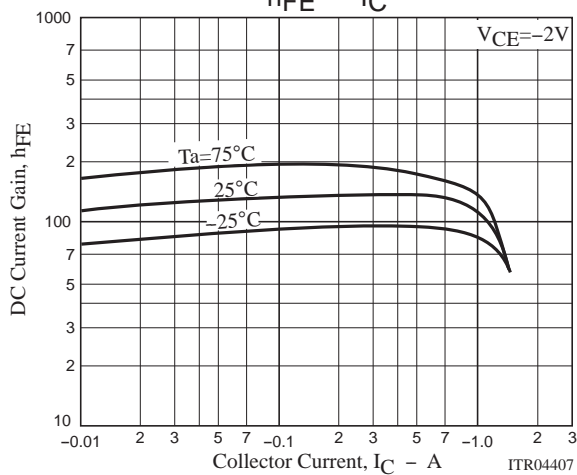
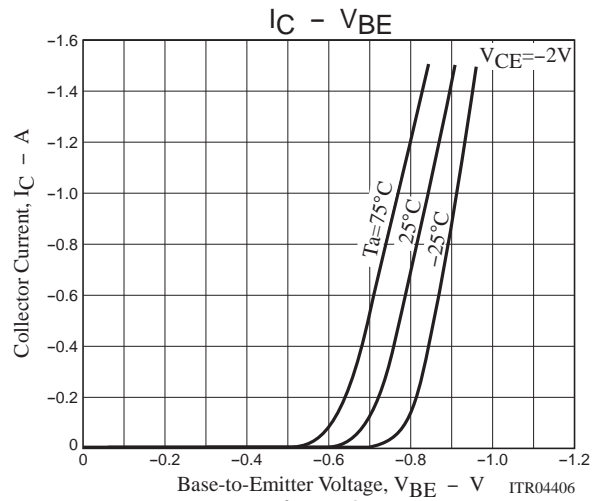
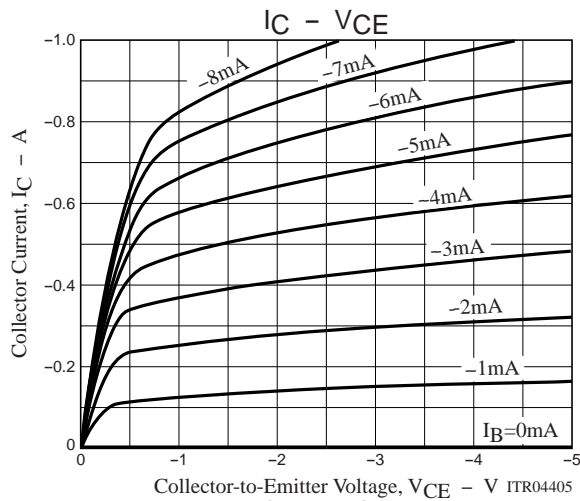
Rank	Q	R	S
h_{FE}	70 to 140	100 to 200	140 to 280

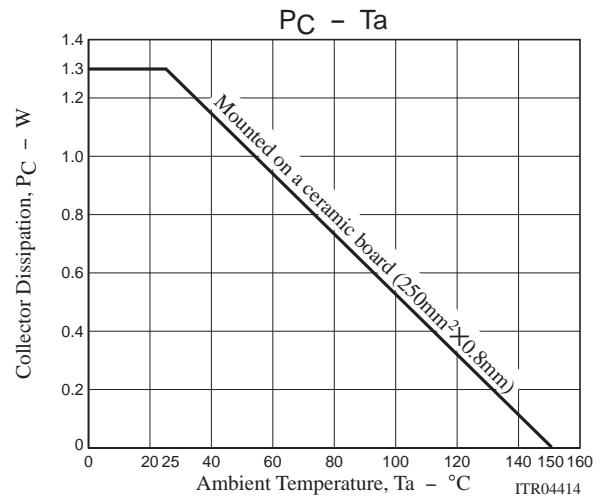
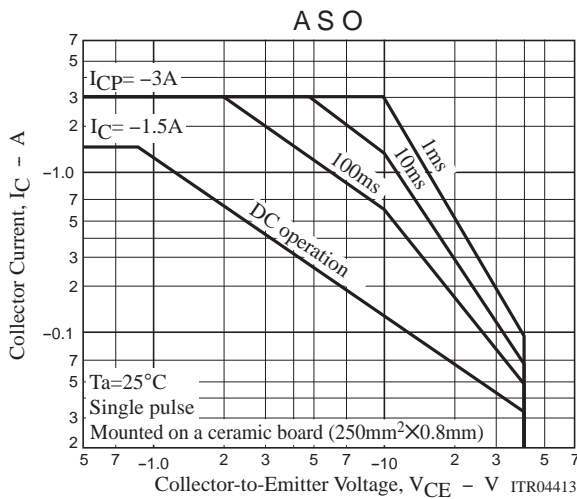
Package Dimensions

unit : mm (typ)

7007B-004

**Switching Time Test Circuit**





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