



High-Speed Switching Applications

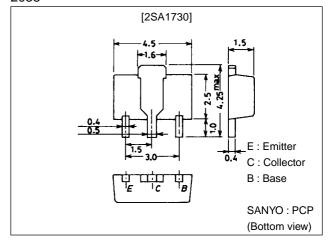
Features

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

Package Dimensions

unit:mm

2038



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		-50	V
Collector-to-Emitter Voltage	VCEO		-40	V
Emitter-to-Base Voltage	V _{EBO}		-5	V
Collector Current	IC		-3	А
Collector Current (Pulse)	I _{CP}		-6	Α
Collector Dissipation	PC	Mounted on ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions		Unit		
Falametei	Symbol	Conditions	min	typ	max	Offic
Collector Cutoff Current	ICBO	V _{CB} =-40V, I _E =0			-1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-3V, I _C =0			-1	μA
DC Current Gain	h _{FE} 1	V _{CE} =-2V, I _C =-500mA	70*		280*	
	h _{FE} 2	V _{CE} =-2V, I _C =-3A	25			
Gain-Bandwidth Product	fT	V _{CE} =-2V, I _C =-500mA		300		MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, f=1MHz		35		pF
Collector-to-Emitter Saturatin 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

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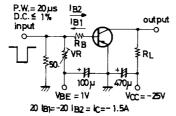
Parameter	Symbol	Conditions		Unit		
i arameter	Gymbol	Conditions	min	typ	max	Onit
Collector-to-Base Breakdown Voltage	V(BR)CBO	I _C =-10μA, I _E =0	-50			V
Collector-to-Emitter Saturation Voltage	V(BR)CEO	I _C =-1mA, R _{BE} =∞	-40			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =-10μA, I _C =0	- 5			V
Turn-ON Time	ton	See specified Test Circuit		50	100	ns
Storage Time	t _{stg}	See specified Test Circuit		120	220	ns
Turn-OFF Time	toff	See specified Test Circuit		150	300	ns

^{* :} The 2SA1730 is classified by 500mA $h_{\mbox{\scriptsize FE}}$ as follows :

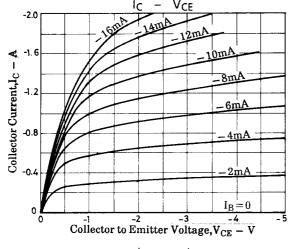
70 Q 140	100	R	200	140	S	280	
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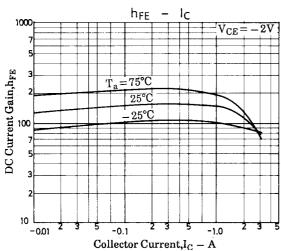
Marking : AH h_{FE} rank : Q, R, S

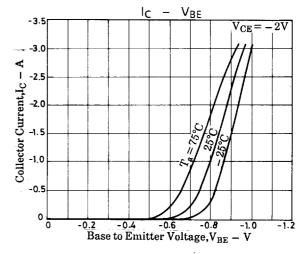
Swicthing Time Test Circuit

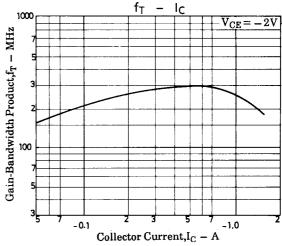


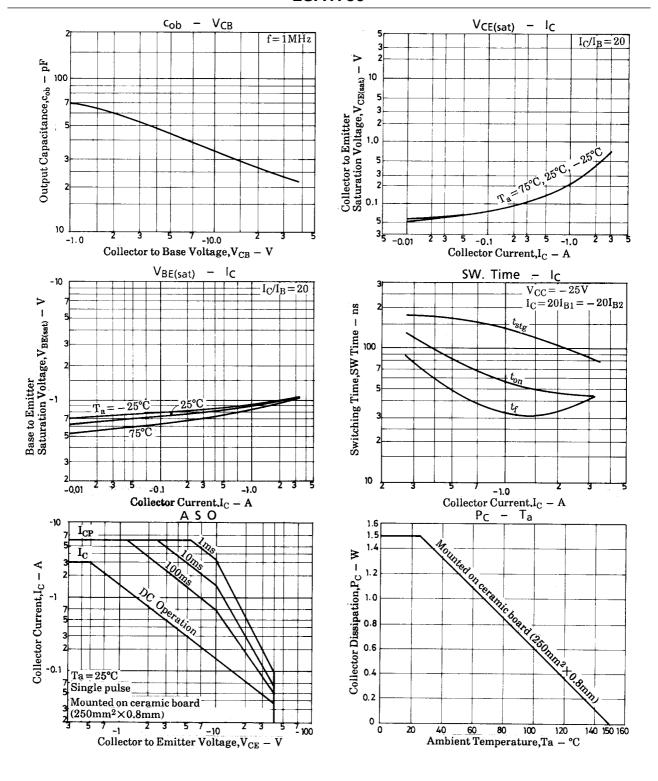
Unit (resistance : Ω , capacitance : F)











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