



2SA1730

High-Speed Switching Applications

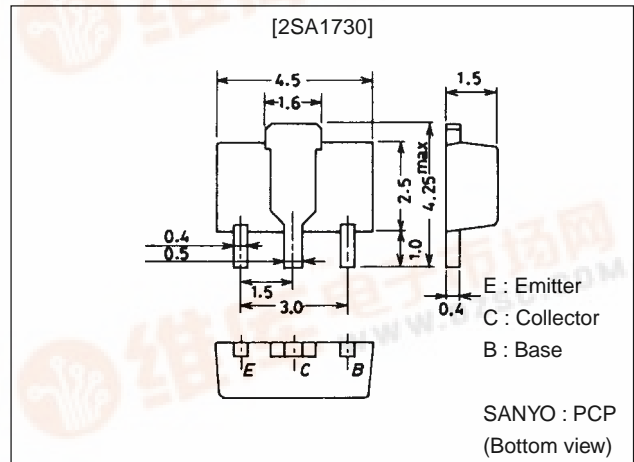
Features

- 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_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CE0}		-40	V
Emitter-to-Base Voltage	V_{EB0}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-6	A
Collector Dissipation	P_C	Mounted on 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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=-40V, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=-3V, I_C=0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=500mA$	70*		280*	
	h_{FE2}	$V_{CE}=-2V, I_C=3A$	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 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	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-50			V
Collector-to-Emitter Saturation Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-40			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-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

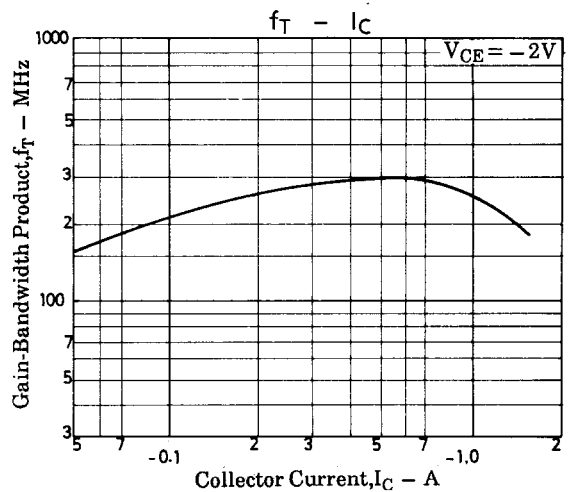
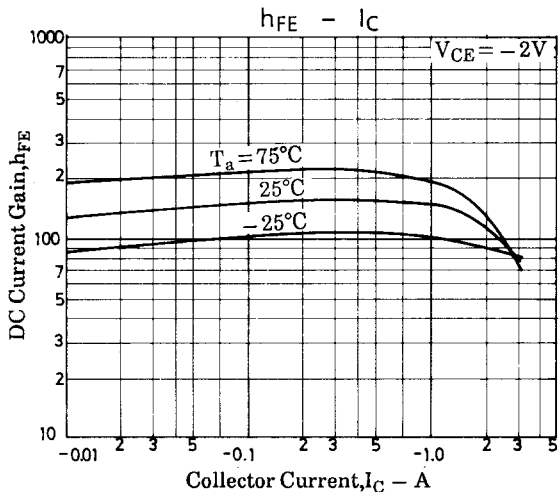
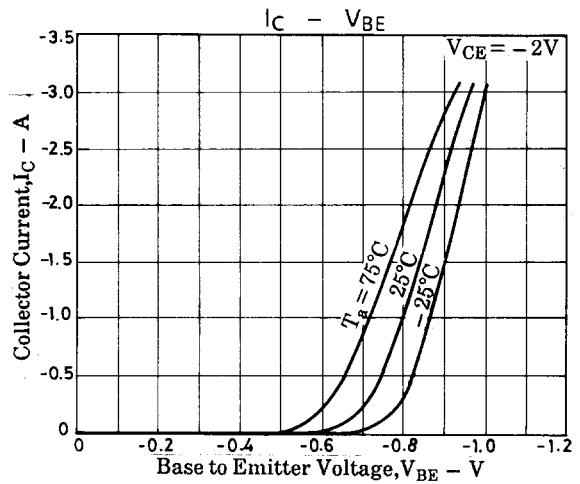
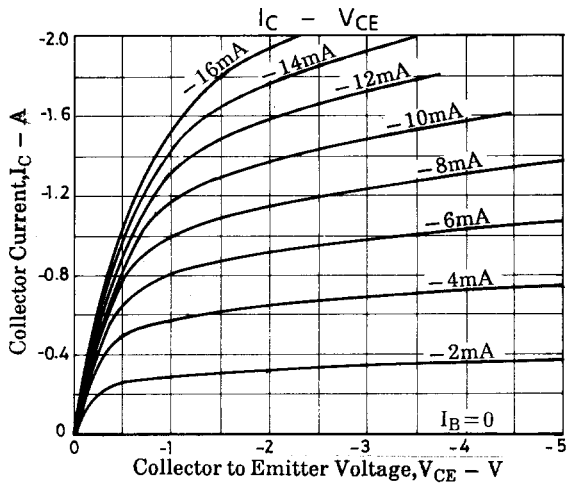
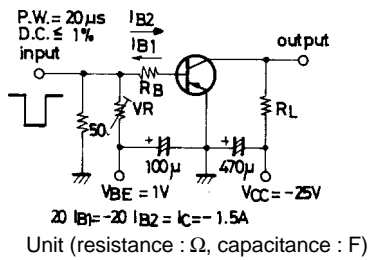
* : The 2SA1730 is classified by 500mA h_{FE} as follows :

70	Q	140	100	R	200	140	S	280
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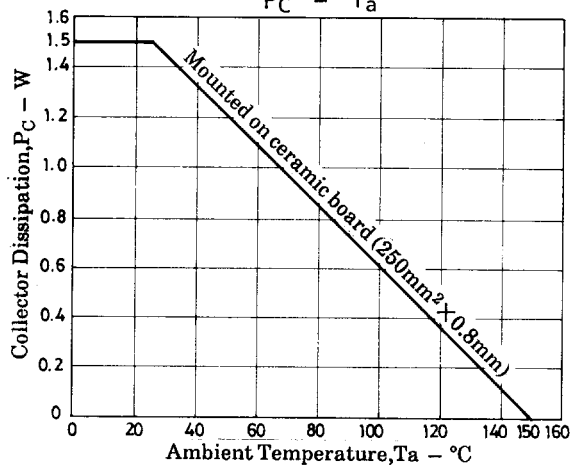
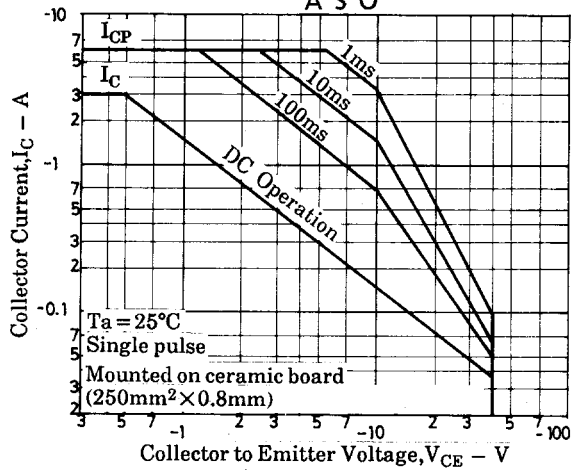
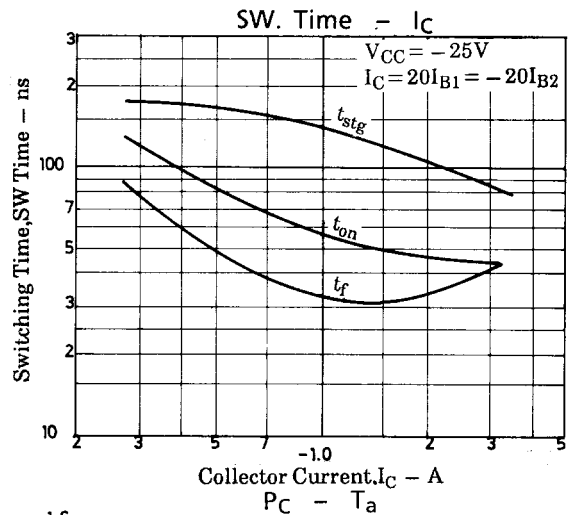
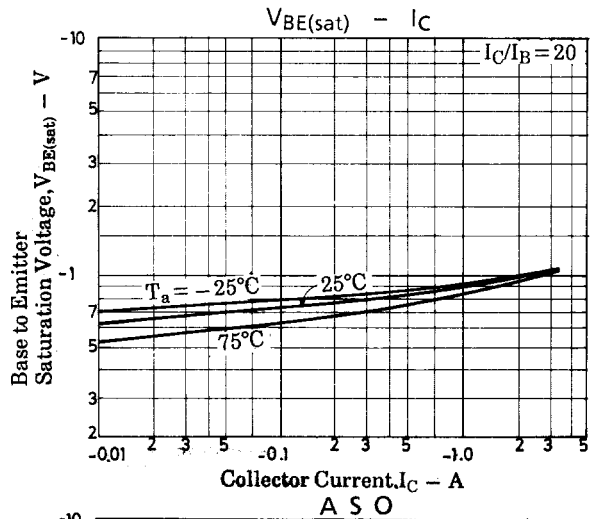
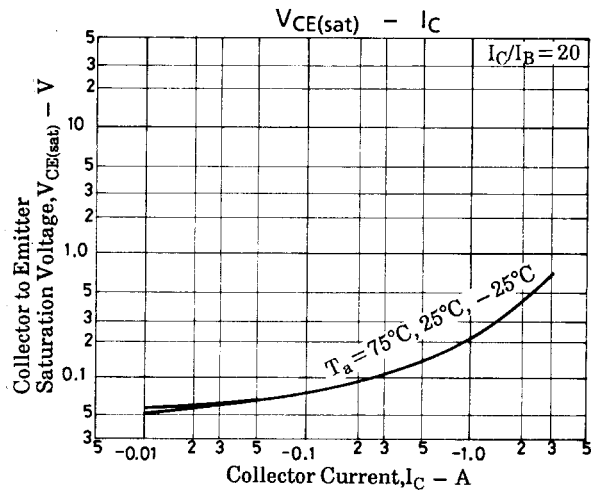
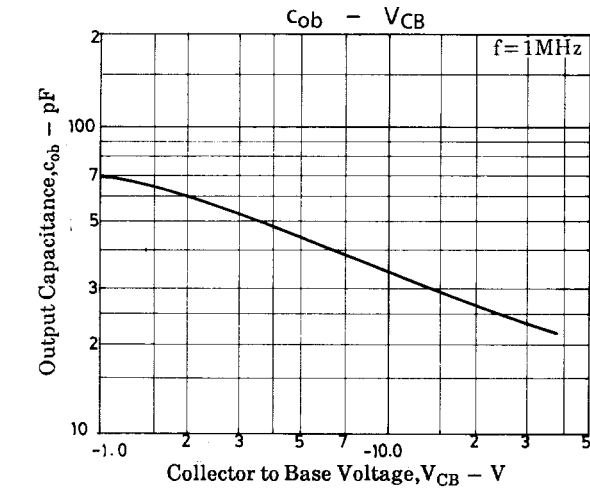
Marking : AH

h_{FE} rank : Q, R, S

Swicthing Time Test Circuit



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