

Ordering number:EN3091

PNP Epitaxial Planar Silicon Transistor



2SA1702

High-Current Switching Applications

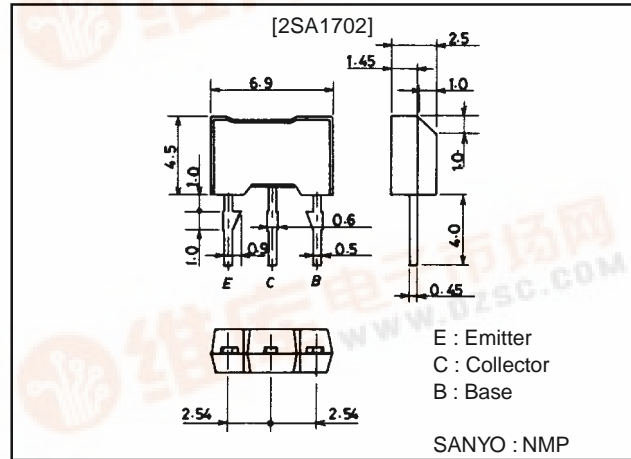
Features

- Adoption of FBET, MBIT processes.
- Low saturation vottage.
- Large current capacity.
- Fast switching speed.

Package Dimensions

unit:mm

2064



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-25	V
Collector-to-Emitter Voltage	V_{CEO}		-20	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-5	A
Collector Current (Pulse)	I_{CP}		-8	A
Collector Dissipation	P_C		1	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_{CBO}	$V_{CB}=-20V, I_E=0$			-500	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0$			-500	nA
DC Current Gain	h_{FE1}	$V_{CE}=-2V, I_C=-500mA$	100*		400*	
	h_{FE2}	$V_{CE}=-2V, I_C=-4A$	60			
Gain-Bandwidth Product	f_T	$V_{CE}=-5V, I_C=-200mA$		320		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-3A, I_B=-60mA$	-250		-500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-3A, I_B=-60mA$	-1		-1.3	V
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		60		pF

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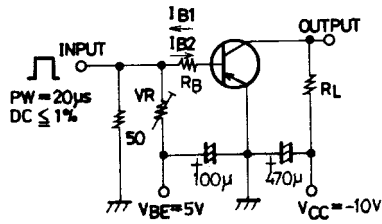
2SA1702

Parameter	Symbol	Conditions	Ratings		Unit
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-25		V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-20		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	40		ns
Storage Time	t_{stg}	See specified Test Circuit	200		ns
Fall Time	t_f	See specified Test Circuit	10		ns

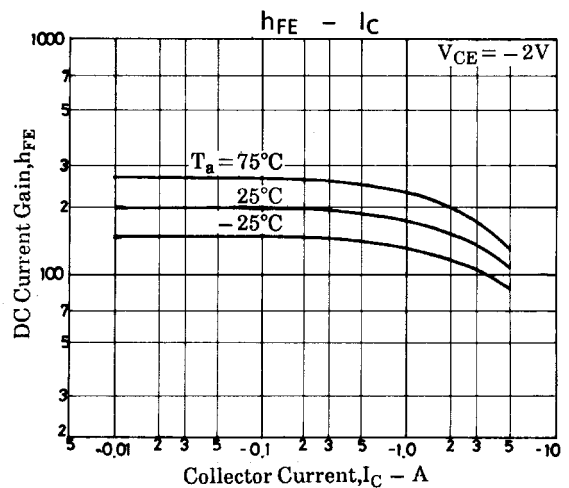
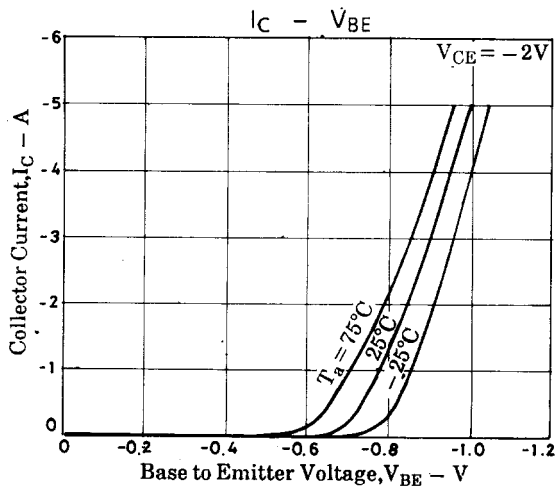
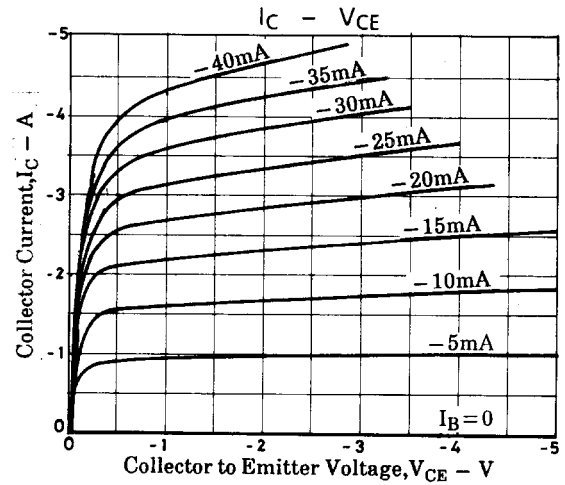
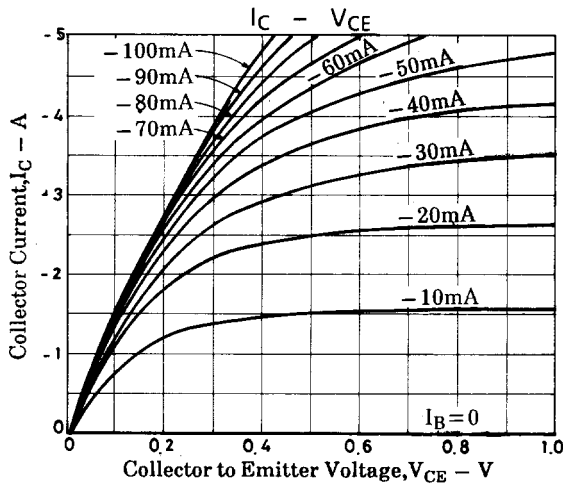
* : The 2SA1702 is classified by 500mA h_{FE} as follows :

100 R 200	140 S 280	200 T 400
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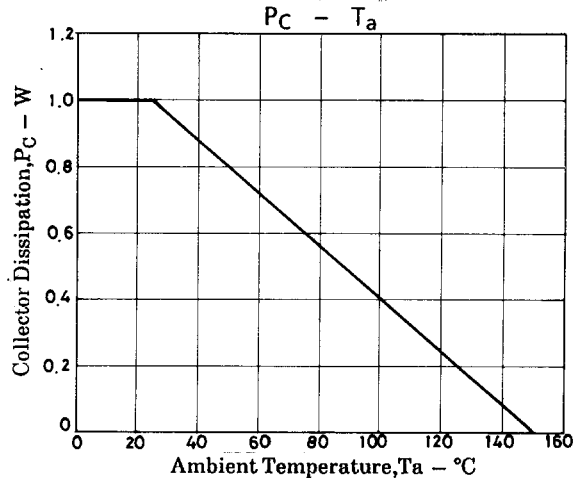
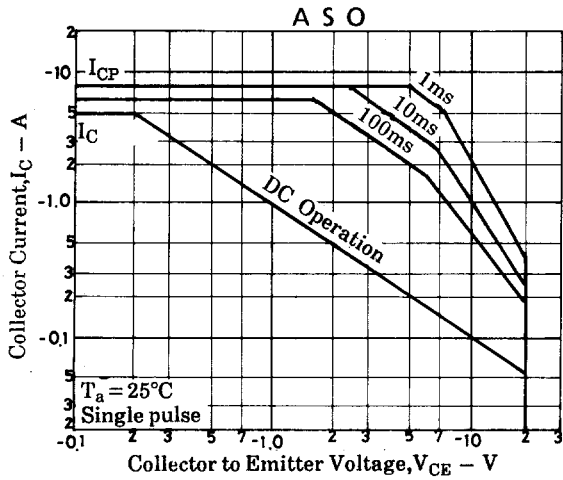
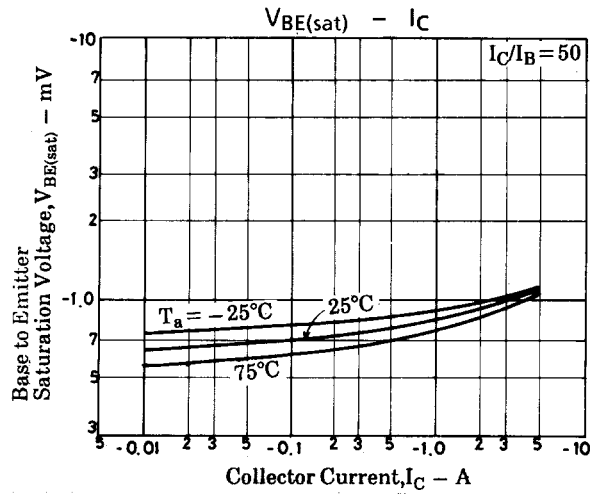
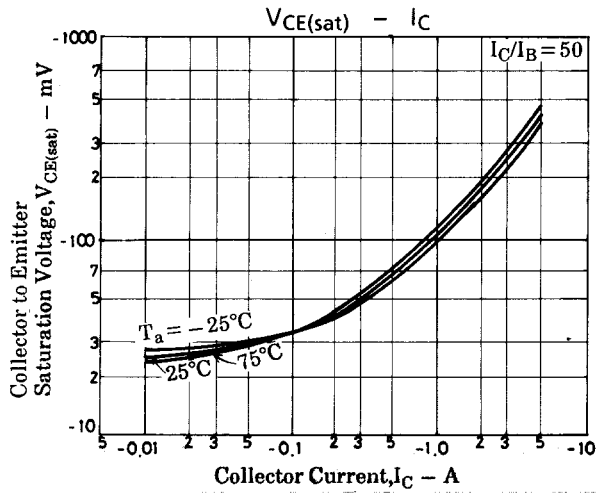
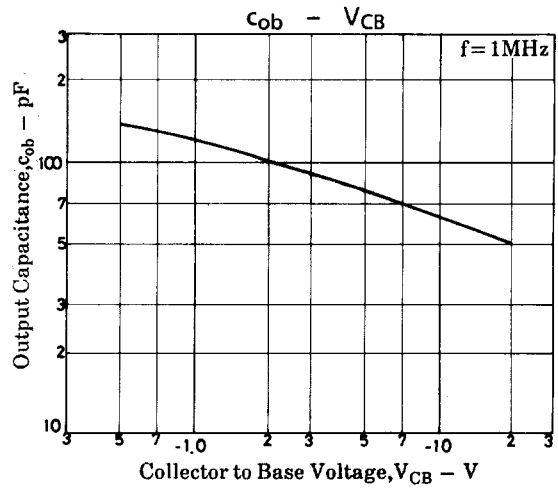
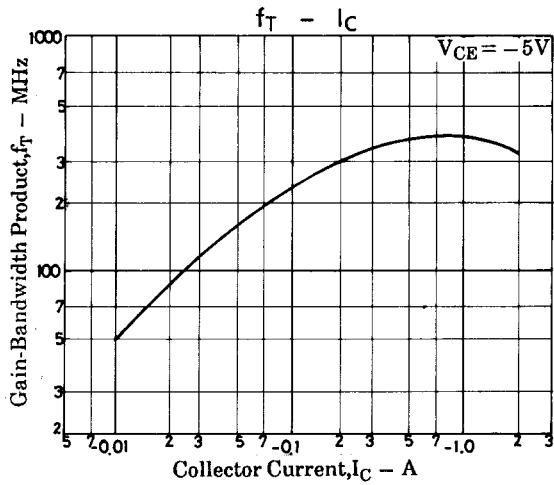
Switching Time Test Circuit



$10I_{B1} = -10I_{B2} = I_C = -2A$
Unit (resistance : Ω , capacitance : F)



2SA1702



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