

SANYO	No.2069A	2SB1140
		PNP Epitaxial Planar Silicon Transistor 20V/5A Switching Applications

Applications

- Strobes, power supplies, relay drivers, lamp drivers.

Features

- Adoption of FBET, MBIT processes.
- Low saturation voltage.
- Large current capacitx.
- Short switching time.

Absolute Maximum Ratings at Ta = 25°C

Collector-to-Base Voltage	V_{CB0}		-25	V	
Collector-to-Emitter Voltage	V_{CE0}		-20	V	
Emitter-to-Base Voltage	V_{EB0}		-5	V	
Collector Current	I_C		-5	A	
Collector Current (Pulse)	I_{CP}		-8	A	
Base Current	I_B		-0.5	A	
Collector Dissipation	P_C		1.5	W	
		$T_c = 25^\circ C$	10	W	
Junction Temperature	T_j		150	°C	
Storage Temperature	T_{stg}		-55 to +150	°C	

Electrical Characteristics at Ta = 25°C

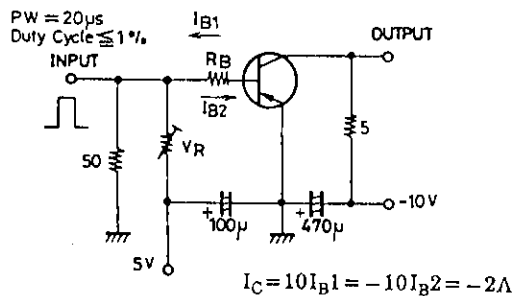
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -20V, I_E = 0$			-500	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-500	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -2V, I_C = -500mA$	100*		400*	
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -4A$	60			
Gain-Bandwidth Product	f_T	$V_{CE} = -5V, I_C = -200mA$		320		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		60		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -60mA$	-250	-500		mV
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = -3A, I_B = -60mA$	-1.0	-1.3		V

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* : The 2SB1140 is classified by 500mA h_{FE} as follows

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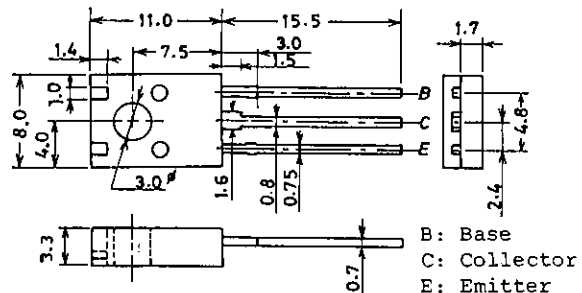
Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2042A

(unit : mm)

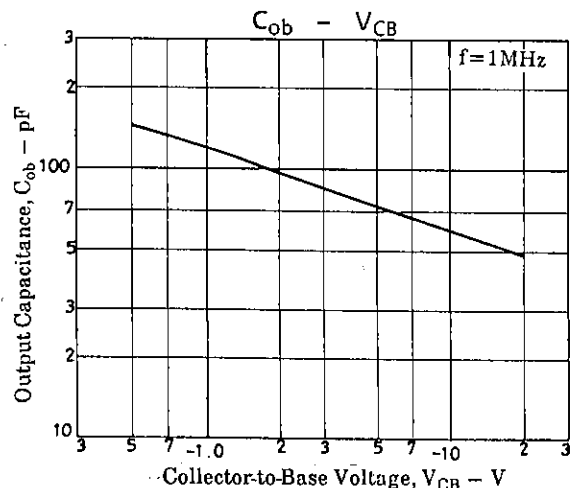
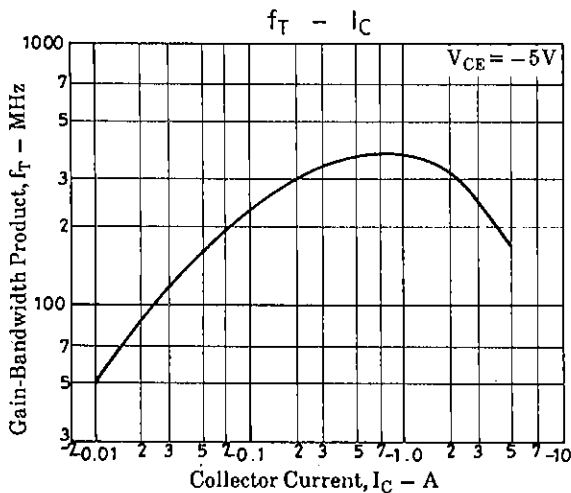
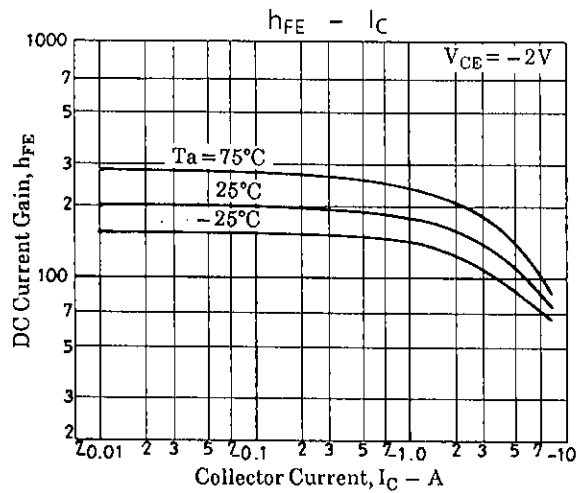
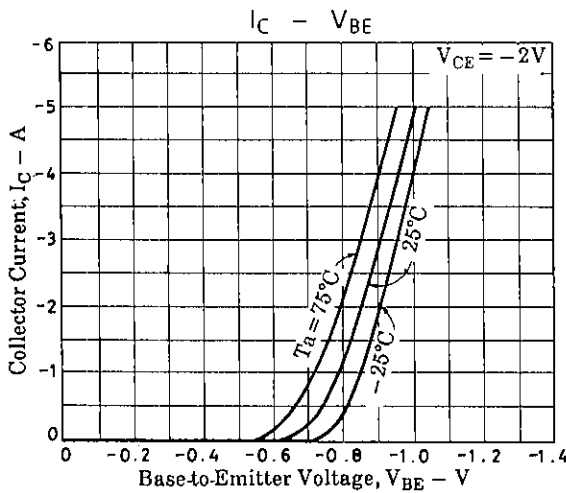
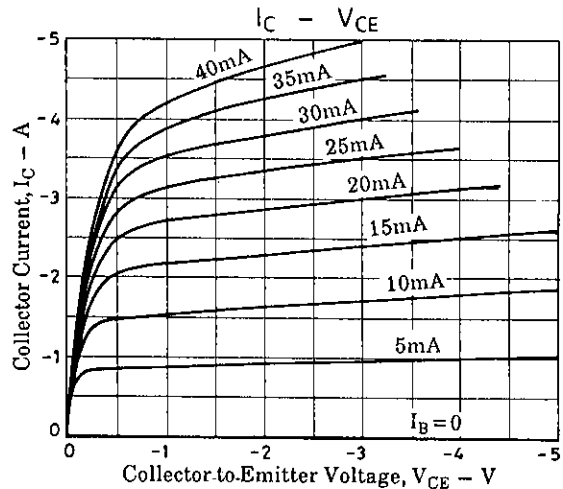
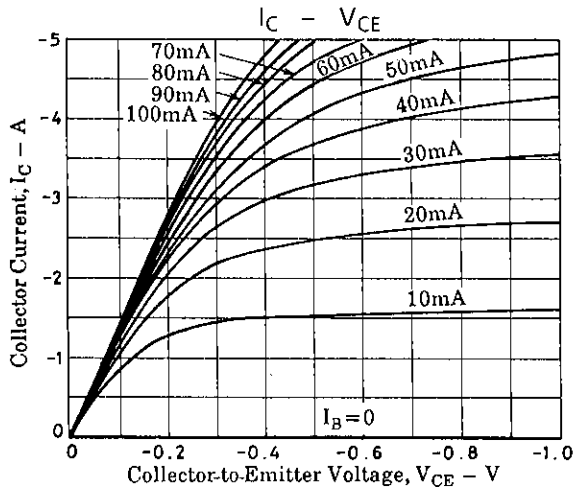


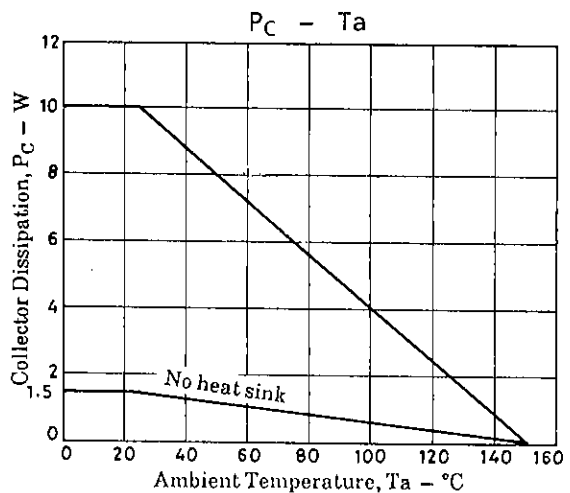
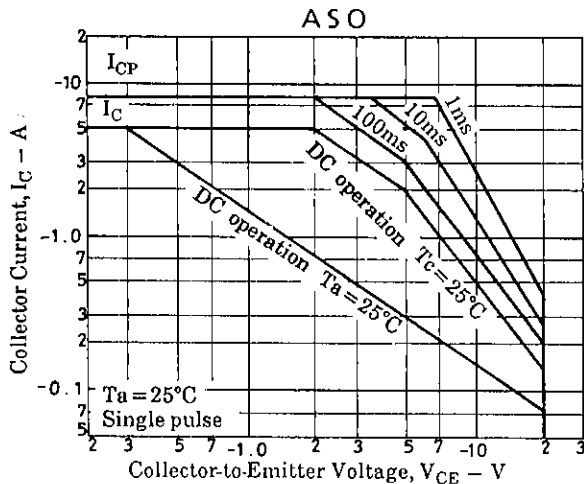
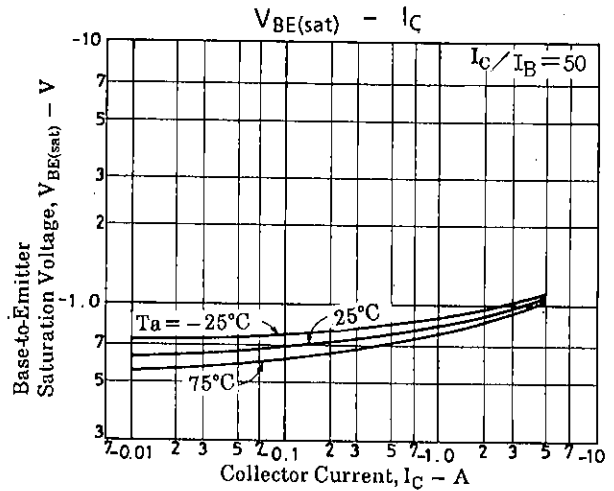
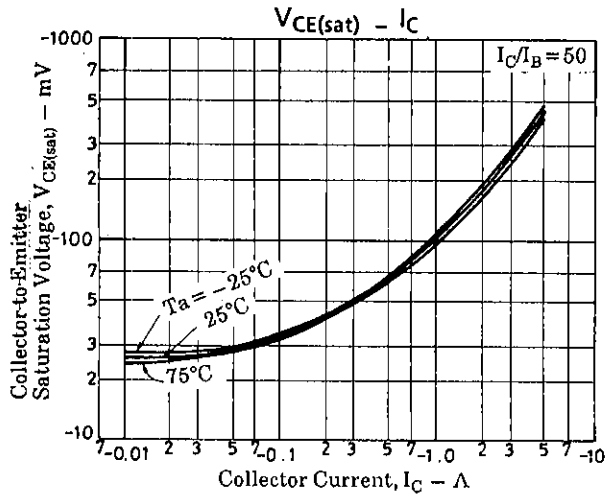
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			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Turn-on Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}	"		200		ns
Fall Time	t_f	"		10		ns





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