



No.3135A

2SA1731

PNP Epitaxial Planar Silicon Transistor

High-Speed Switching Applications

**Features**

- Adoption of FBET, MBIT processes
- Large current capacity
- Low collector-to-emitter saturation voltage
- Fast switching speed

**Absolute Maximum Ratings at Ta = 25°C**

			unit
Collector to Base Voltage	V <sub>CB0</sub>	-50	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-40	V
Emitter to Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-5	A
Collector Current(Pulse)	I <sub>CP</sub>	-8	A
Collector Dissipation	P <sub>C</sub>	1	W
		15	W
	T <sub>c</sub> = 25°C		
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = -40V, I <sub>E</sub> = 0			-1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -3V, I <sub>C</sub> = 0			-1	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA	70*		280*	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = -2V, I <sub>C</sub> = -5A	25			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA		300		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = -10V, f = 1MHz		60		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -2.5A, I <sub>B</sub> = -125mA	-0.3	-0.8		V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -2.5A, I <sub>B</sub> = -125mA	-0.95	-1.3		V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -100μA, I <sub>E</sub> = 0	-50			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-40			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -100μA, I <sub>C</sub> = 0	-5			V

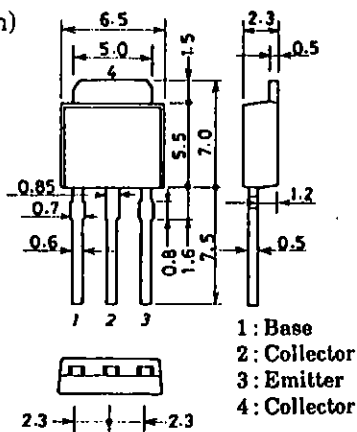
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\*: The 2SA1731 is classified by 500mA h<sub>FE</sub> as follows:

70 Q 140	100 R 200	140 S 280
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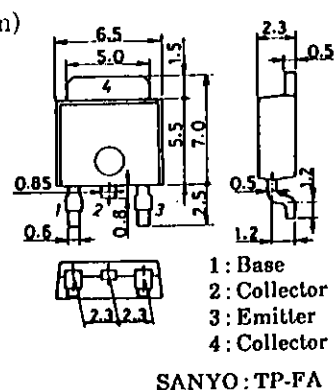
**Package Dimensions 2045B**

(unit : mm)



**Package Dimensions 2044B**

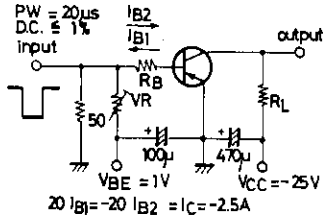
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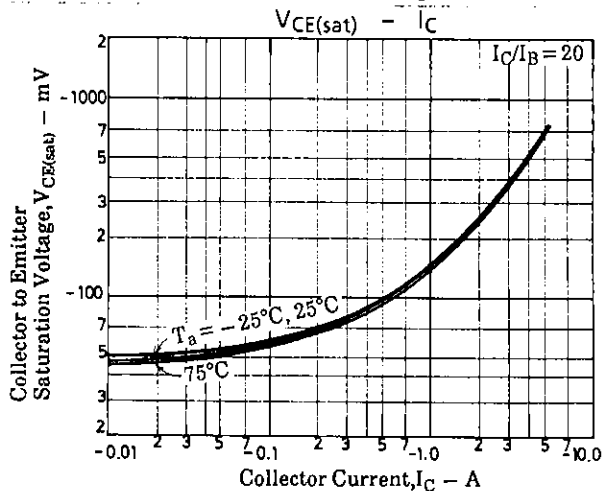
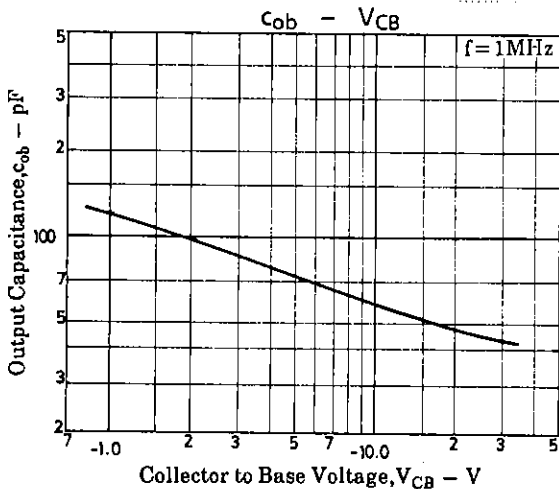
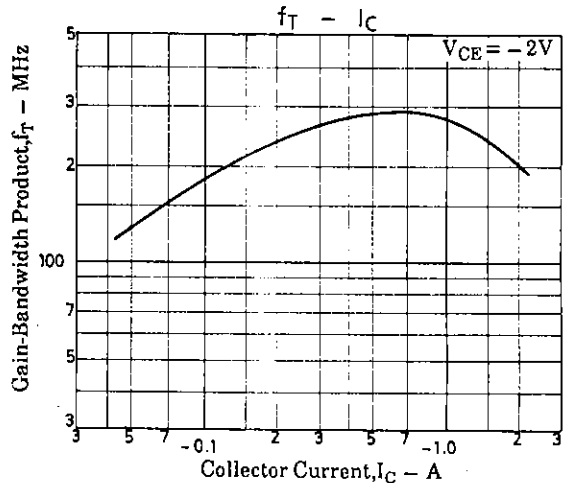
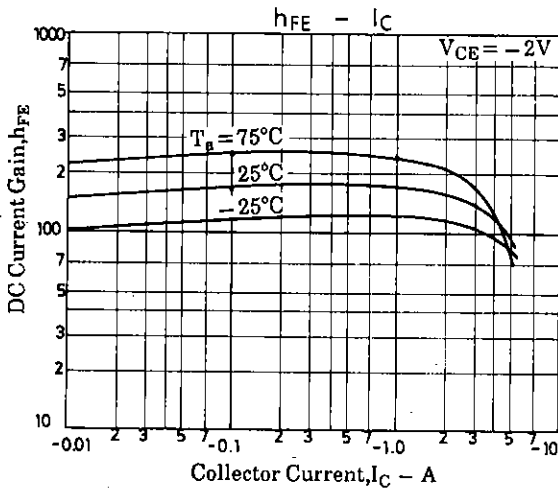
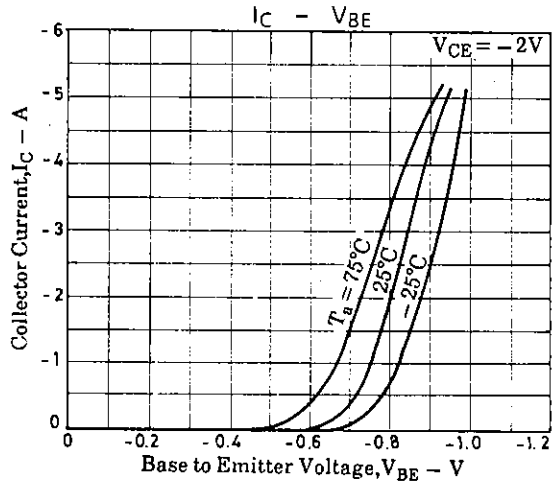
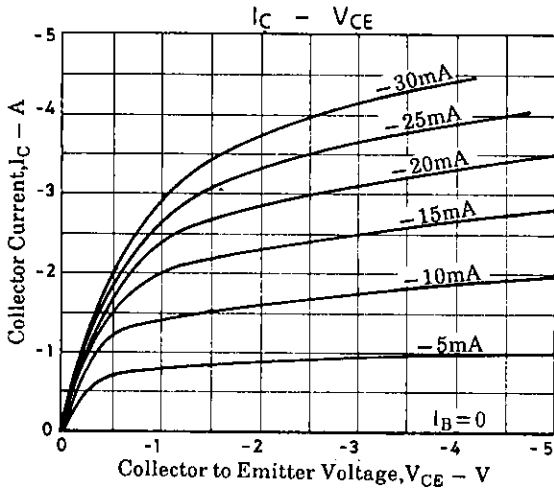
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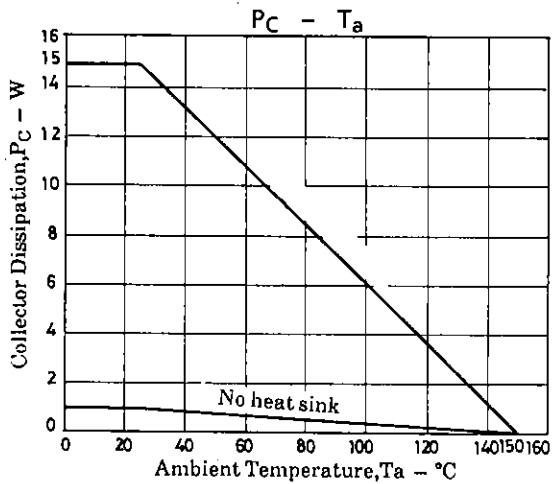
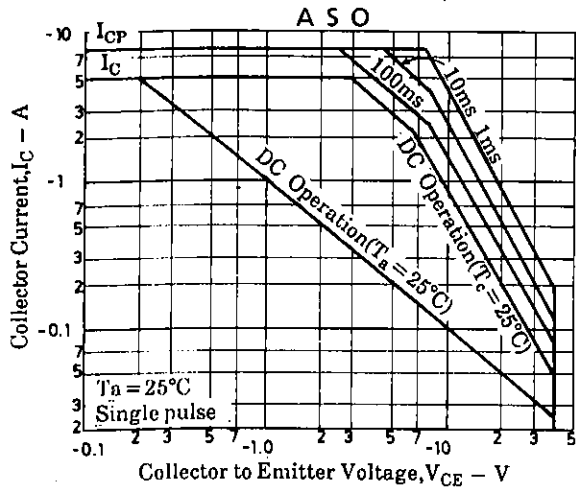
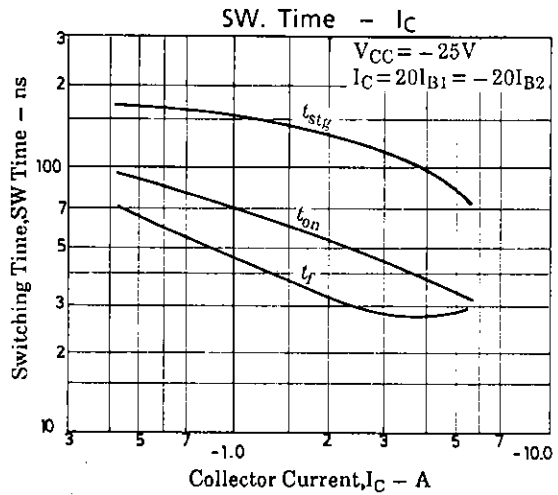
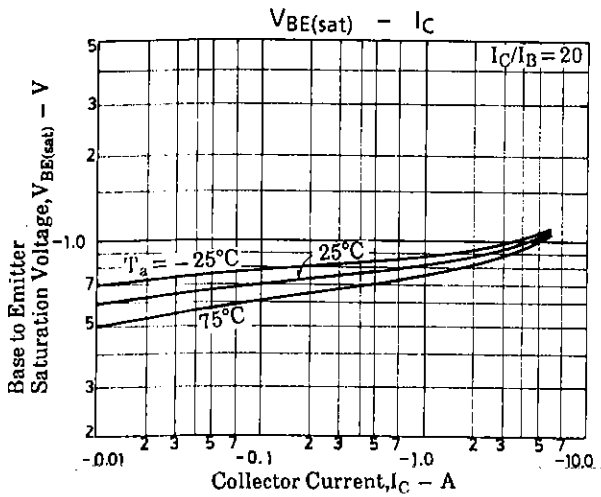
			min	typ	max	unit
Turn-ON Time	$t_{on}$	See specified Test Circuit.		50	100	ns
Storage Time	$t_{stg}$	∕		120	220	ns
Turn-OFF Time	$t_{off}$	∕		150	300	ns

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)





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