

SANYO	No.3139	2SC4520
	NPN 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
- Small-sized package

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V _{CB0}	60	V
Collector to Emitter Voltage	V _{CEO}	45	V
Emitter to Base Voltage	V _{EBO}	5	V
Collector Current	I _C	1.5	A
Collector Current(Pulse)	I _{CP}	3	A
Collector Dissipation	P _C	Mounted on ceramic board (250mm ² × 0.8mm)	1.3 W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} = 45V, 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 = 100mA	100※		400※	
		V _{CE} = 2V, I _C = 1.5A	40			
Gain-Bandwidth Product	f _T	V _{CE} = 2V, I _C = 100mA		300		MHz
Output Capacitance	c _{ob}	V _{CB} = 10V, f = 1MHz		13		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C = 800mA, I _B = 40mA	0.25	0.7		V
B-E Saturation Voltage	V _{BE(sat)}	I _C = 800mA, I _B = 40mA	0.9	1.3		V
C-B Breakdown Voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	60			V
C-E Breakdown Voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	45			V
E-B Breakdown Voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	5			V
Turn-ON Time	t _{on}	See specified Test Circuit.		50	100	ns
Storage Time	t _{stg}	∞		150	270	ns
Turn-OFF Time	t _{off}	∞		180	350	ns

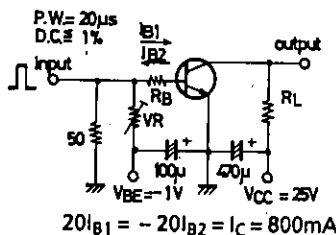
※: The 2SC4520 is classified by 100mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400
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Marking : CK

h_{FE} rank : R,S,T

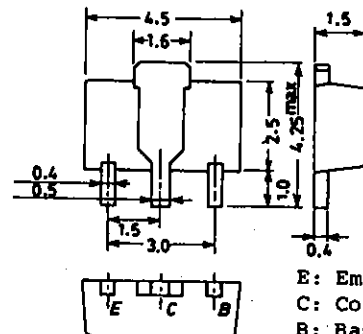
Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2038

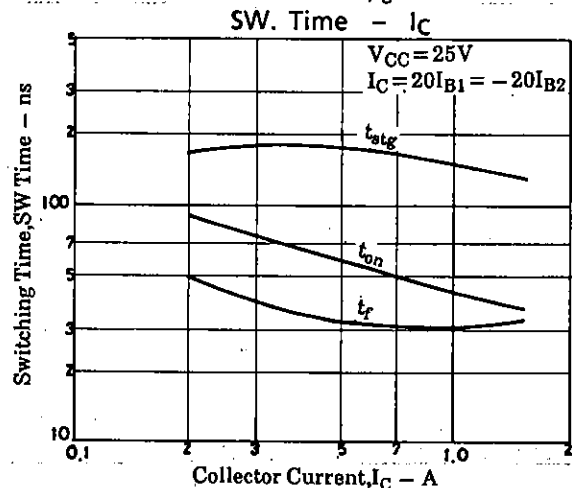
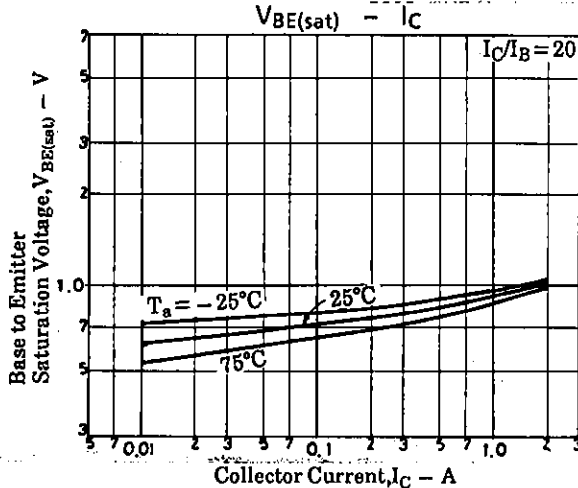
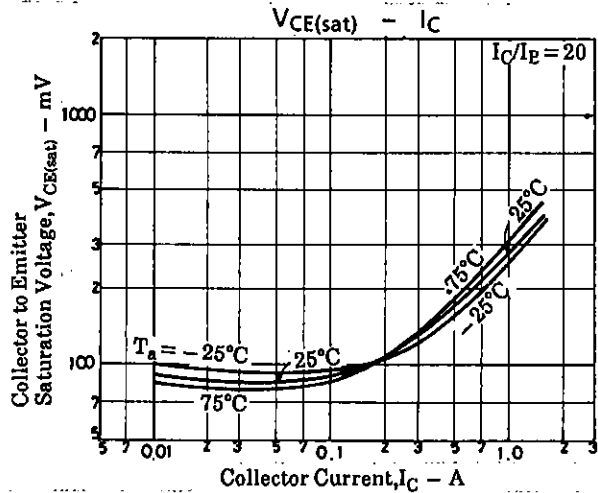
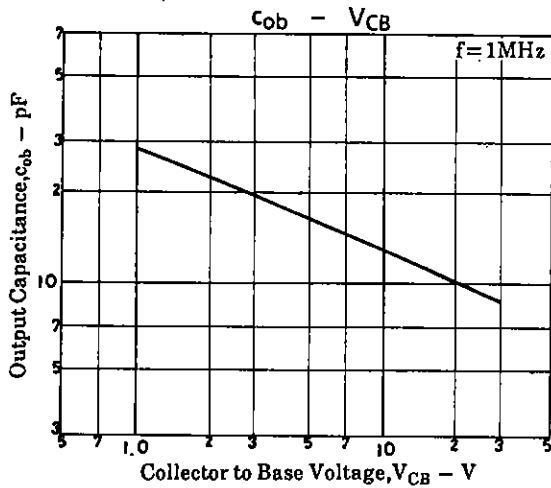
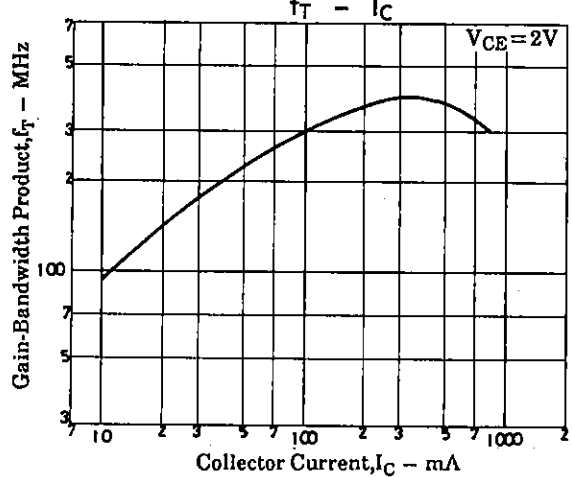
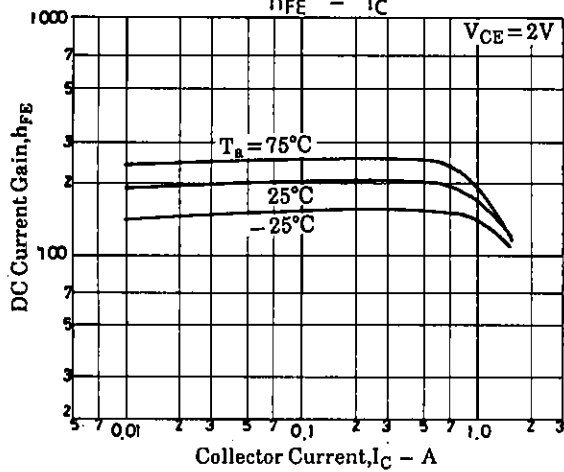
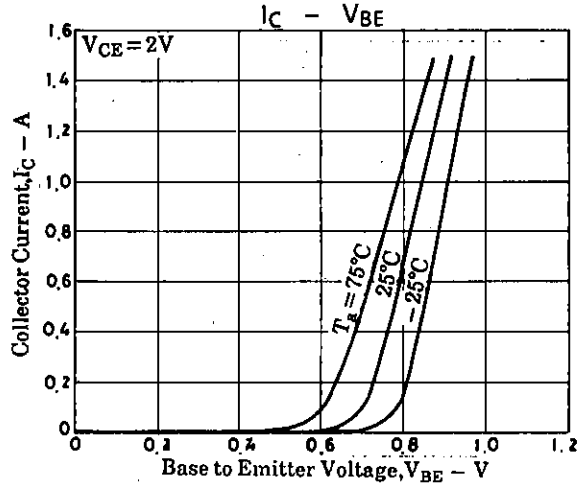
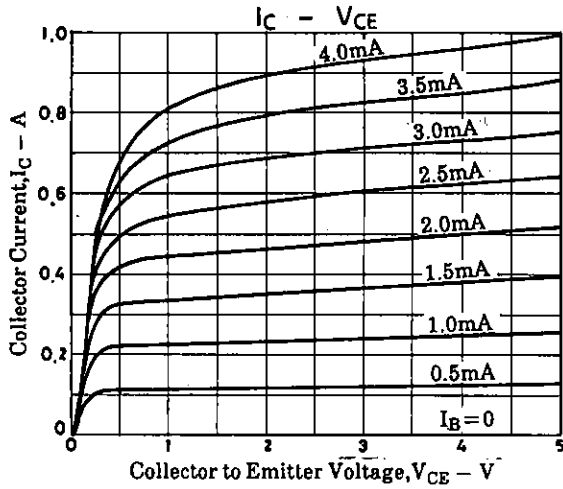
(unit : mm)

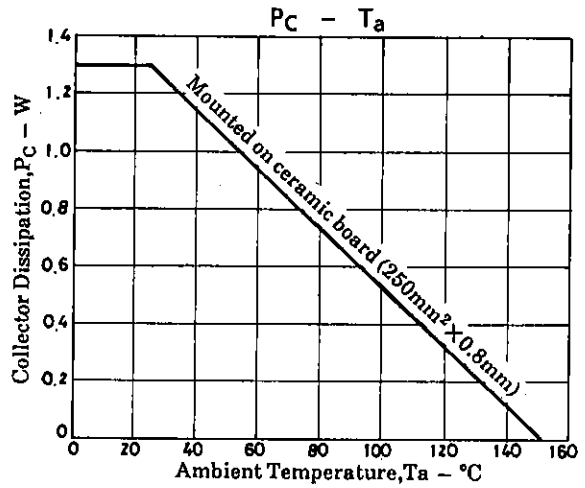
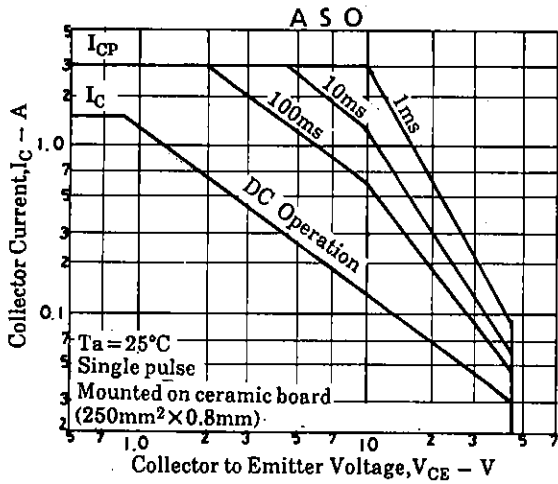


E: Emitter
C: Collector
B: Base

SANYO: PCP
(Bottom View)

2SC4520





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