



# 2SC4523

## High-Speed Switching Applications

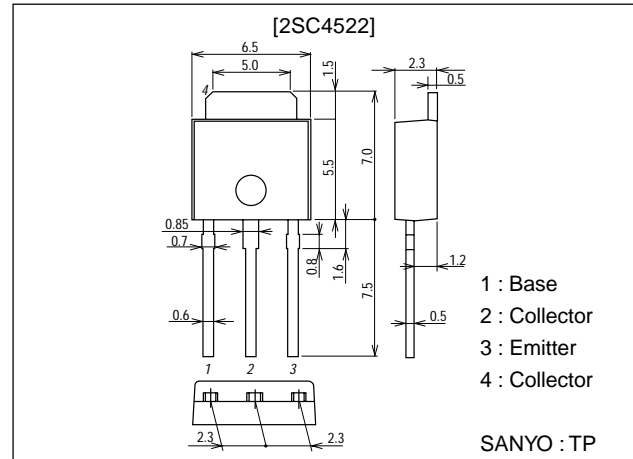
### Features

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

### Package Dimensions

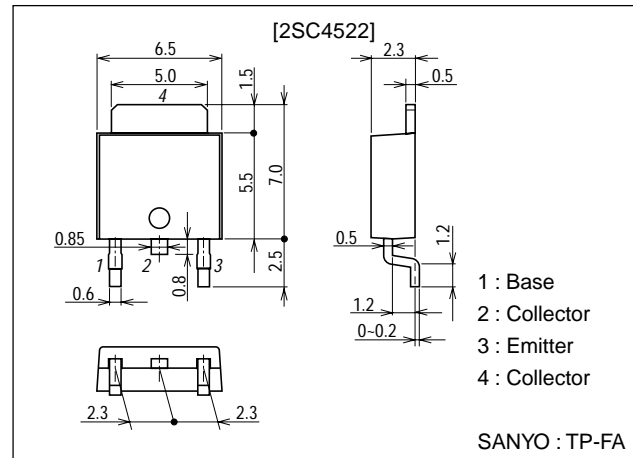
unit:mm

2045B



unit:mm

2044B



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## Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		60	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		45	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		5	V
Collector Current	I <sub>C</sub>		8	A
Collector Current (Pulse)	I <sub>CP</sub>		12	A
Collector Dissipation	P <sub>C</sub>		1	W
		T <sub>c</sub> =25°C	15	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

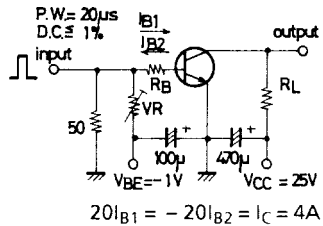
### Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =45V, I <sub>E</sub> =0			1	µA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =2V, I <sub>C</sub> =0			10	µA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =500mA	100*		400*	
	h <sub>FE2</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =8A	40			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =500mA		250		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		65		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =4A, I <sub>B</sub> =200mA		0.25	0.7	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =4A, I <sub>B</sub> =200mA		0.95	1.3	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100µA, I <sub>E</sub> =0	60			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	45			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100µA, I <sub>C</sub> =0	5			V
Turn-ON Time	t <sub>on</sub>	See specified test circuit.		50	100	ns
Storage Time	t <sub>stg</sub>	See specified test circuit.		150	270	ns
Fall Time	t <sub>f</sub>	See specified test circuit.		180	350	ns

\* : The 2SC4523 is classified by 500mA h<sub>FE</sub> as follows :

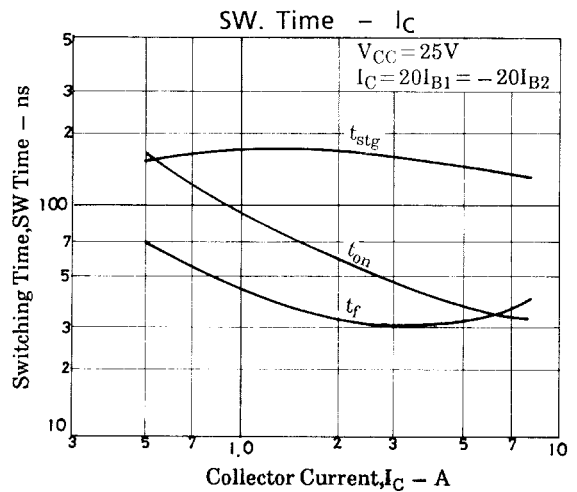
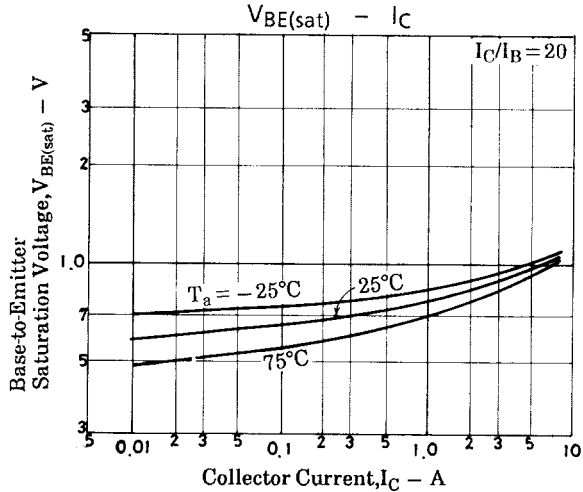
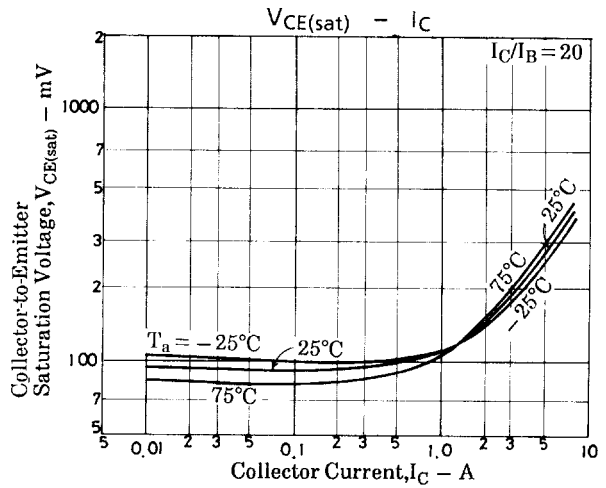
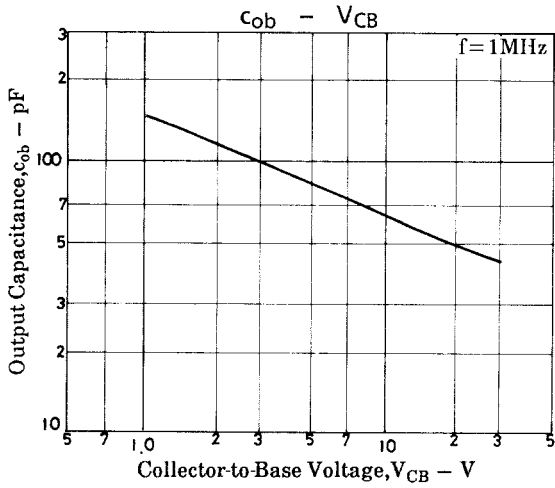
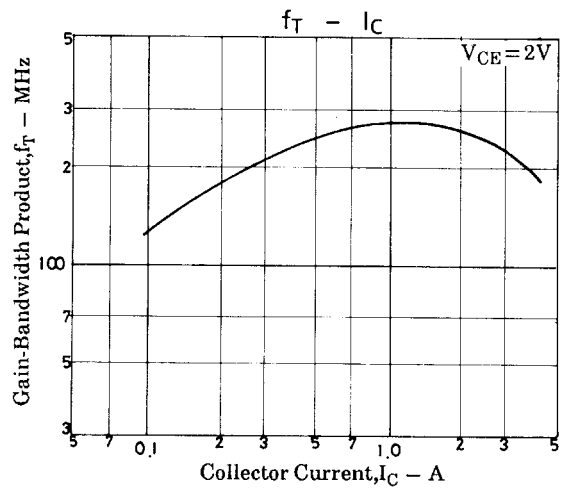
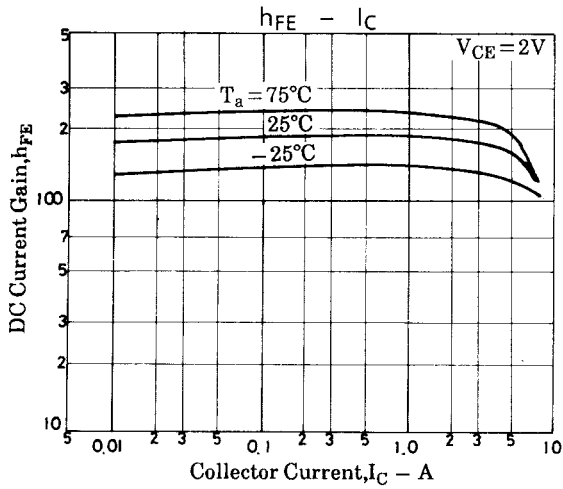
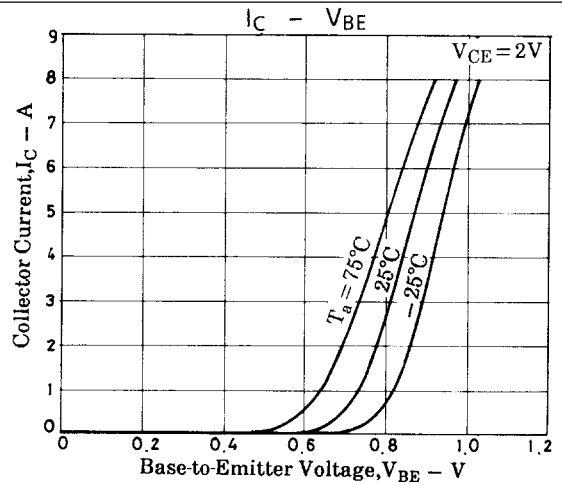
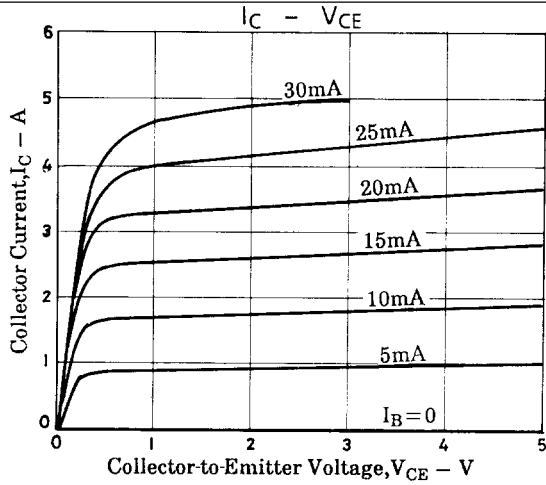
100	R	200	140	S	280	200	T	400
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### Switching Time Test Circuit

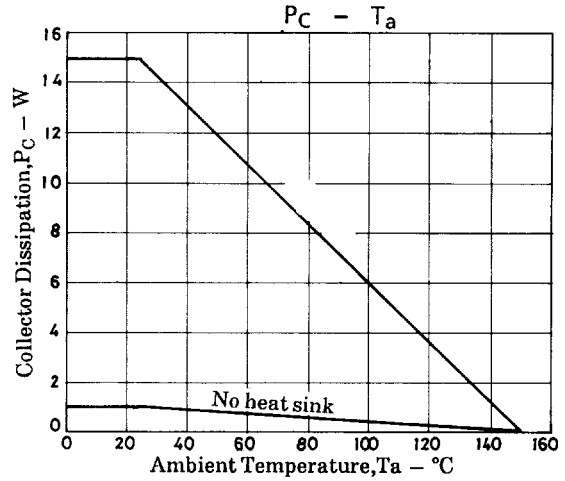
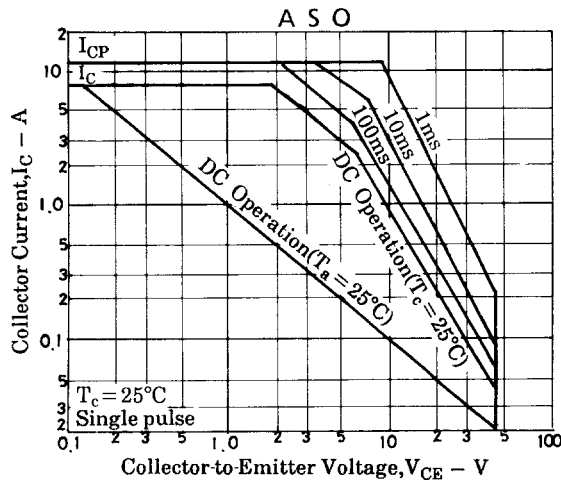


Unit (resistance : Ω, capacitance : F)

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