



No.2813

**2SC4454**

NPN Epitaxial Planar Silicon Transistor

High-Speed Switching Applications

**Features**

- Fast switching speed
- Low collector saturation voltage
- High gain-bandwidth product
- Small collector capacity

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

			unit
Collector to Base Voltage	V <sub>CB0</sub>	40	V
Collector to Emitter Voltage	V <sub>CES</sub>	40	V
Collector to Emitter Voltage	V <sub>CEO</sub>	15	V
Emitter to Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	200	mA
Collector Current(Pulse)	I <sub>CP</sub>	500	mA
Base Current	I <sub>B</sub>	40	mA
Collector Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

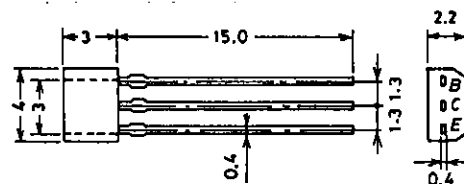
**Electrical Characteristics at Ta = 25°C**

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 20V, I <sub>E</sub> = 0			0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = 3V, I <sub>C</sub> = 0			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 10mA	*50	90	*200	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 10mA	450	750		MHz
Collector Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = 5V, f = 1MHz		1.6	4.0	pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA		0.13	0.25	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA		0.80	0.85	V
C-B Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	40			V
C-E Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞	15			V
E-B Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		8.0	12	ns
Storage Time	t <sub>stg</sub>			6.0	13	ns
Turn-OFF Time	t <sub>off</sub>			12	18	ns

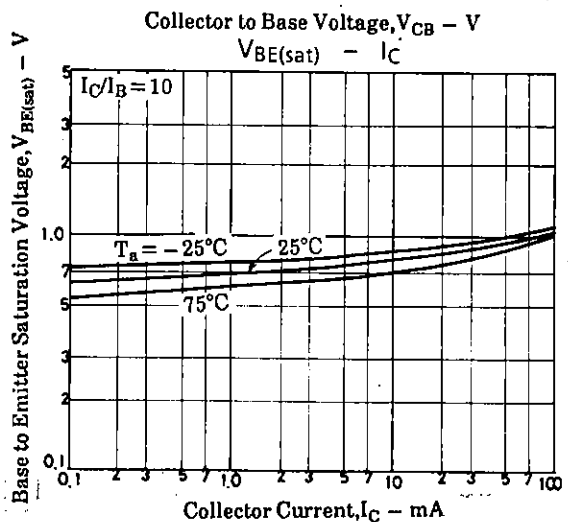
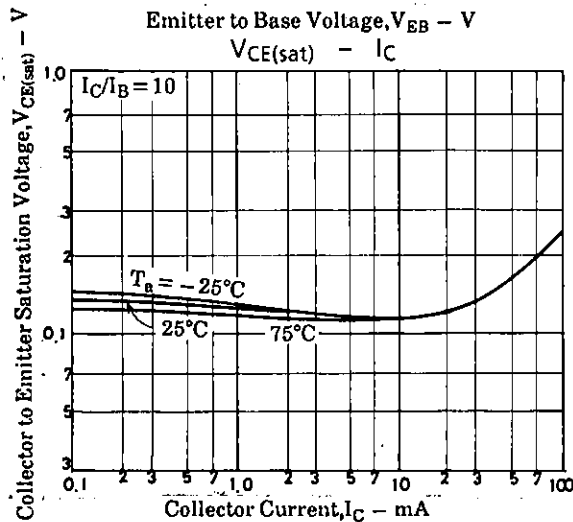
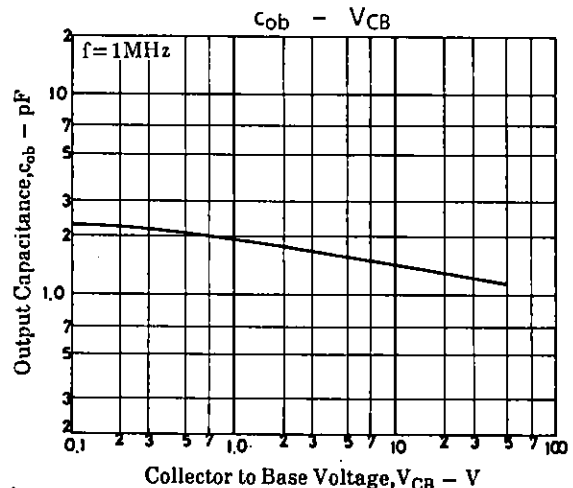
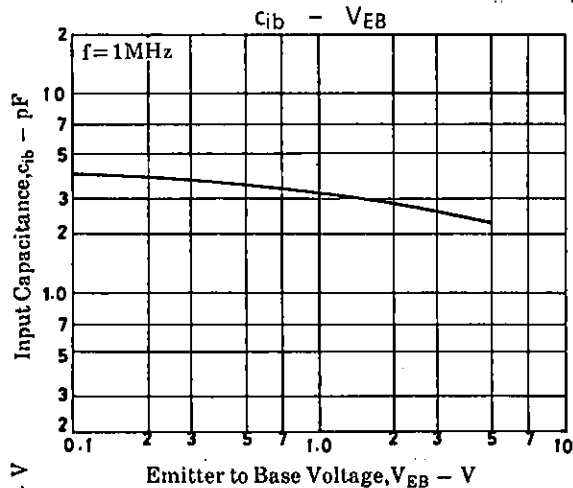
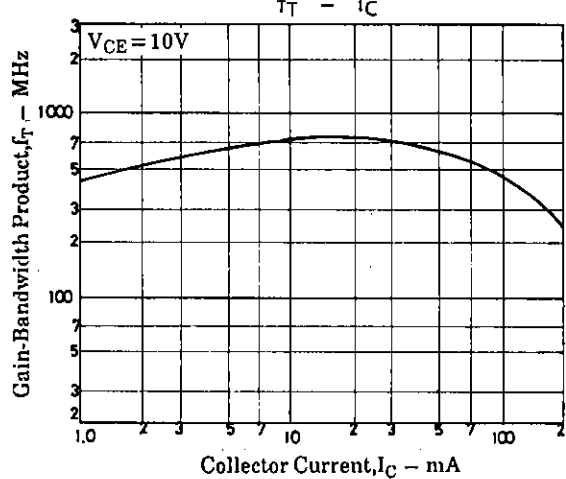
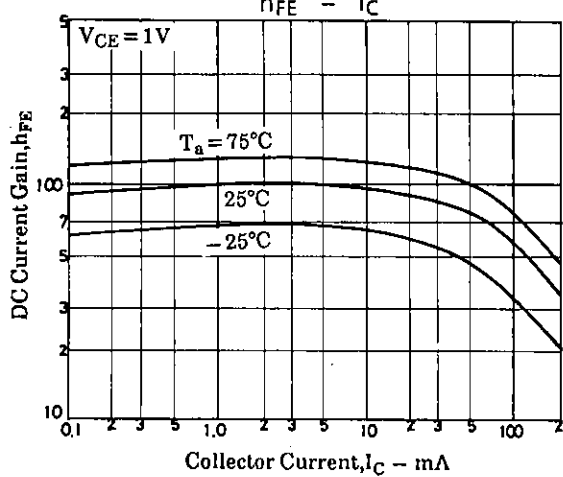
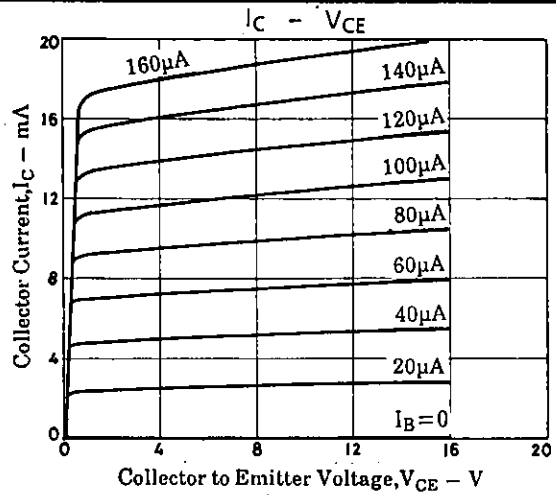
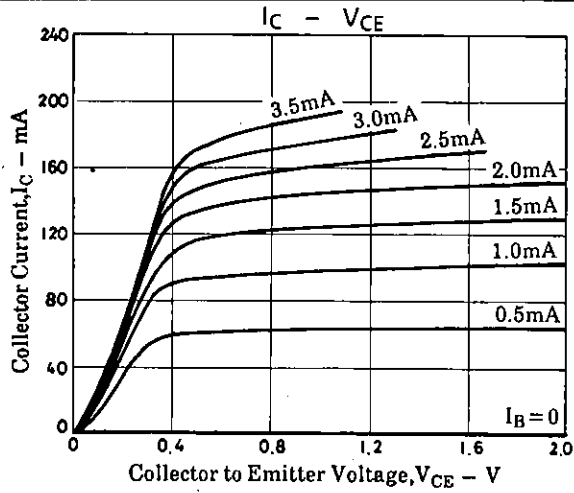
\*: The 2SC4454 is classified by 10mA h<sub>FE</sub> as follows :

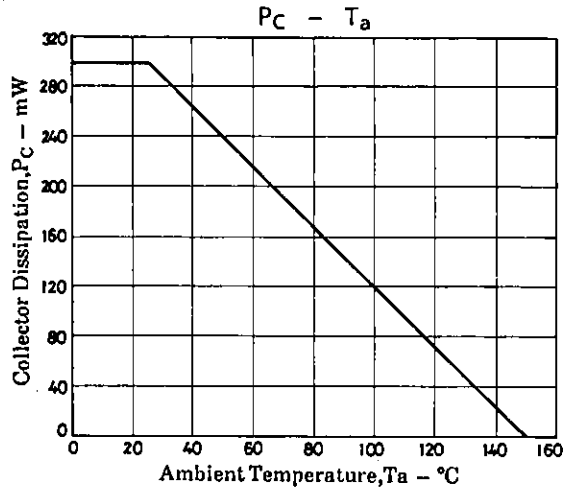
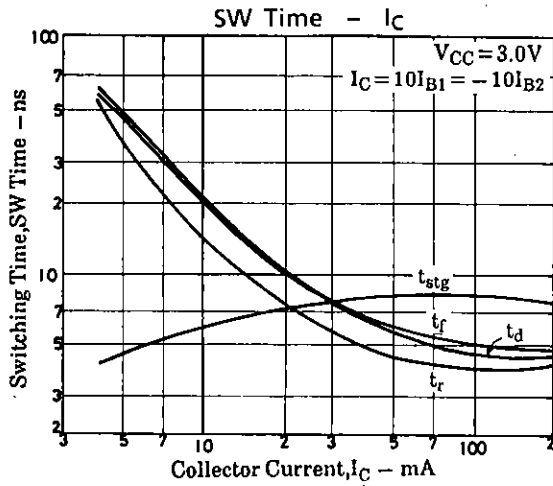
50	P	100	70	Q	140	100	R	200
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**Package Dimensions 2033**  
(unit: mm)

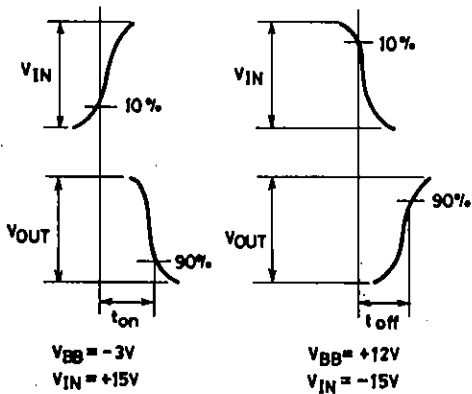
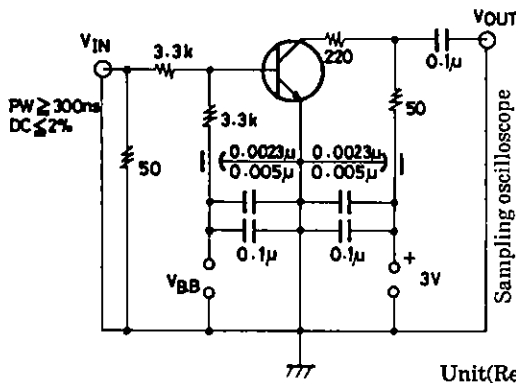


B: Base  
C: Collector  
E: Emitter  
SANYO: SPA

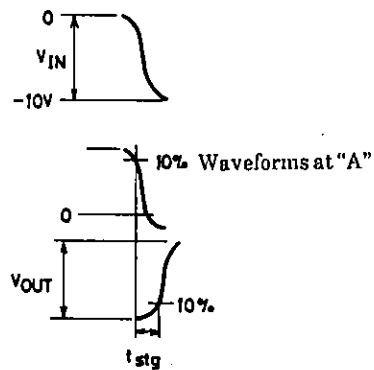
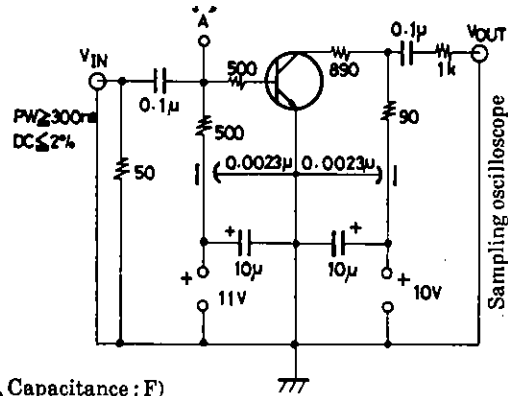




$t_{on}, t_{off}$  Test Circuit



$t_{stg}$  Test Circuit



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