



SANYO Semiconductors

## DATA SHEET

# 2SC6071 — NPN Epitaxial Planar Silicon Transistor

## High-Current Switching Applications

### Applications

- Relay drivers, lamp drivers, motor drivers.

### Features

- Adoption of MBIT process.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		120	V
Collector-to-Emitter Voltage	V <sub>CES</sub>		120	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		50	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		8	V
Collector Current	I <sub>C</sub>		10	A
Collector Current (Pulse)	I <sub>CP</sub>	PW≤100μs	13	A
Base Current	I <sub>B</sub>		2	A
Collector Dissipation	P <sub>C</sub>		0.95	W
		T <sub>C</sub> =25°C	20	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>CBO</sub>	V <sub>CB</sub> =40V, I <sub>E</sub> =0A			10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			10	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =1A	200		700	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =1A		200		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		60		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =250mA		180	360	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =5A, I <sub>B</sub> =250mA		0.93	1.4	V

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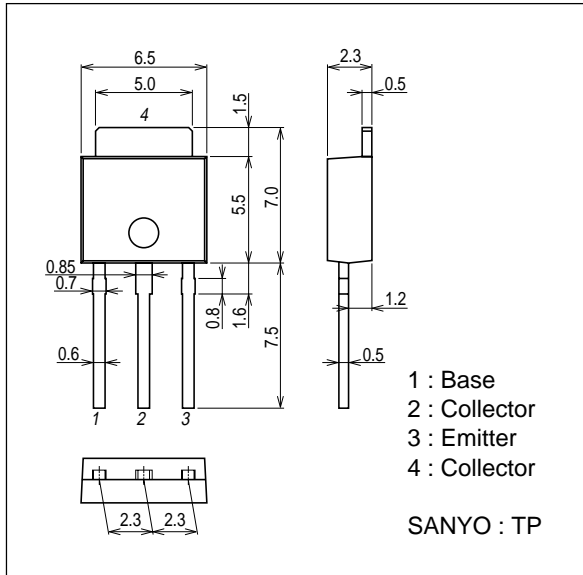
## 2SC6071

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0A$	120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=100\mu A, R_{BE}=0\Omega$	120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0A$	8			V
Turn-On Time	$t_{on}$	See specified Test Circuit.		40		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		1000		ns
Fall Time	$t_f$	See specified Test Circuit.		80		ns

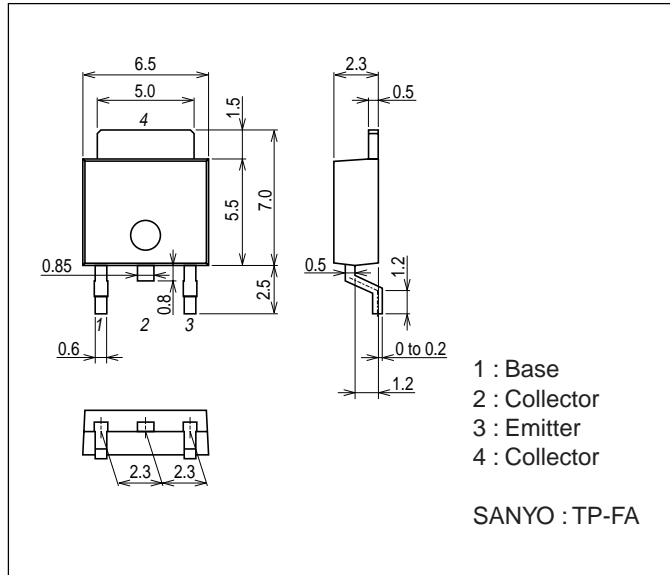
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unit : mm  
7518-003

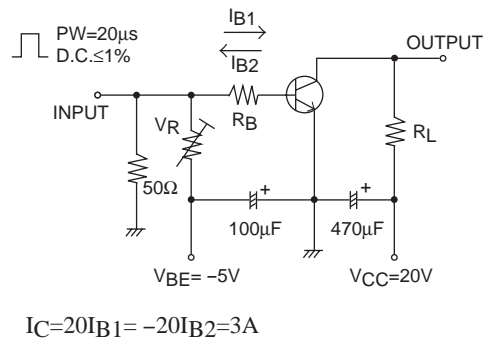


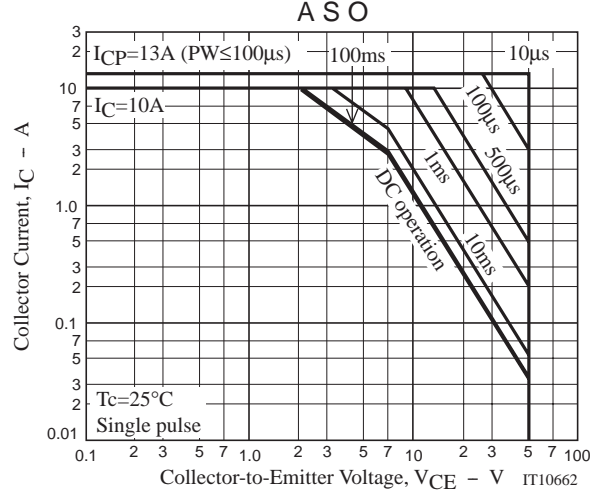
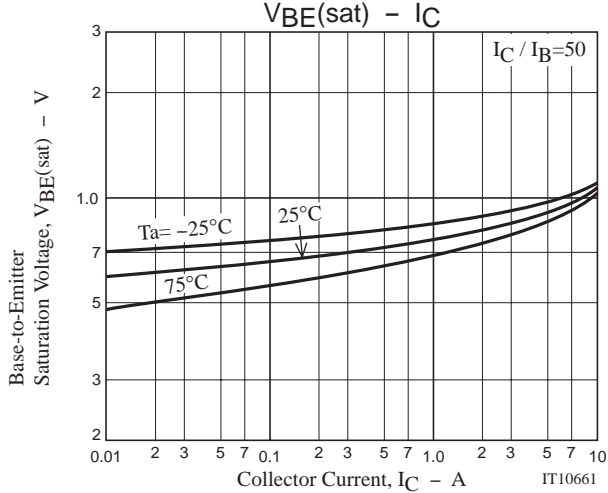
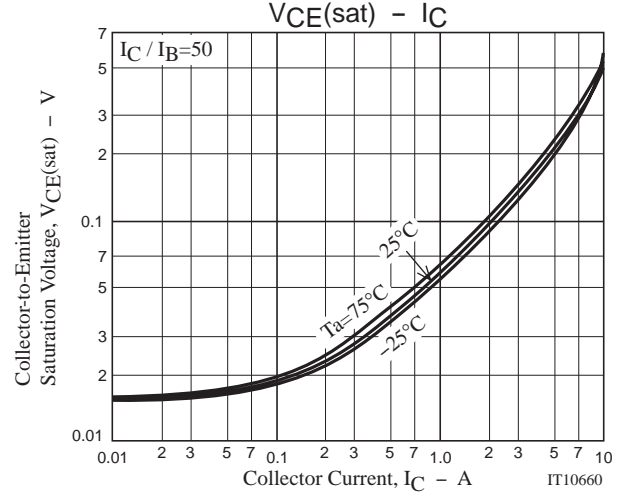
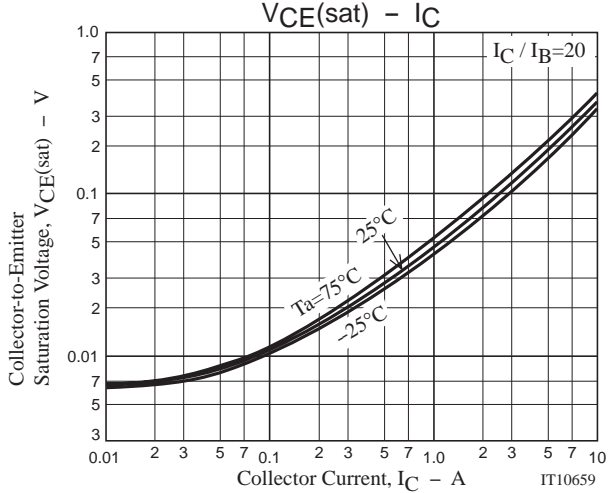
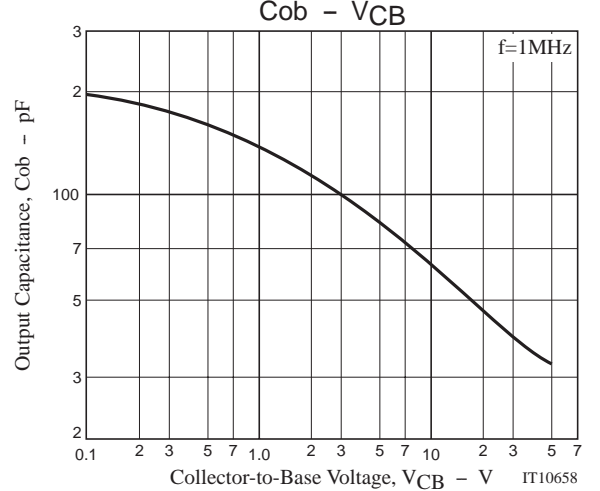
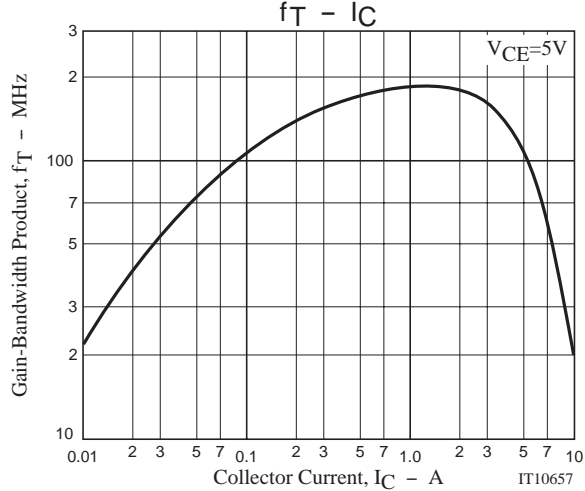
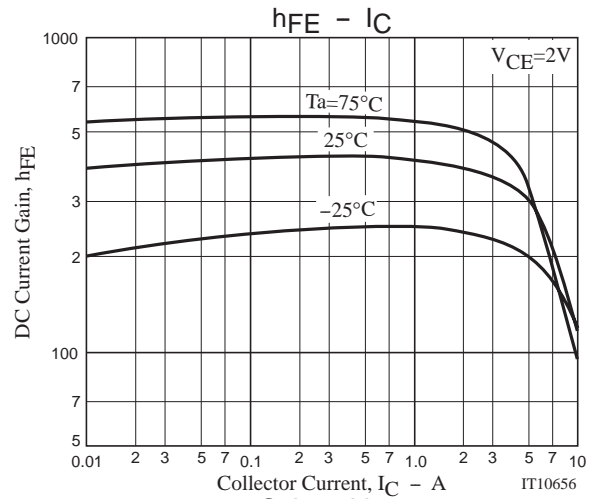
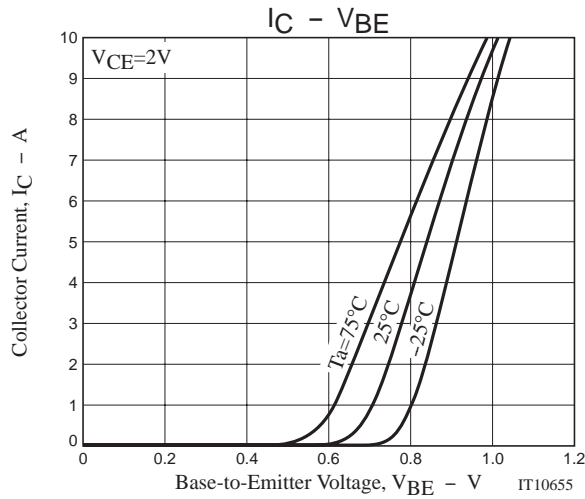
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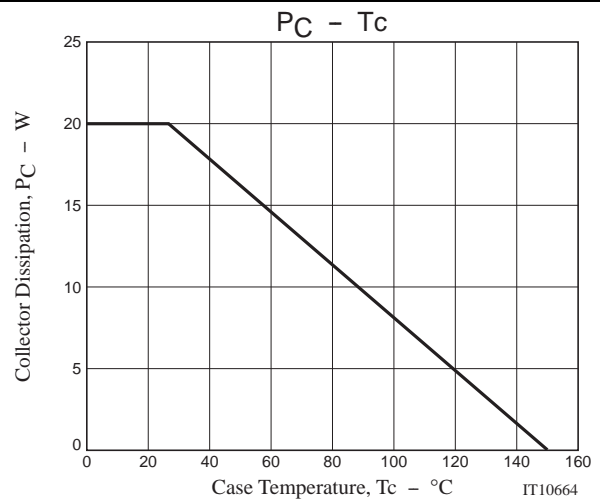
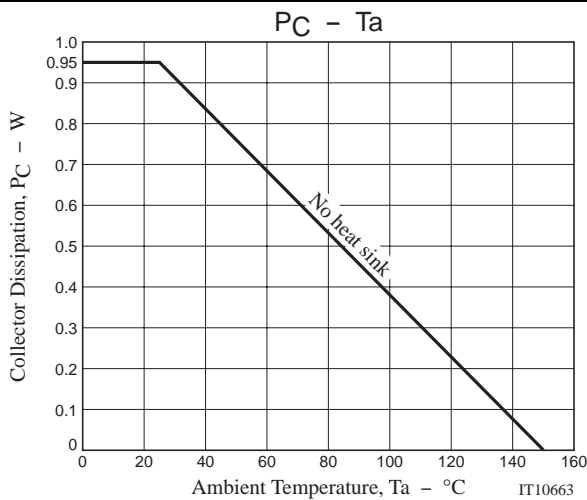
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### Switching Time Test Circuit







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