

SANYO

No.1970A

2SC3751

NPN Triple Diffused Planar Type Silicon Transistor

SWITCHING REGULATOR APPLICATIONS

Features

- . High breakdown voltage and high reliability
- . Fast switching speed
- . Wide ASO
- . Adoption of MBIT process
- . Micaless package facilitating mounting

Absolute Maximum Ratings at Ta=25°C

			unit
Collector-to-Base Voltage	V _{CB0}	1100	V
Collector-to-Emitter Voltage	V _{CE0}	800	V
Emitter-to-Base Voltage	V _{EBO}	7	V
Collector Current	I _C	1.5	A
Peak Collector Current	i _{cp}	PW ≤ 300µs, Duty cycle ≤ 10%	
Base Current	I _B	0.8	A
Collector Dissipation	P _C	Tc=25°C	
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} =800V, I _E =0			10	µA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0			10	µA
DC Current Gain	h _{FE} (1)	V _{CE} =5V, I _C =0.1A	10*		40*	
		V _{CE} =5V, I _C =0.5A	8			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.1A		15		MHz
Output Capacitance	c _{ob}	V _{CB} =10V, f=1MHz		35		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =0.75A, I _B =0.15A			2.0	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =0.75A, I _B =0.15A			1.5	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =1mA, I _E =0	1100			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =5mA, R _{BE} =∞	800			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =1mA, I _C =0	7			V

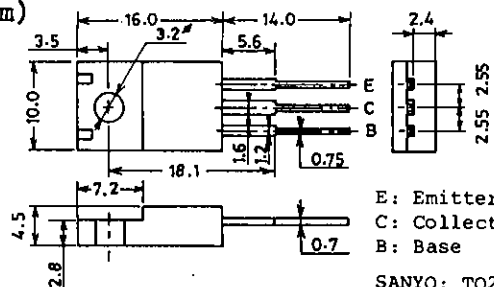
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*: The h_{FE}(1) of the 2SC3751 is classified as follows. When specifying the h_{FE}(1) rank, specify two ranks or more in principle.

10	K	20	15	L	30	20	M	40
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Package Dimensions 2041

(unit:mm)



E: Emitter
C: Collector
B: Base

SANYO: TO220ML

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

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Collector-to-Emitter Sustain Voltage

$V_{CEX(sus)}$ $I_C=0.75A,$
 $I_{B1}=-I_{B2}=0.15A,$
 $L=5mH, \text{clamped}$

min typ max unit
 800

Turn-on Time

t_{on}

$V_{CC}=400V,$

0.5 μs

Storage Time

t_{stg}

$5I_{B1}=-2.5I_{B2}=I_C=1A,$

3.0 μs

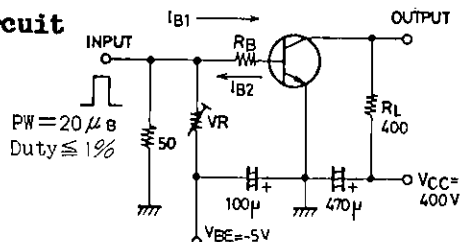
Fall Time

t_f

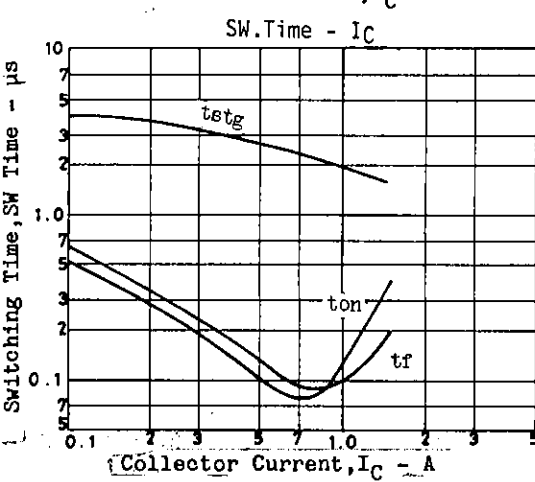
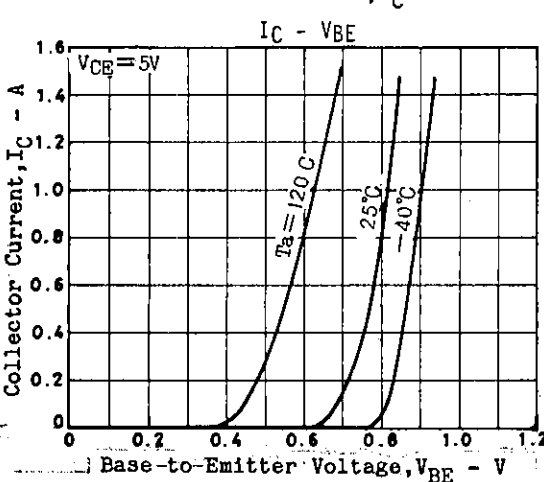
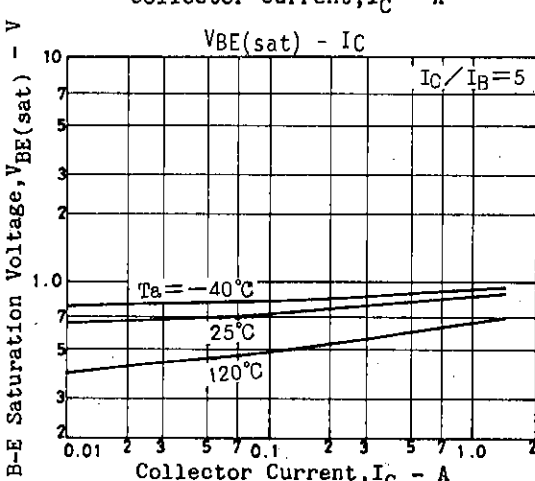
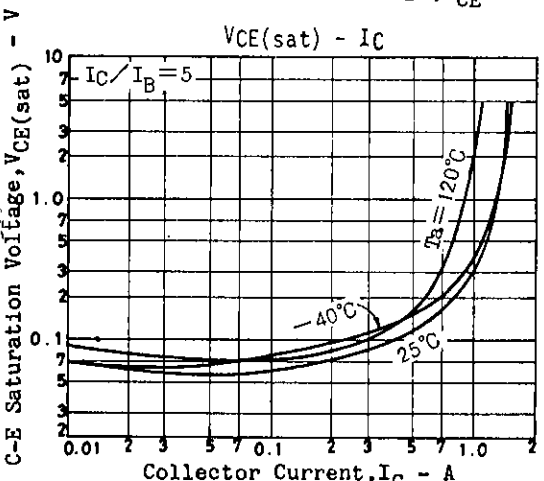
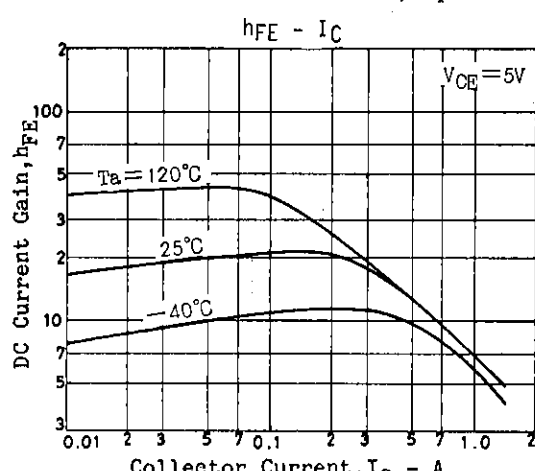
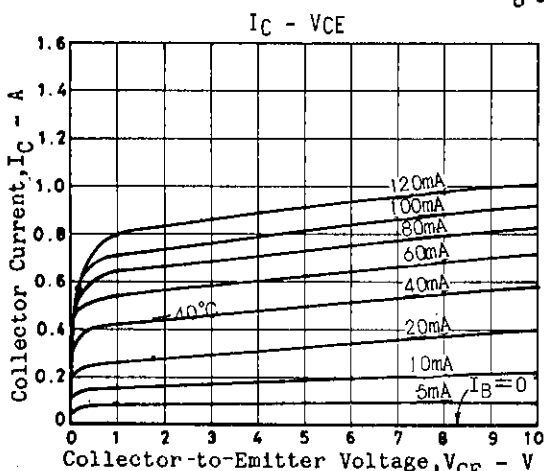
$R_L=400ohms$

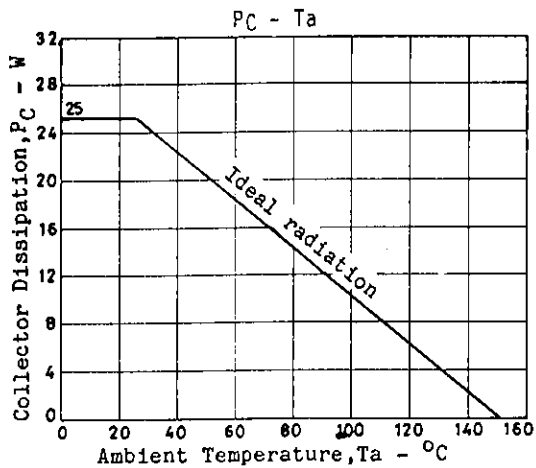
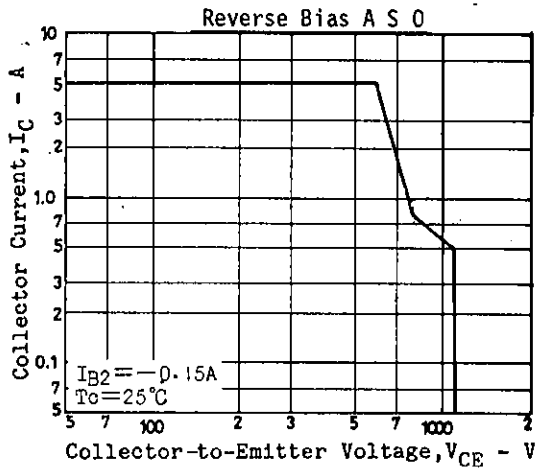
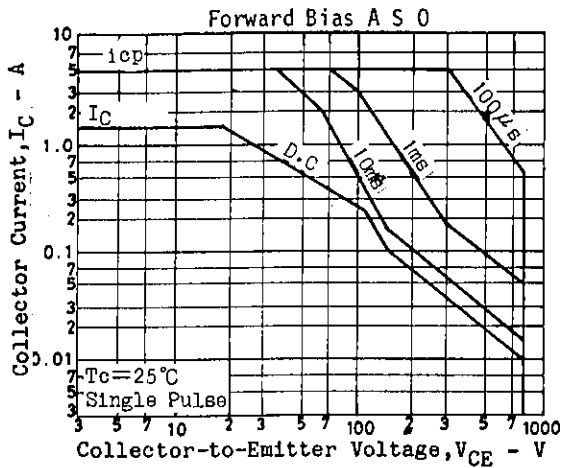
0.3 μs

Switching Time Test Circuit



Unit (Resistance : Ω , Capacitance : F)





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