

SANYO

No. 1971A

2SC3752

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_{CBO}	1100	V
Collector-to-Emitter Voltage	V_{CEO}	800	V
Emitter-to-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	3	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, \text{Duty cycle} \leq 10\%$	10
Base Current	I_B	1.5	A
Collector Dissipation	P_C	30	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

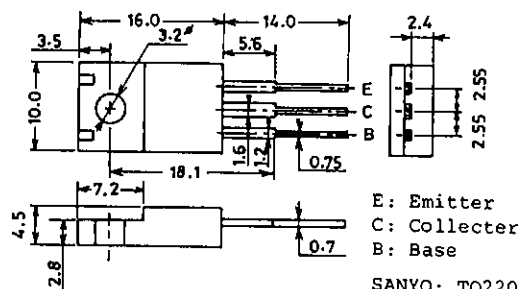
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=0.2A$	10*		40*	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=1A$	8			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.2A$		15		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1MHz$		60		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=0.3A$			2.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=0.3A$			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	1100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	800			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V

Continued on next page.

*: The $h_{FE(1)}$ of the 2SC3752 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

Collector-to-Emitter Sustain Voltage

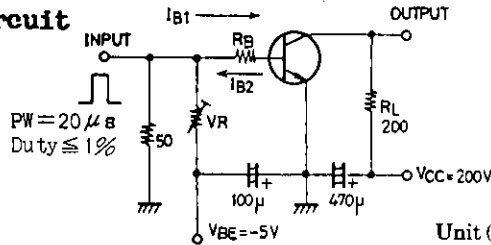
$V_{CEX(sus)}$ $I_C=1.5A$,
 $I_{B1}=-I_{B2}=0.3A$,
 $L=2mH$, clamped
 t_{on}
 t_{stg}
 t_f

min typ max unit
 800 V

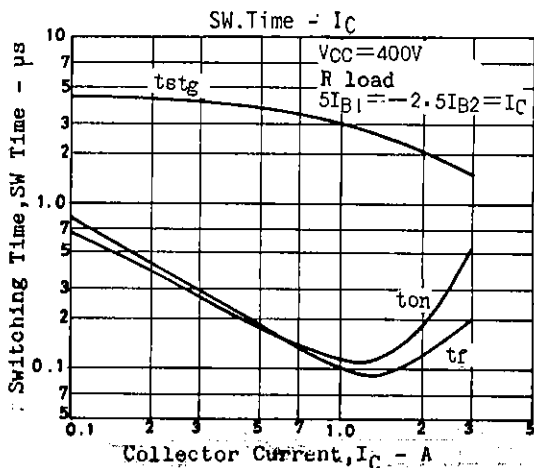
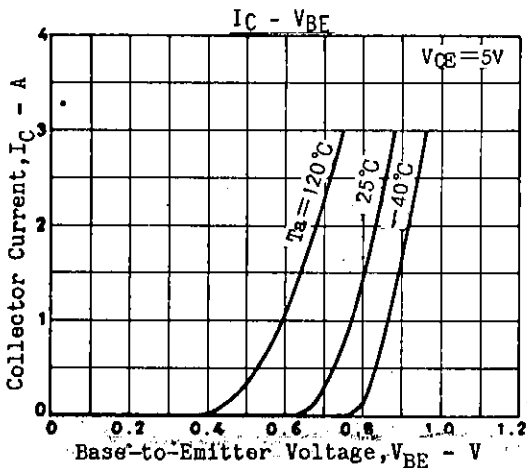
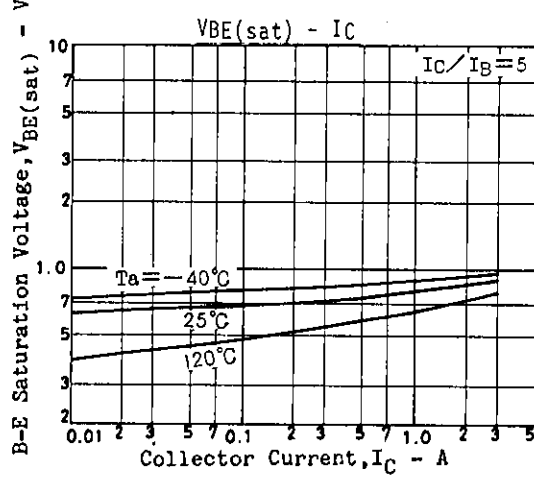
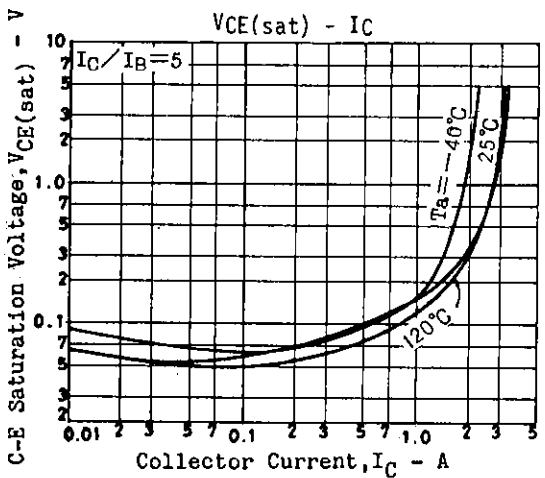
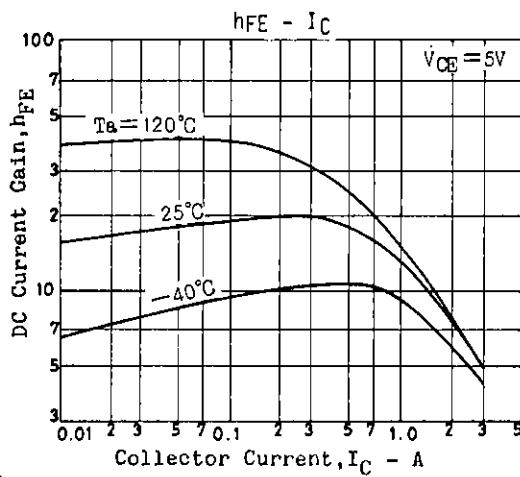
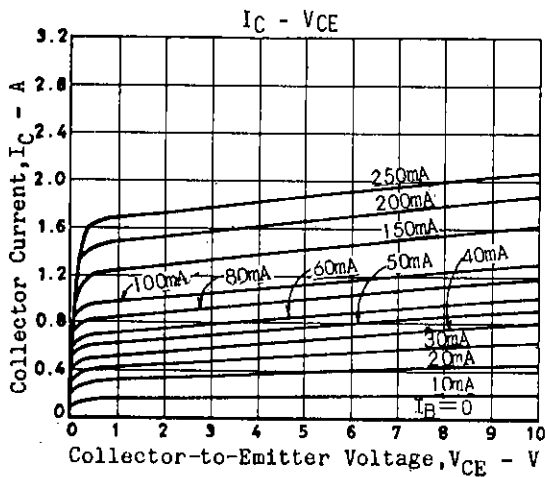
Turn-on Time
 Storage Time
 Fall Time

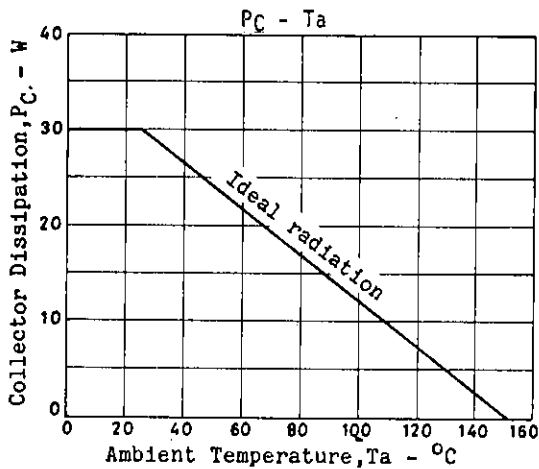
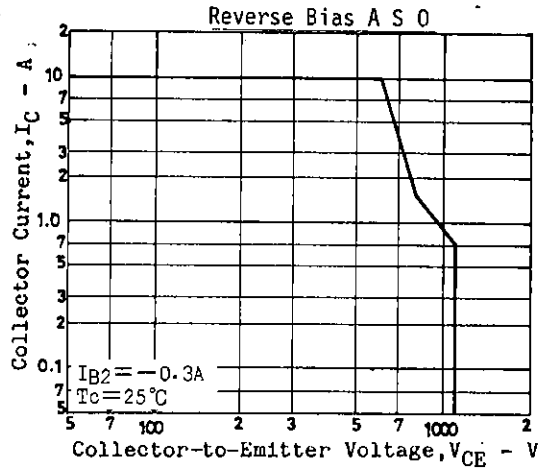
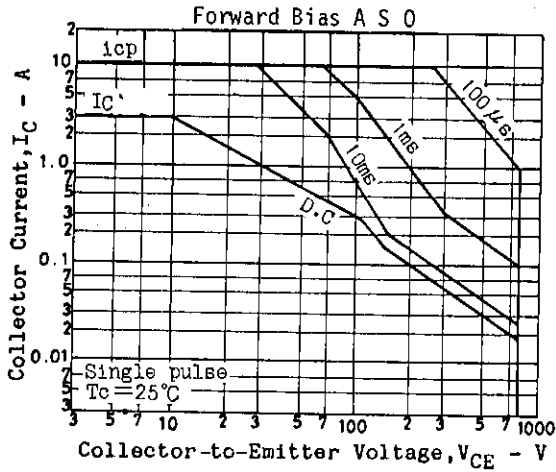
0.5 μs
 3.0 μs
 0.3 μs

Switching Time Test Circuit



Unit (Resistance : Ω , Capacitance : F)





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