

SANYO

No. 1577B

2SC3451

NPN Triple Diffused Planar Silicon Transistor
FOR SWITCHING REGULATORS

Features

- High breakdown voltage and high reliability
- Fast switching speed (t_f : 0.1 μ s typ.)
- Wide ASO
- Adoption of MBIT process

Absolute Maximum Ratings at Ta=25°C

			unit
Collector-to-Base Voltage	V _{CB0}	800	V
Collector-to-Emitter Voltage	V _{CE0}	500	V
Emitter-to-Base Voltage	V _{EB0}	7	V
Collector Current	I _C	15	A
Peak Collector Current	i _{cp}	PW \leq 300 μ s, Duty Cycle \leq 10% 25 A	
Base Current	I _B	4	A
Collector Dissipation	P _C	T _c =25°C 100 W	
Junction Temperature	T _j	150	°C
storage Temperature	T _{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

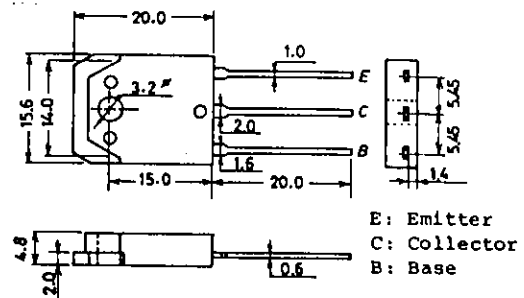
			min	typ	max	unit
Collector Cutoff Current	I _{CB0}	V _{CB} =500V, I _E =0			10	μ A
Emitter Cutoff Current	I _{EB0}	V _{EB} =5V, I _C =0			10	μ A
DC Current Gain	h _{FE} (1)	V _{CE} =5V, I _C =1.2A	15*		50*	
		V _{CE} =5V, I _C =6A	8			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =1.2A		18		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		160		pF
C-E Saturation Voltage	V _{CE(sat)}	I _C =6A, I _B =1.2A			1.0	V
B-E Saturation Voltage	V _{BE(sat)}	I _C =6A, I _B =1.2A			1.5	V
C-B Breakdown Voltage	V(BR)CBO	I _C =1mA, I _E =0	800			V
C-E Breakdown Voltage	V(BR)CEO	I _C =5mA, R _{BE} = ∞	500			V
E-B Breakdown Voltage	V(BR)EBO	I _E =1mA, I _C =0	7			V

*: The h_{FE}(1) of the 2SC3451 is classified as follows. When specifying the h_{FE}(1) rank, specify two ranks or more in principle

15	L	30	20	M	40	30	N	50
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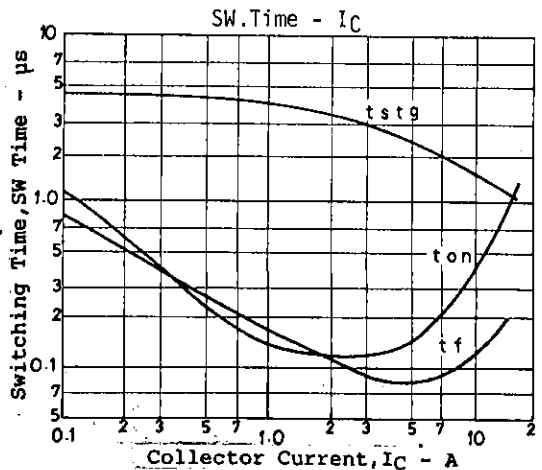
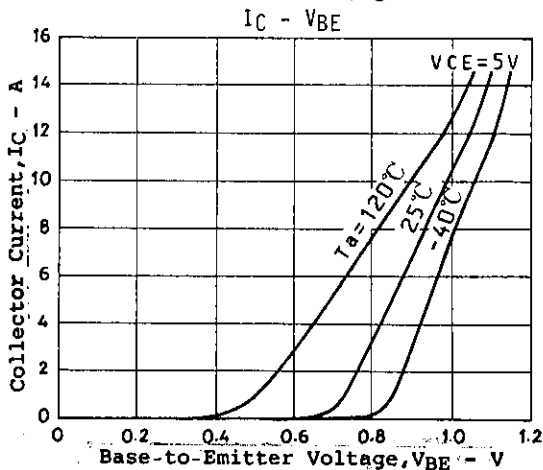
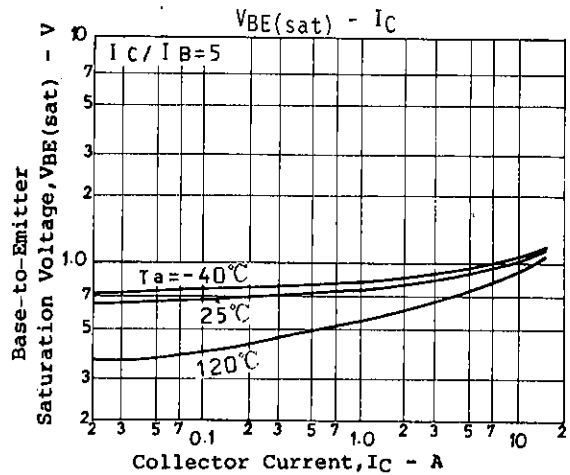
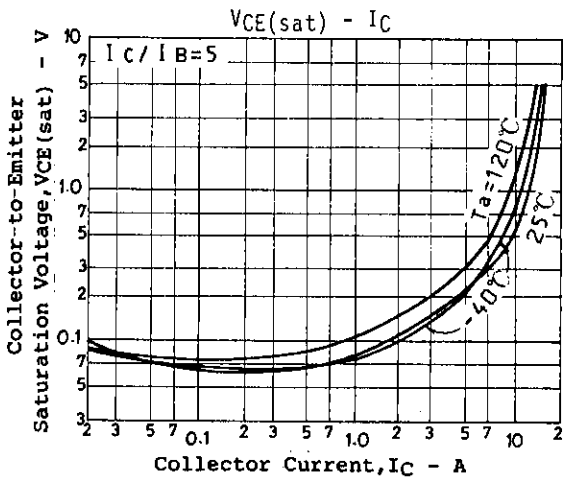
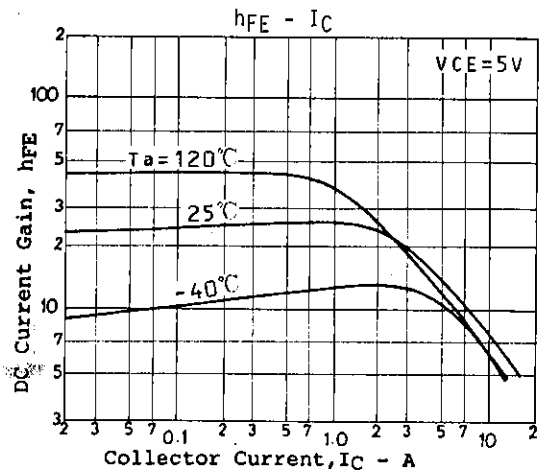
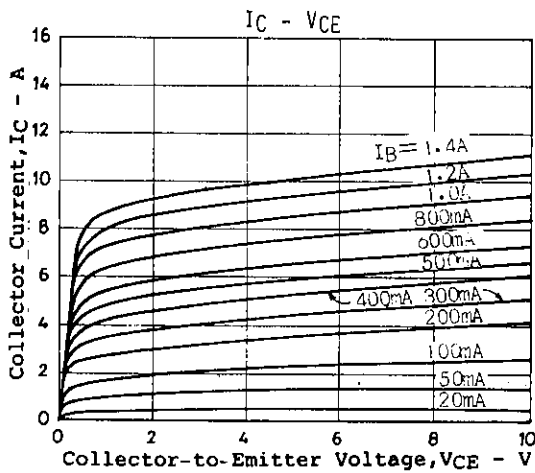
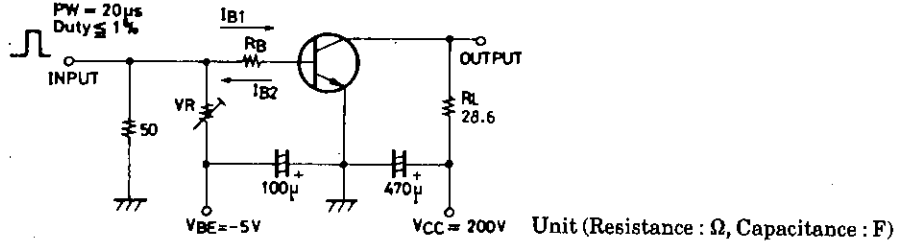
Package Dimensions 2022
(unit:mm)

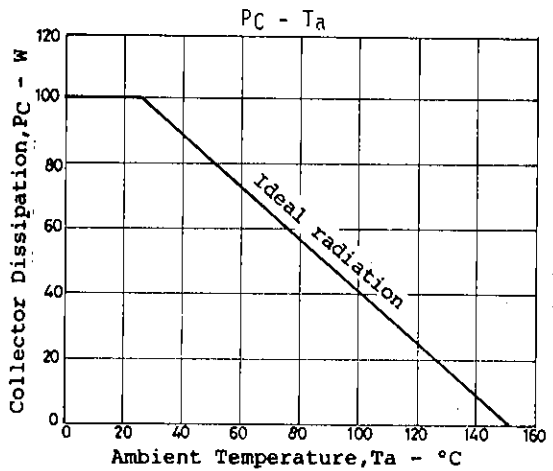
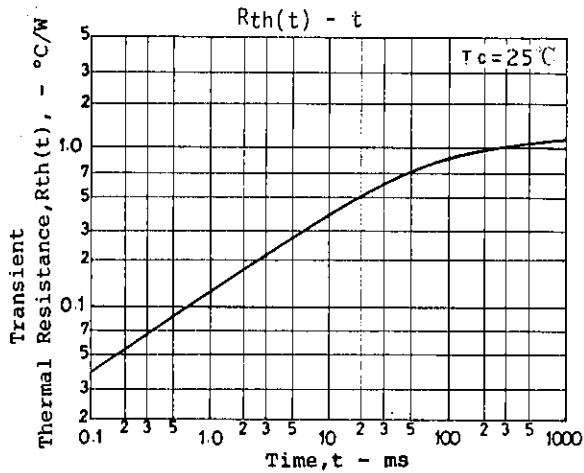
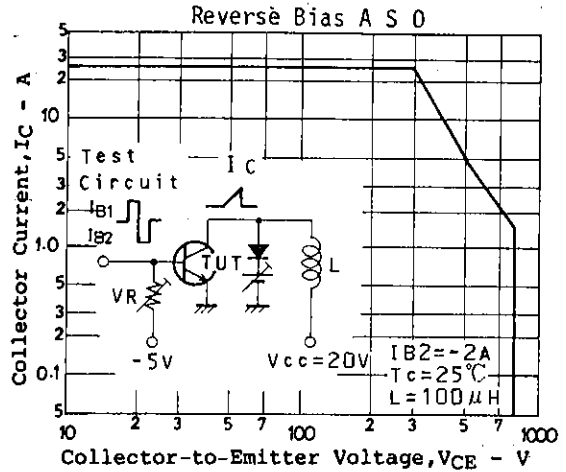
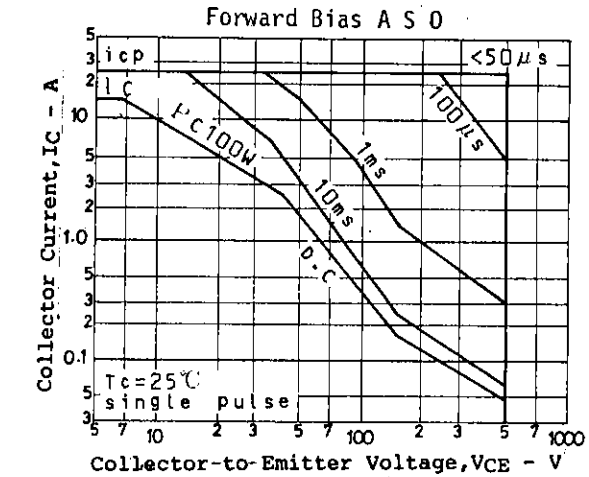


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			min	typ	max	unit
C-E Sustain Voltage	$V_{CE}(sus)$	$I_C=5A,$ $I_{B1}=-I_{B2}=2A,$ $L=500\mu H, \text{clamped}$	500			V
Turn-on Time	t_{on}	$V_{CC}=200V,$ $5I_{B1}=-2.5I_{B2}=I_C=7A,$ $R_L=28.6ohms$			0.5	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				0.3	μs

Switching Time Test Circuit





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