

**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 $\mu$ s typ.)
- Wide ASO
- Adoption of MBIT process

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

			unit
Collector-to-Base Voltage	VCBO	800	V
Collector-to-Emitter Voltage	VCEO	500	V
Emitter-to-Base Voltage	VEBO	7	V
Collector Current	IC	15	A
Peak Collector Current	icp	PW $\leq$ 300 $\mu$ s, Duty Cycle $\leq$ 10%	
Base Current	IB	4	A
Collector Dissipation	PC	Tc=25°C	
Junction Temperature	Tj	150	°C
storage Temperature	Tstg	-55 to +150	°C

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

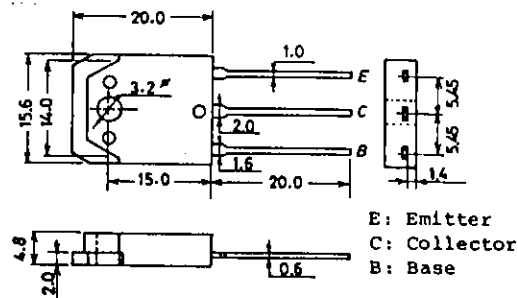
			min	typ	max	unit
Collector Cutoff Current	ICBO	VCB=500V, IE=0			10	$\mu$ A
Emitter Cutoff Current	IEBO	VEB=5V, IC=0			10	$\mu$ A
DC Current Gain	hFE(1)	VCE=5V, IC=1.2A	15*		50*	
	hFE(2)	VCE=5V, IC=6A	8			
Gain-Bandwidth Product	fT	VCE=10V, IC=1.2A		18		MHz
Output Capacitance	Cob	VCB=10V, f=1MHz		160		pF
C-E Saturation Voltage	VCE(sat)	IC=6A, IB=1.2A			1.0	V
B-E Saturation Voltage	VBE(sat)	IC=6A, IB=1.2A			1.5	V
C-B Breakdown Voltage	V(BR)CBO	IC=1mA, IE=0	800			V
C-E Breakdown Voltage	V(BR)CEO	IC=5mA, RBE= $\infty$	500			V
E-B Breakdown Voltage	V(BR)EBO	IE=1mA, IC=0	7			V

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

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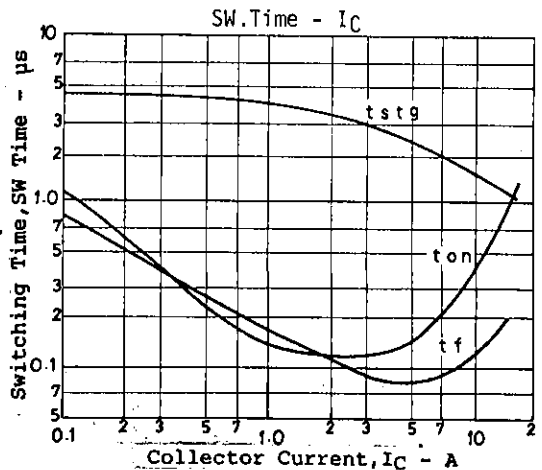
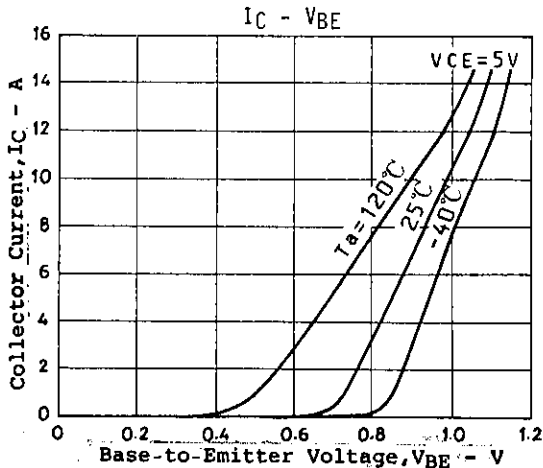
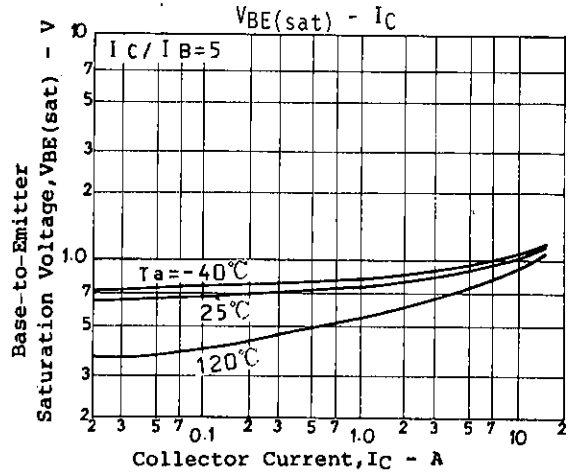
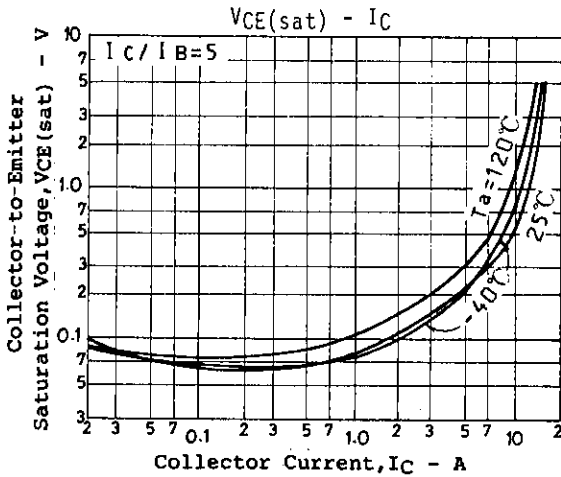
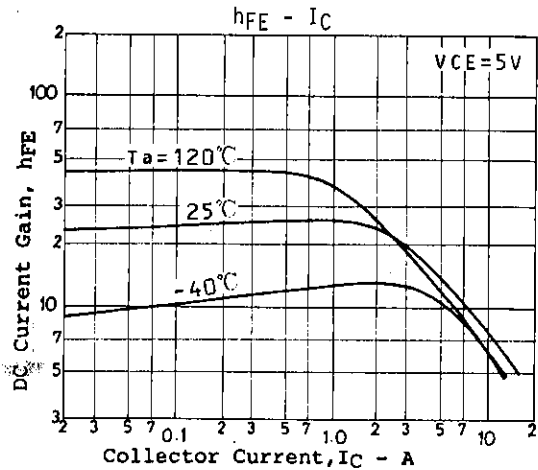
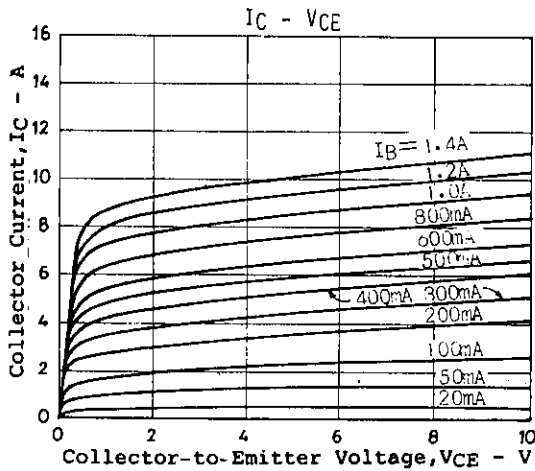
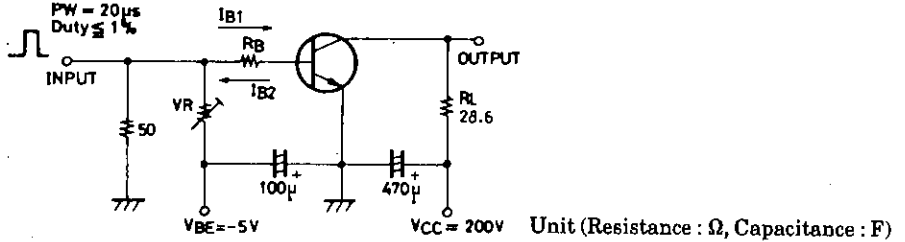
**Package Dimensions 2022**  
(unit:mm)

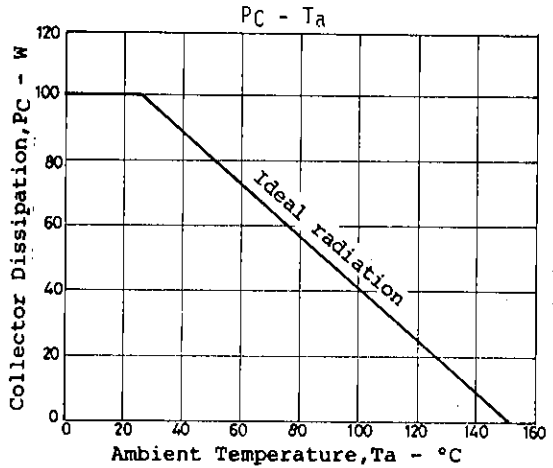
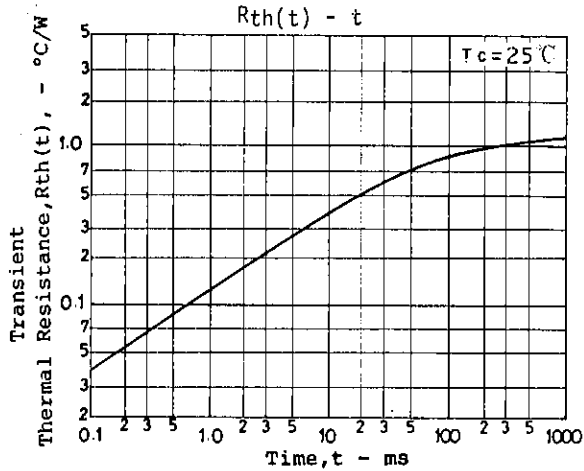
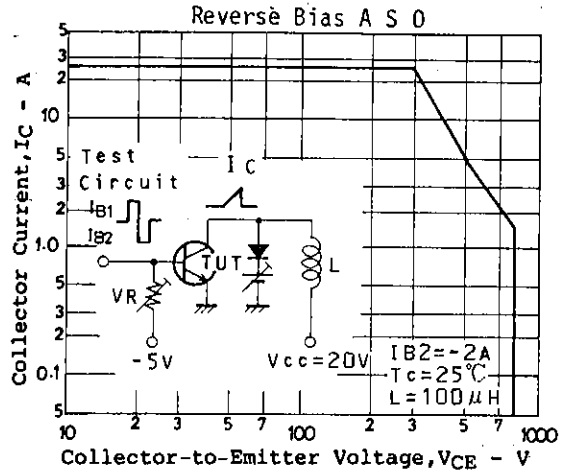
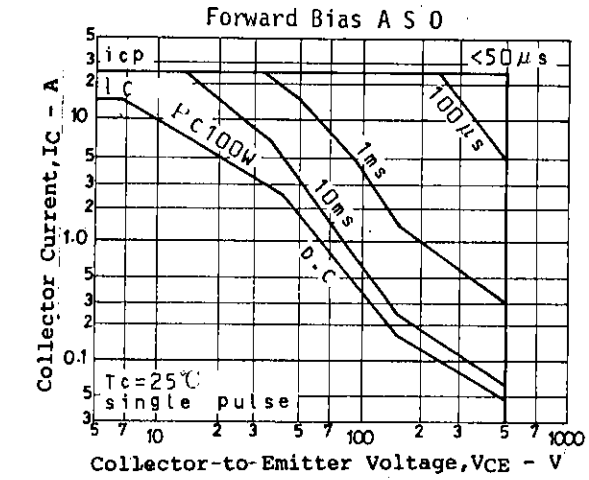


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			min	typ	max	unit
C-E Sustain Voltage	$V_{CE}(sus)$	$I_C=5A,$ $I_{B1}=-I_{B2}=2A,$ $L=500\mu H, clamped$	500			V
Turn-on Time	$t_{on}$	$V_{CC}=200V,$ $5I_{B1}=-2.5I_{B2}=I_C=7A,$ $R_L=28.6ohms$			0.5	$\mu s$
Storage Time	$t_{stg}$				3.0	$\mu s$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

Switching Time Test Circuit





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