

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	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 μ s, Duty Cycle \leq 10%	25
Base Current	IB	4	A
Collector Dissipation	PC	Tc=25°C	100
Junction Temperature	Tj		150
storage Temperature	Tstg		-55 to +150

Electrical Characteristics at Ta=25°C

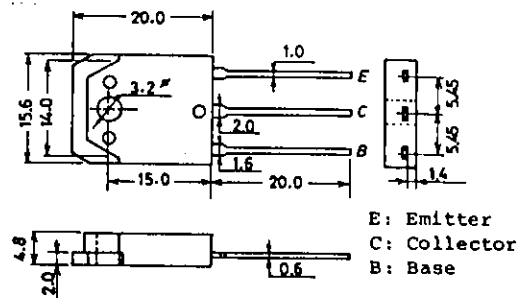
			min	typ	max	unit
Collector Cutoff Current	ICBO	VCB=500V, IE=0			10	μ A
Emitter Cutoff Current	IEBO	VEB=5V, IC=0			10	μ A
DC Current Gain	hFE(1)	VCE=5V, IC=1.2A	15*		50*	
	hFE(2)	VCE=5V, IC=6A	8			
Gain-Bandwidth Product	fT	VCE=10V, IC=1.2A		18		MHz
Output Capacitance	Cob	VCB=10V, f=1MHz		160		pF
C-E 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= ∞	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
----	---	----	----	---	----	----	---	----

Continued on next page.

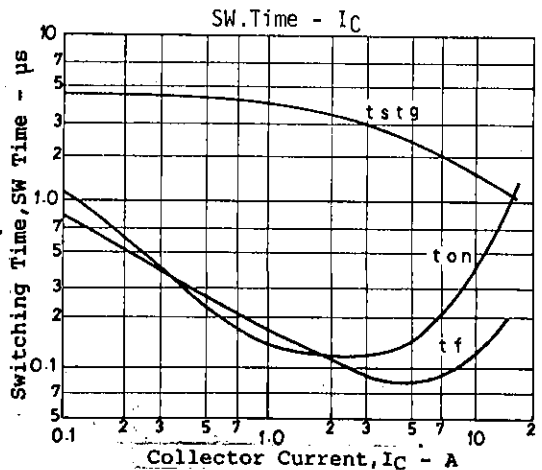
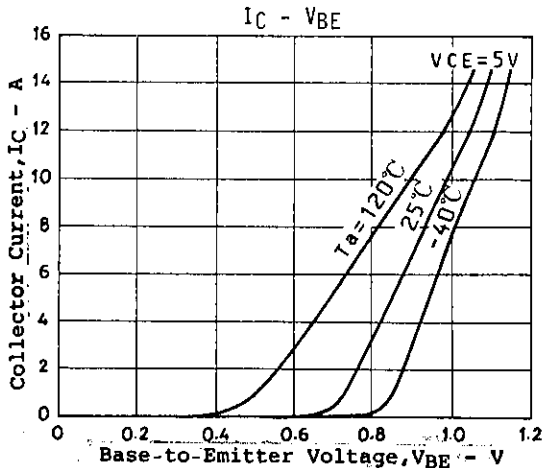
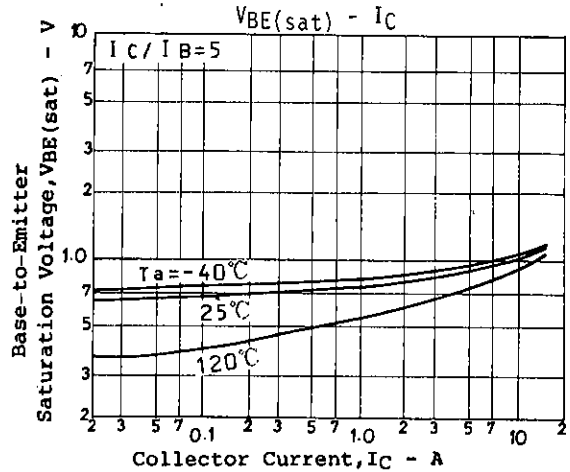
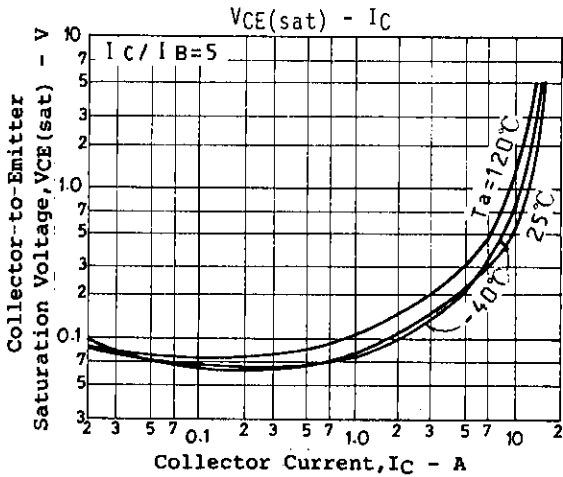
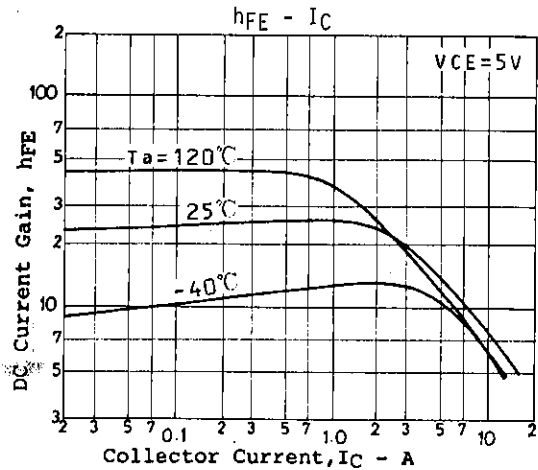
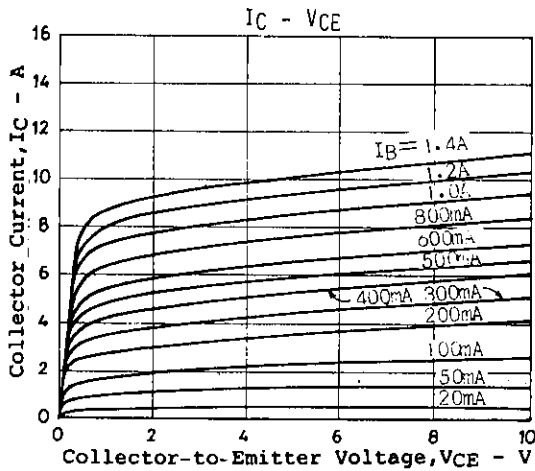
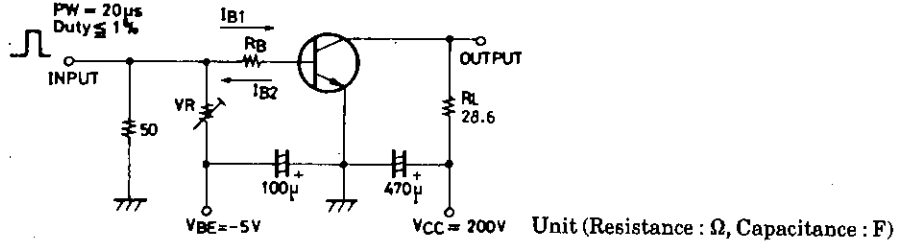
Package Dimensions 2022
(unit:mm)

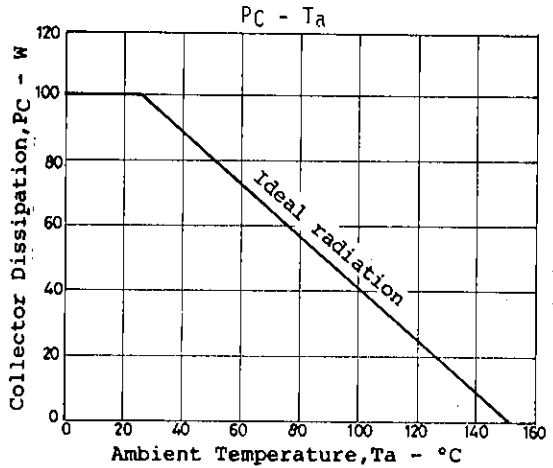
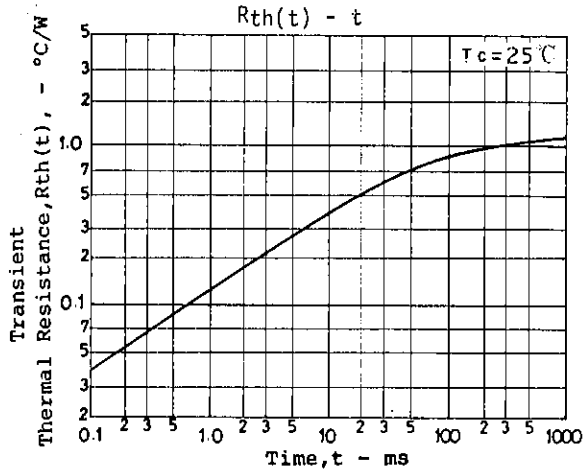
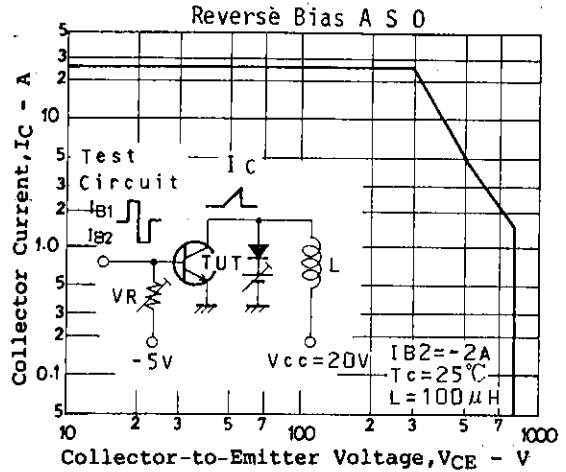
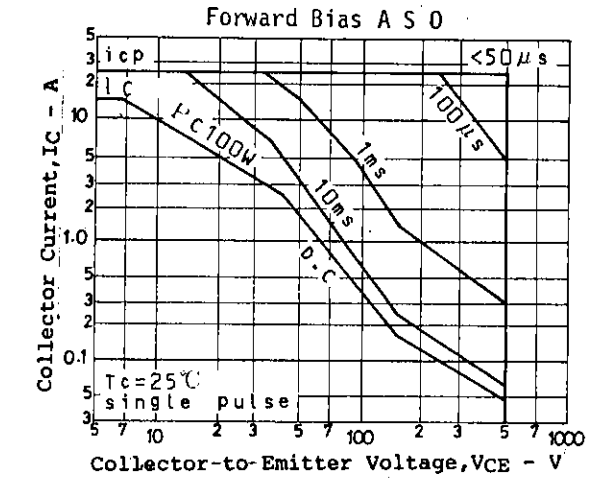


Continued from preceding page.

			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	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				0.3	μs

Switching Time Test Circuit





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.