

<b>SANYO</b>	No.3143	2SC4597
		NPN Triple Diffused Planar Silicon Transistor Switching Regulator Applications

**Features**

- Surface mount type device making the following possible
  - Reduction in the number of manufacturing processes for 2SC4597-applied equipment
  - High density surface mount applications
  - Small size of 2SC4597-applied equipment
- High breakdown voltage, high reliability
- Fast switching speed
- Wide ASO
- Adoption of MBIT process

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

Collector to Base Voltage	V <sub>CB0</sub>		500	V
Collector to Emitter Voltage	V <sub>CEO</sub>		400	V
Emitter to Base Voltage	V <sub>EBO</sub>		7	V
Collector Current	I <sub>C</sub>		4	A
Collector Current(Pulse)	I <sub>CP</sub>	PW ≤ 300μs, duty cycle ≤ 10%	8	A
Base Current	I <sub>B</sub>		1.5	A
Collector Dissipation	P <sub>C</sub>		1.65	W
		T <sub>c</sub> = 25°C	40	W
Junction Temperature	T <sub>j</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

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

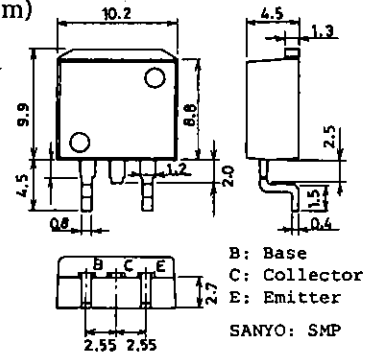
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Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = 400V, I <sub>E</sub> = 0			10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0			10	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> = 5V, I <sub>C</sub> = 0.4A	15※		50※	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = 5V, I <sub>C</sub> = 2A	10			
	h <sub>FE</sub> (3)	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	10			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.4A		20		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> = 10V, f = 1MHz		50		pF
C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 2A, I <sub>B</sub> = 0.4A			0.8	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 2A, I <sub>B</sub> = 0.4A			1.5	V

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※ : For the h<sub>FE</sub>(1) of the 2SC4597, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
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**Package Dimensions 2069**  
(unit : mm)

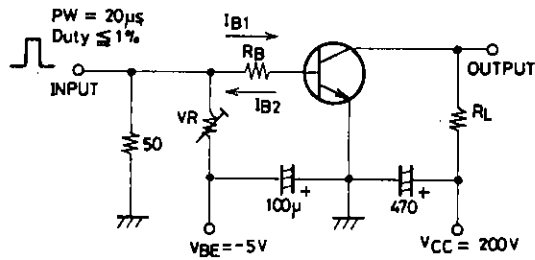


## 2SC4597

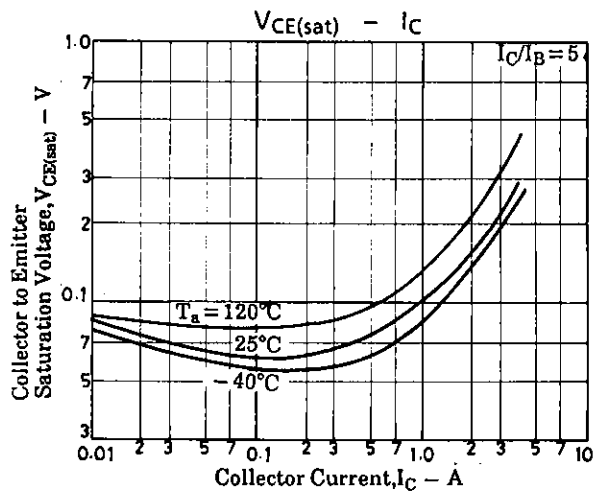
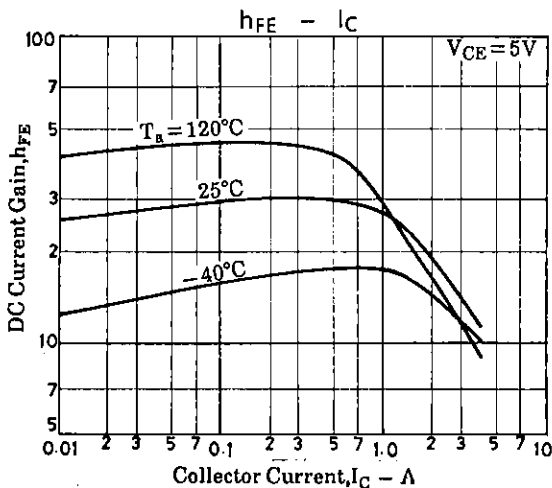
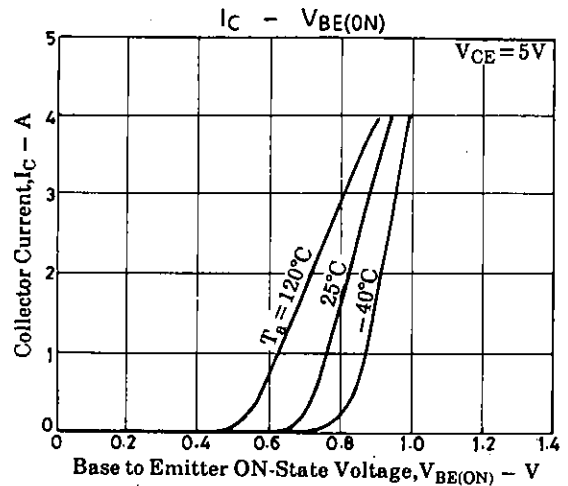
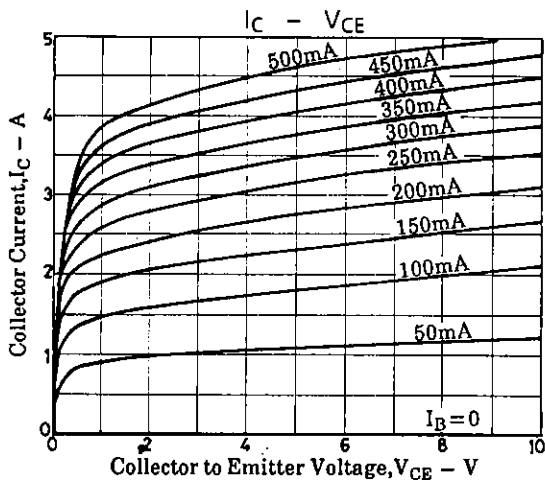
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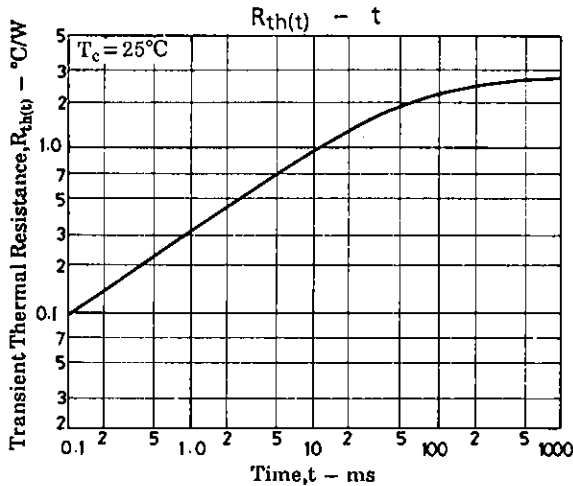
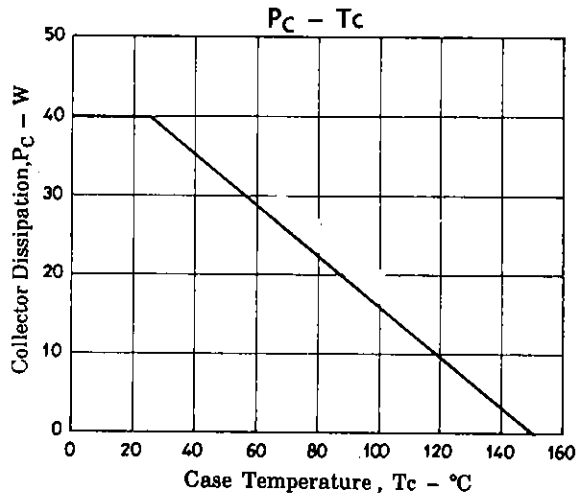
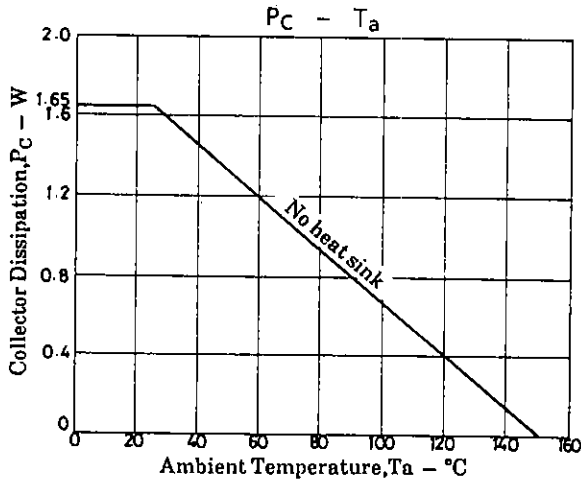
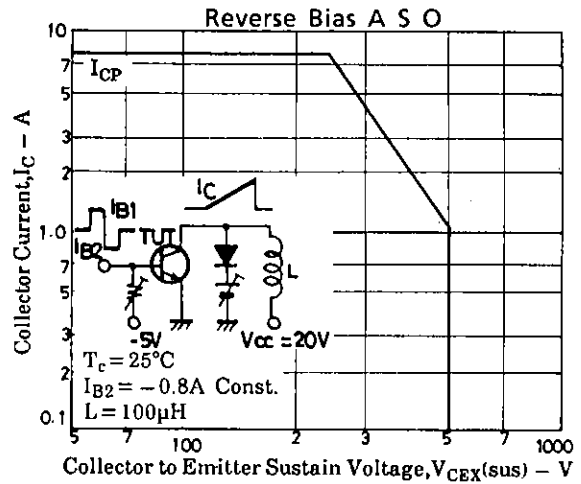
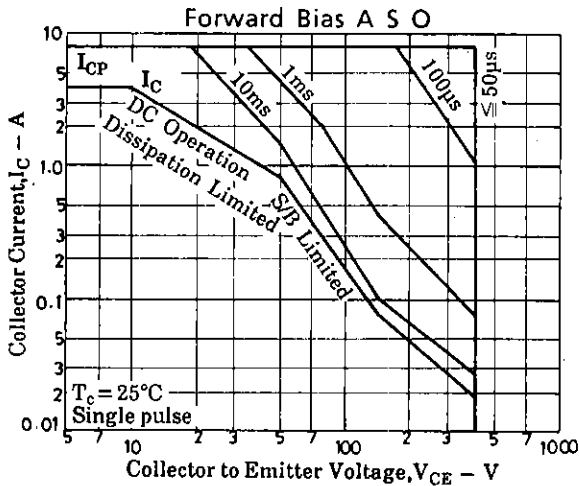
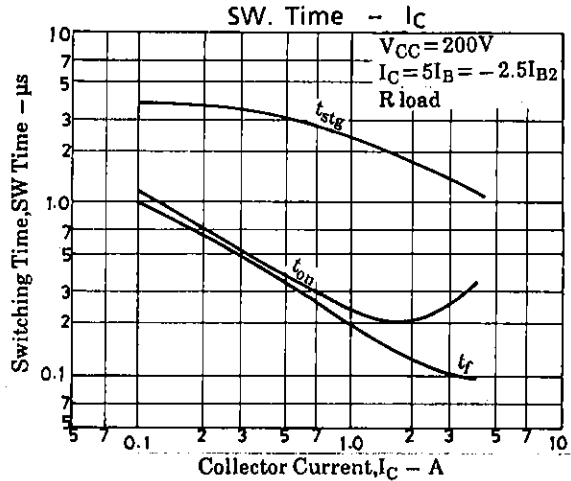
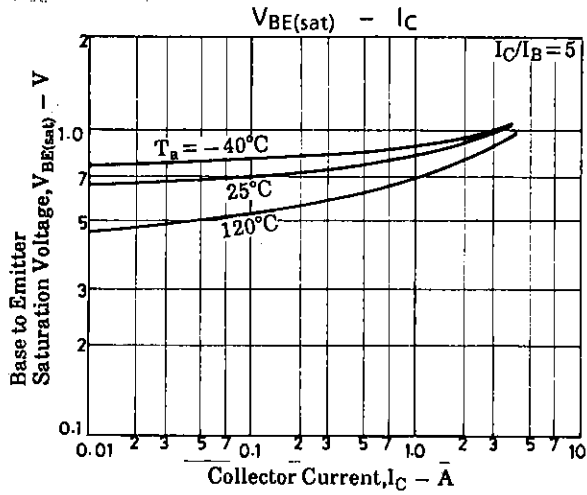
			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5\text{mA}, R_{BE} = \infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 2\text{A}, I_{B1} = 0.2\text{A},$ $L = 1\text{mH}, I_{B2} = -0.8\text{A}, \text{clamped}$	400			V
Turn-ON Time	$t_{on}$	$I_C = 3\text{A}, I_{B1} = 0.6\text{A},$ $I_{B2} = -1.2\text{A}, R_L = 66.6\Omega,$ $V_{CC} = 200\text{V}$			0.5	$\mu\text{s}$
Storage Time	$t_{stg}$				2.5	$\mu\text{s}$
Fall Time	$t_f$				0.3	$\mu\text{s}$

### Switching Time Test Circuit



Unit (Resistance :  $\Omega$ , Capacitance : F)





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