

<b>SANYO</b>	No.3145	<b>2SC4599</b>
	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 2SC4599-applied equipment
- High density surface mount applications
- Small size of 2SC4599-applied equipment
- High breakdown voltage, high reliability
- Fast switching speed
- Wide ASO
- Adoption of MBIT process

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

			unit
Collector to Base Voltage	V <sub>CB0</sub>	800	V
Collector to Emitter Voltage	V <sub>CEO</sub>	500	V
Emitter to Base Voltage	V <sub>EBO</sub>	7	V
Collector Current	I <sub>C</sub>	3	A
Collector Current(Pulse)	I <sub>CP</sub>	6	A
Base Current	I <sub>B</sub>	1	A
Collector Dissipation	P <sub>C</sub>	1.65	W
		40	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

T<sub>c</sub> = 25°C

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

			min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = 500V, 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> = 0.3A	15※		50※	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1.5A	8			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.3A		18		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> = 1.5A, I <sub>B</sub> = 0.3A			1.0	V
B-E Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 1.5A, I <sub>B</sub> = 0.3A			1.5	V

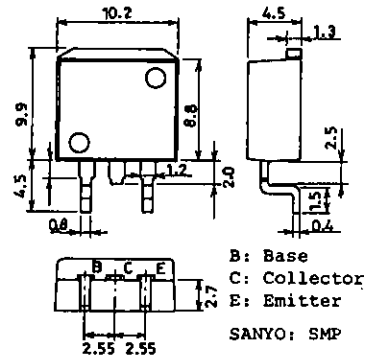
Continued on next page.

※ : For the h<sub>FE</sub>(1) of the 2SC4599, specify two ranks or more in principle.

15 L 30	20 M 40	30 N 50
---------	---------	---------

**Package Dimensions 2069**

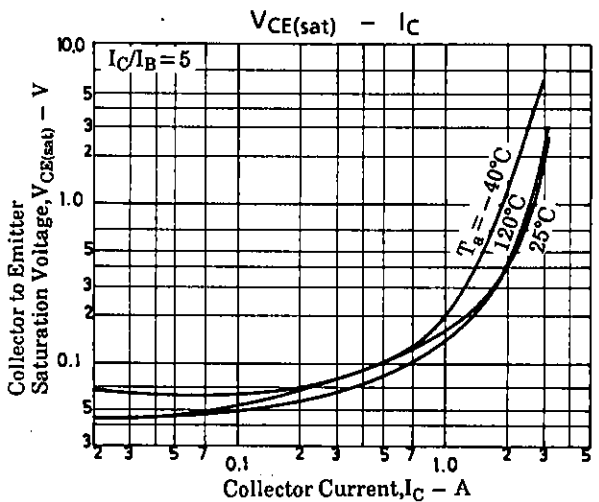
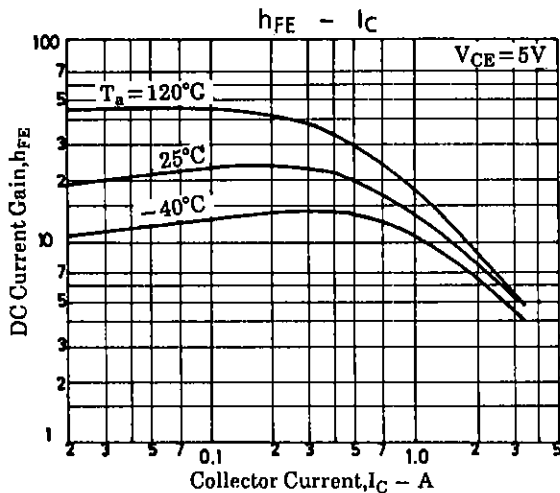
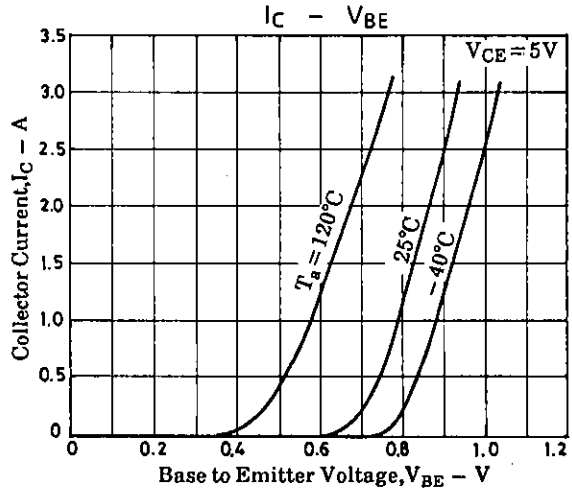
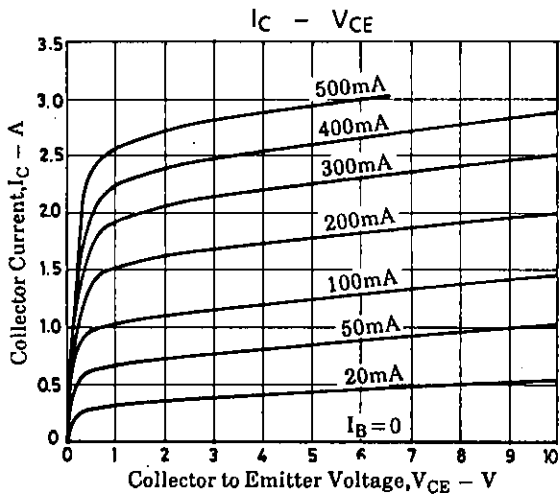
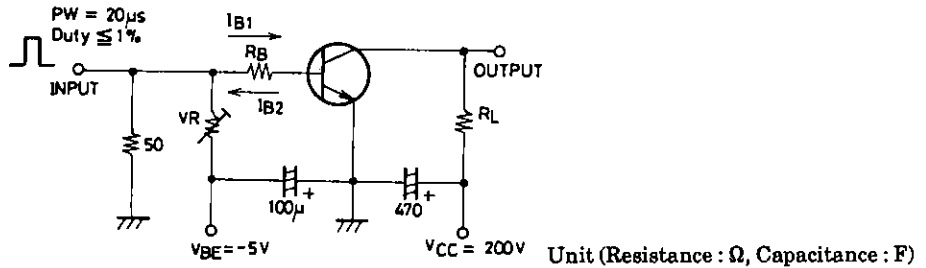
(unit: mm)

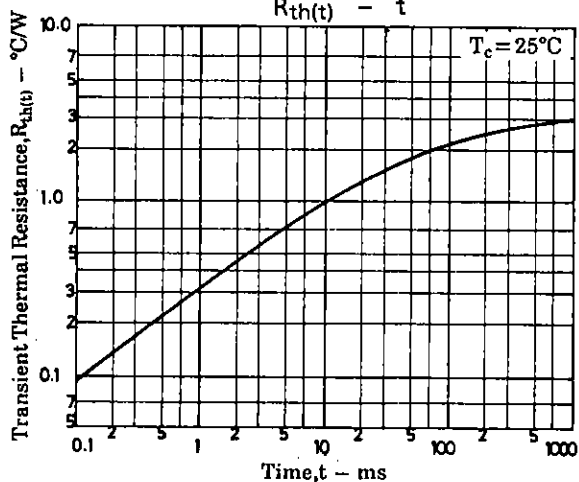
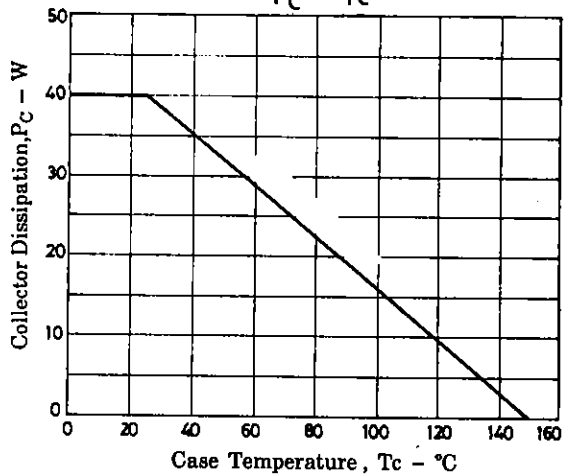
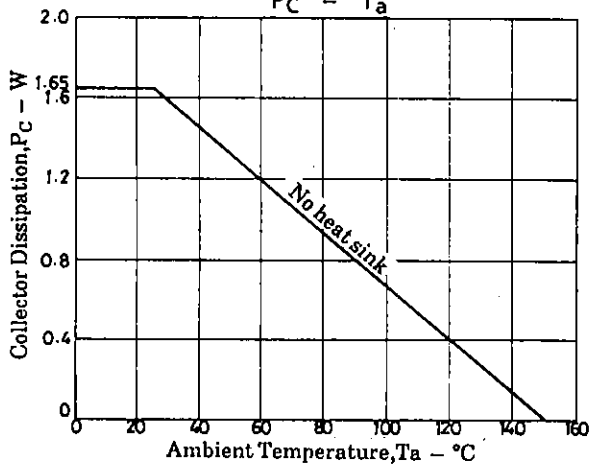
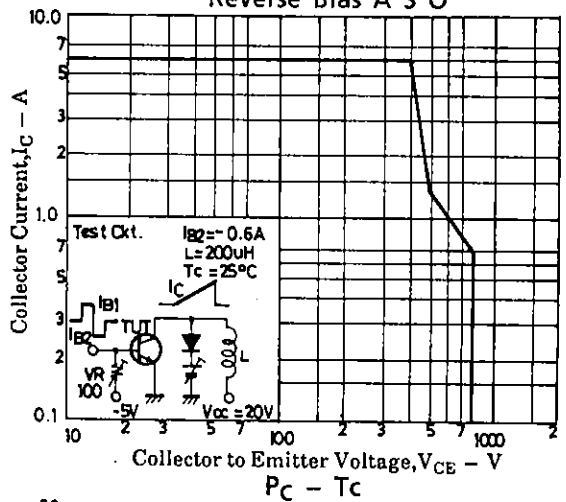
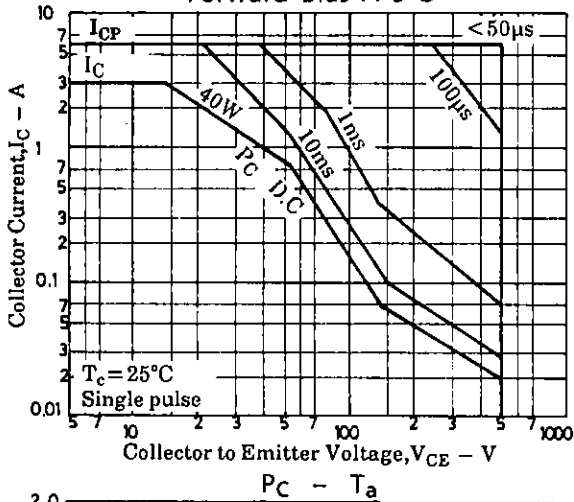
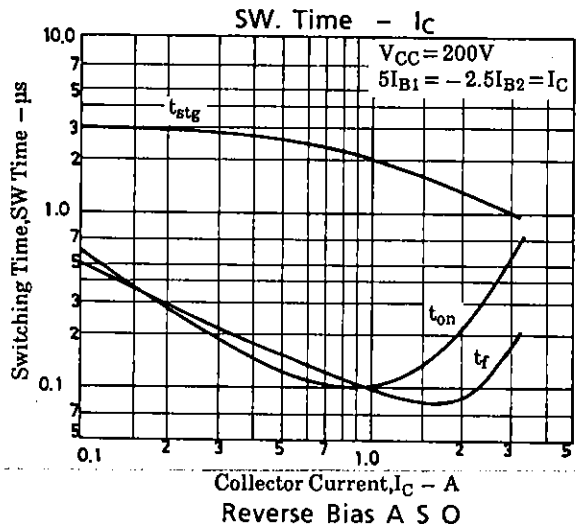
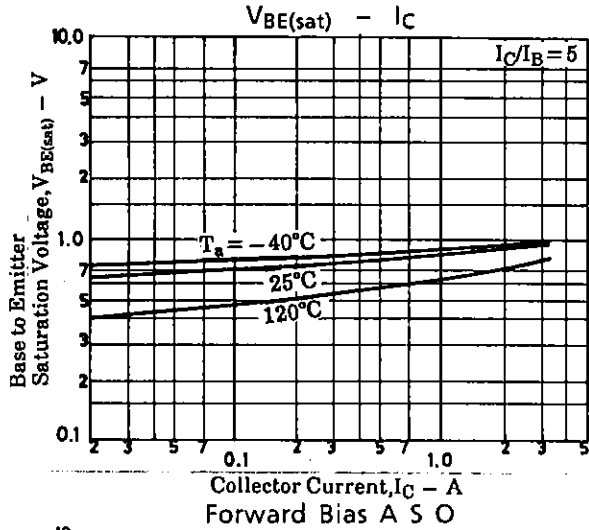


Continued from preceding page.

			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 5\text{mA}, R_{BE} = \infty$	500			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C = 1.5\text{A}, I_{B1} = 0.6\text{A},$ $L = 2\text{mH}, I_{B2} = -0.6\text{A}, \text{clamped}$	500			V
Turn-ON Time	$t_{on}$	$I_C = 2\text{A}, I_{B1} = 0.4\text{A},$ $I_{B2} = -0.8\text{A}, R_L = 100\Omega,$ $V_{CC} = 200\text{V}$			0.5	$\mu\text{s}$
Storage Time	$t_{stg}$				3.0	$\mu\text{s}$
Fall Time	$t_f$				0.3	$\mu\text{s}$

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.