

<b>SANYO</b>	No.2470A	<b>2SC4105</b>
		NPN Triple Diffused Planar Type Silicon Transistor

SWITCHING REGULATOR APPLICATIONS

**Features**

- . High breakdown voltage and 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>	500	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>	400	V
Emitter-to-Base Voltage	V <sub>EB0</sub>	7	V
Collector Current	I <sub>C</sub>	4	A
Peak Collector Current	i <sub>cp</sub>	8	A
Base Current	I <sub>B</sub>	1.5	A
Collector Dissipation	P <sub>C</sub>	1.75	W
		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**

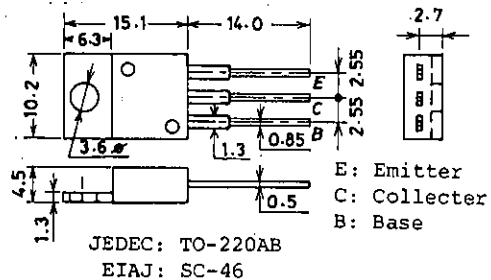
			min	typ	max	unit
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =400V, I <sub>E</sub> =0			10	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			10	μA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =5V, I <sub>C</sub> =0.4A	15*		50*	
	h <sub>FE</sub> (2)	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			
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
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

Continued on next page.

\*: The h<sub>FE1</sub> of the 2SC4105 is classified as follows. When specifying the h<sub>FE1</sub> rank, specify two ranks or more in principle.

15	L	30	20	M	40	30	N	50
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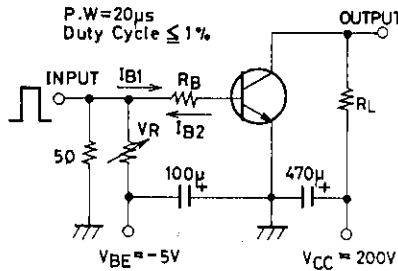
**Package Dimensions 2010A**  
(unit:mm)



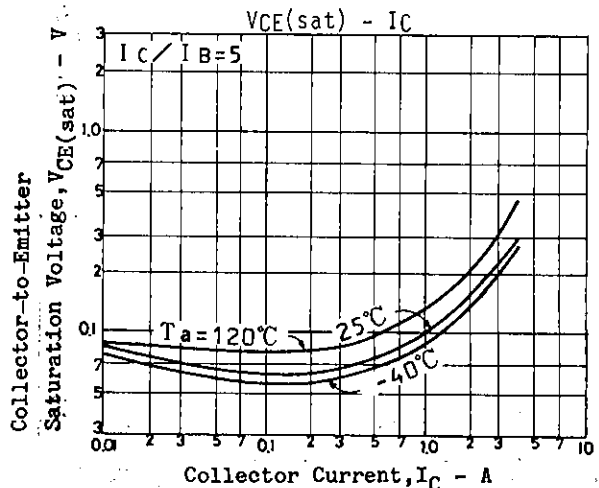
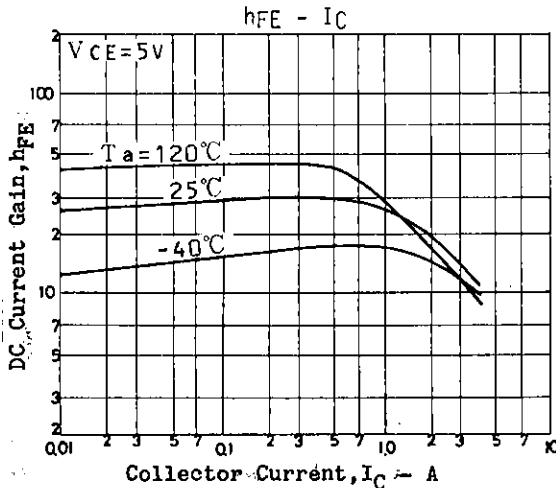
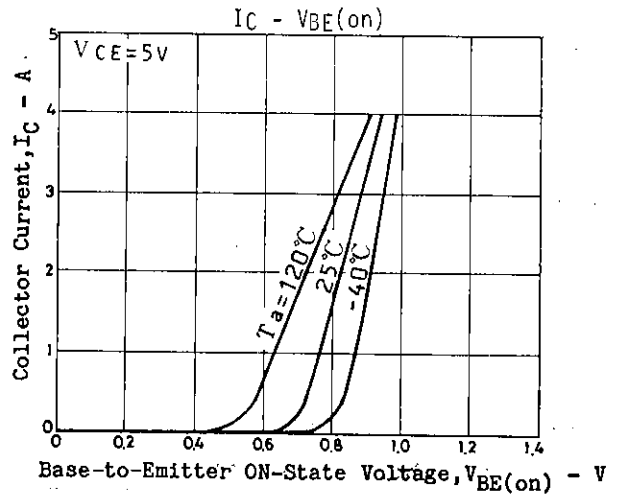
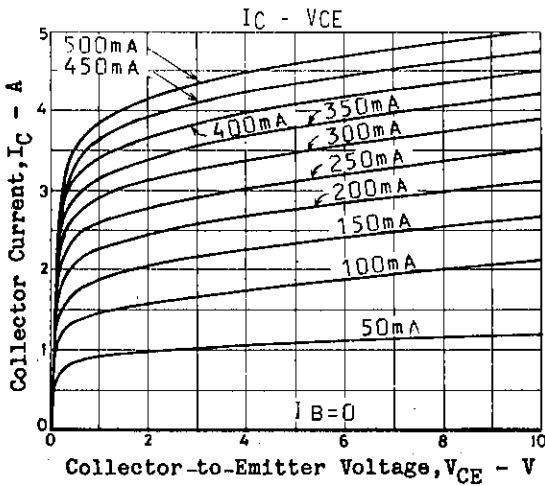
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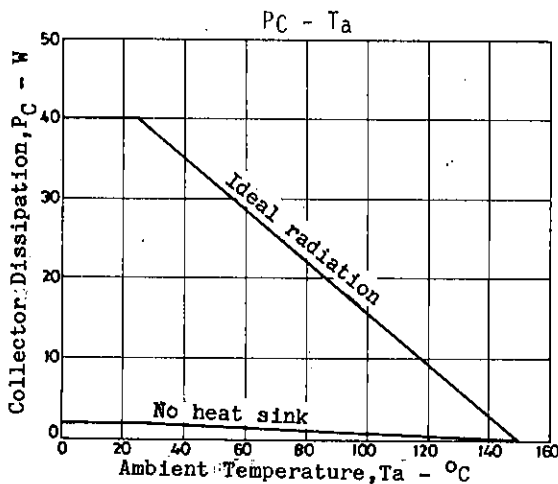
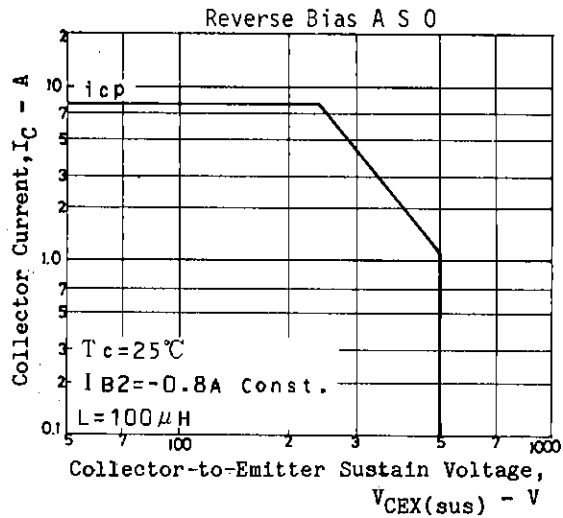
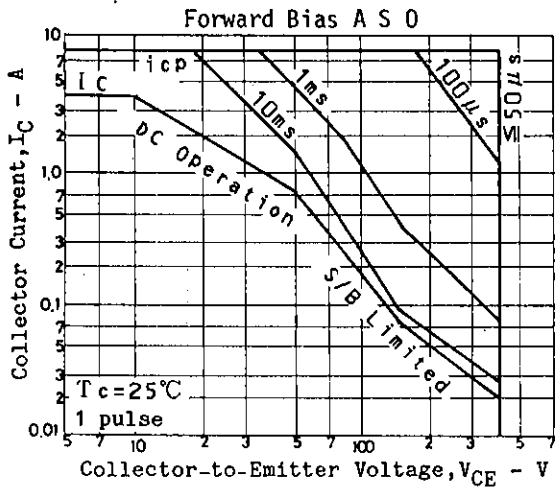
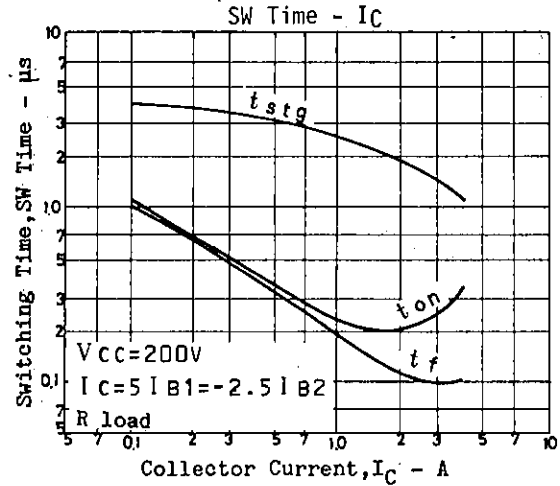
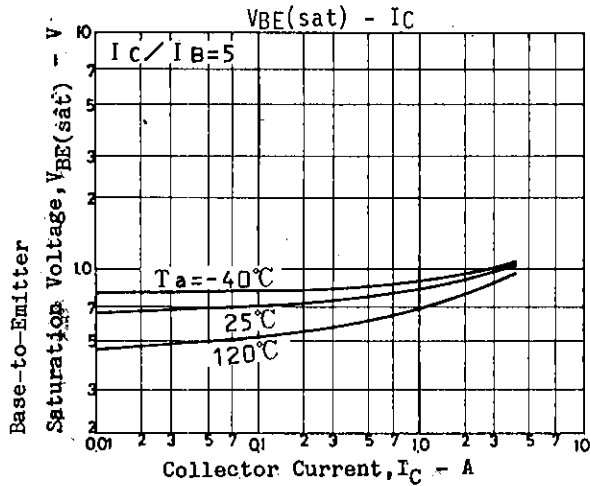
			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=2A, I_{B1}=0.2A,$ $I_{B2}=-0.8A, L=1mH, \text{clamped}$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

Switching Time Test Circuit



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





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