

SANYO	No.2470A	2SC4105
		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

Collector-to-Base Voltage	V_{CB0}	500	V
Collector-to-Emitter Voltage	V_{CE0}	400	V
Emitter-to-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	4	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, \text{duty cycle} \leq 10\%$	8 A
Base Current	I_B	1.5	A
Collector Dissipation	P_C	1.75	W
		$T_c = 25^\circ C$	40 W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

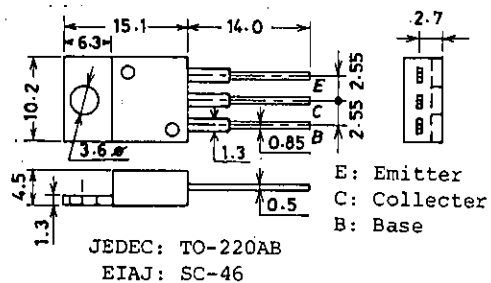
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=400V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=0.4A$	15*		50*	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=2A$	10			
	$h_{FE(3)}$	$V_{CE}=5V, I_C=10mA$	10			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.4A$			0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.4A$			1.5	V
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.4A$		20		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1MHz$		50		pF

Continued on next page.

*: The h_{FE1} of the 2SC4105 is classified as follows. When specifying the h_{FE1} rank, specify two ranks or more in principle.

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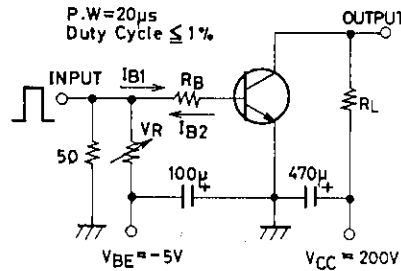
Package Dimensions 2010A
(unit:mm)



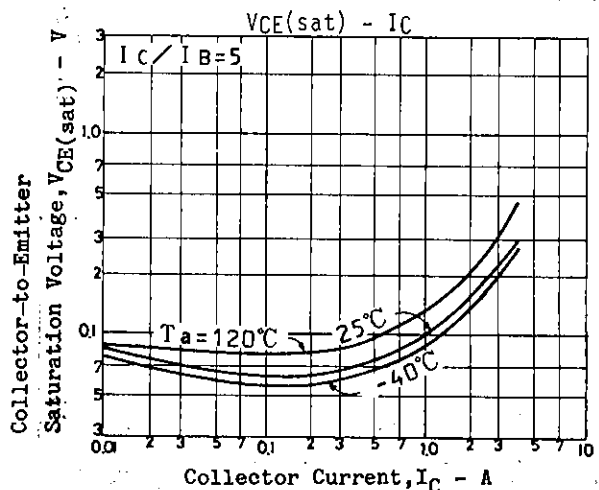
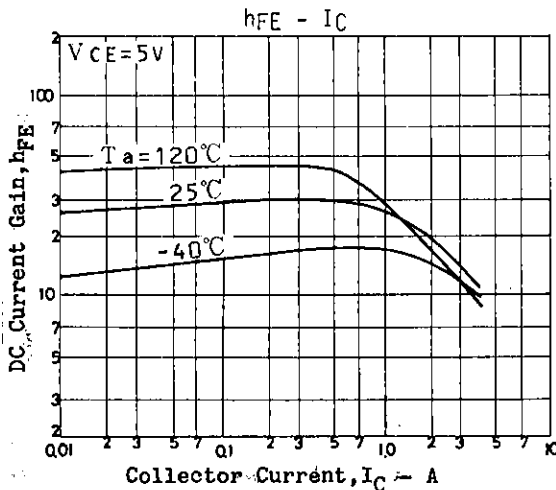
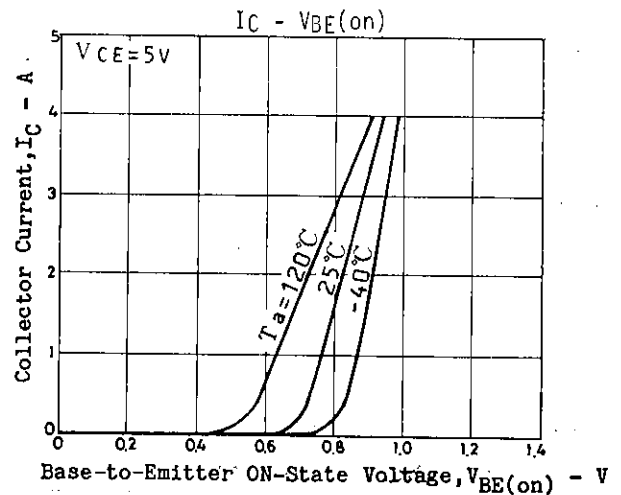
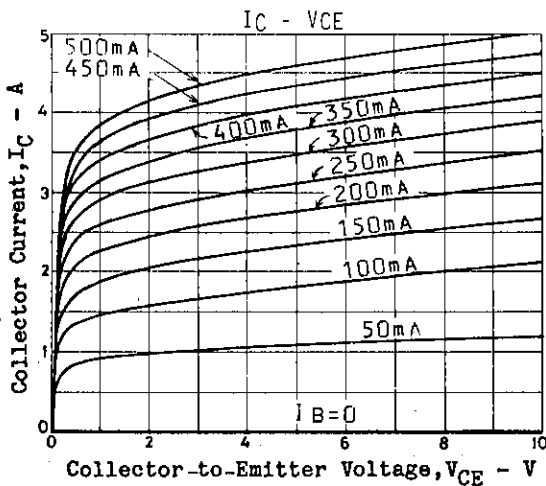
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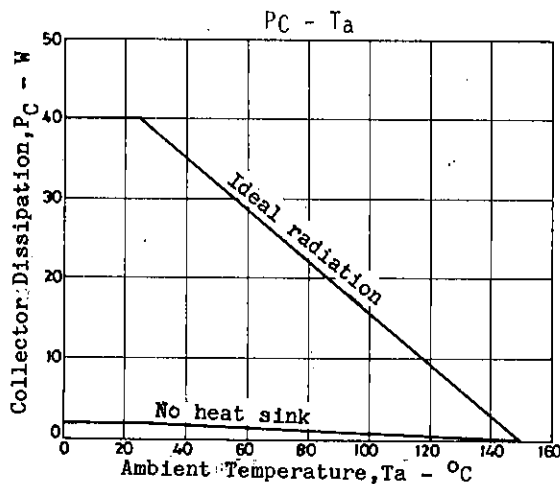
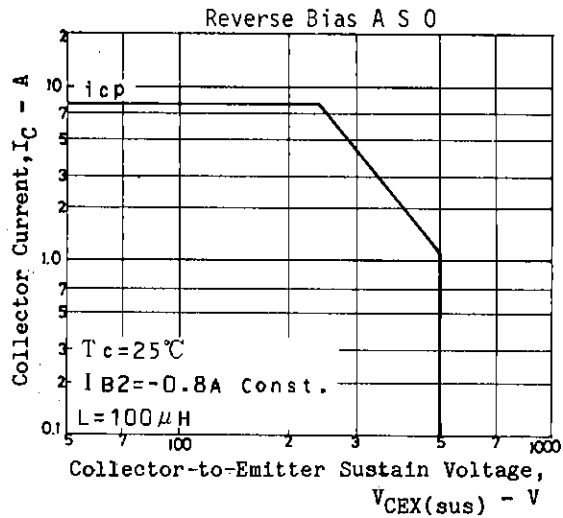
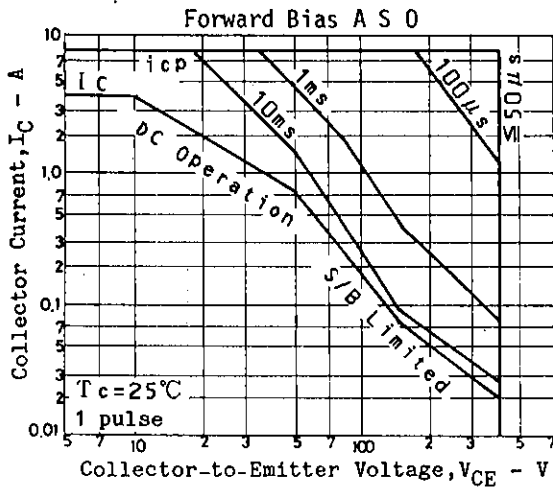
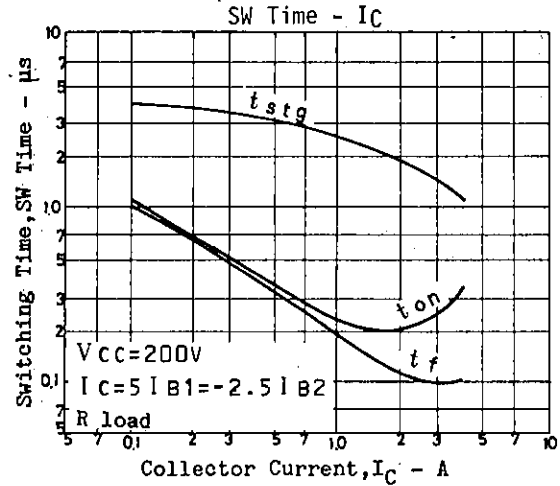
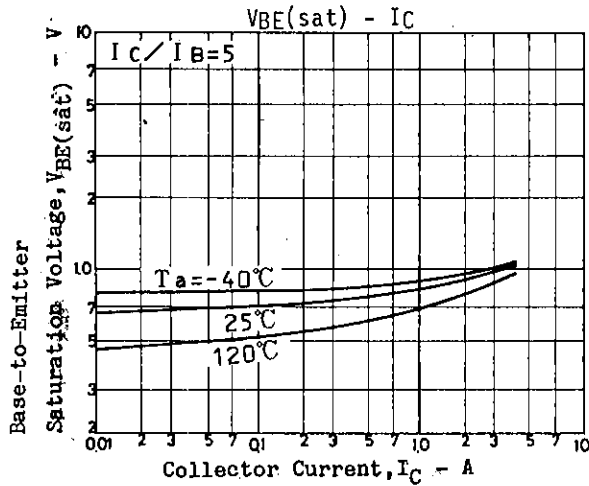
			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=2A, I_{B1}=0.2A,$ $I_{B2}=-0.8A, L=1mH, \text{clamped}$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

Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)





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