

SANYO

No.2472A

2SC4107

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 $T_a=25^{\circ}\text{C}$

Absolute Maximum Ratings at Ta=25°C				unit
Collector-to-Base Voltage	V _{CBO}	500	V	
Collector-to-Emitter Voltage	V _{CEO}	400	V	
Emitter-to-Base Voltage	V _{EB0}	7	V	
Collector Current	I _C	10	A	
Peak Collector Current	i _{op}	PW≤300μs,duty cycle≤10%		20
Base Current	I _B	3.5	A	
Collector Dissipation	P _C	1.75	W	
		Ta=25°C		60
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{atg}	-55 to +150		°C

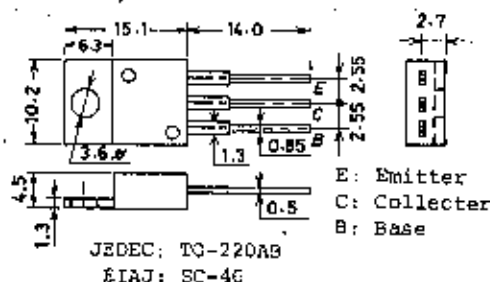
Electrical Characteristics at $T_a=25^{\circ}\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=400\text{V}, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=1.2\text{A}$	15*		50*	
	$h_{FE}(2)$	$V_{CE}=5\text{V}, I_C=6\text{A}$	10			
	$h_{FE}(3)$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	10			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=6\text{A}, I_B=1.2\text{A}$			0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=6\text{A}, I_B=1.2\text{A}$			1.5	V
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=1.2\text{A}$		20		MHz
Output Capacitance	c_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		120		pF

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- *: The h_{FE1} of the 2SC4107 is classified as follows. When specifying the h_{FE1} rank, specify two ranks or more in principle.

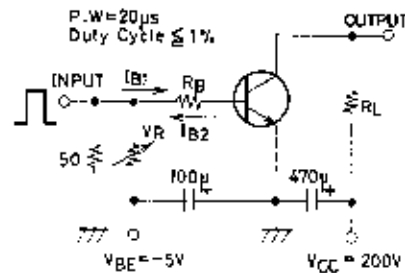
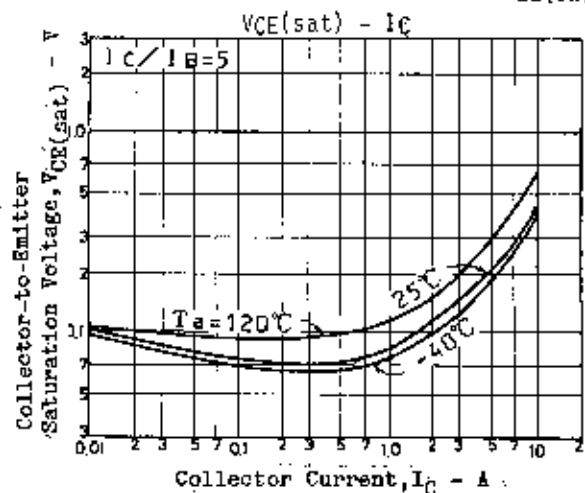
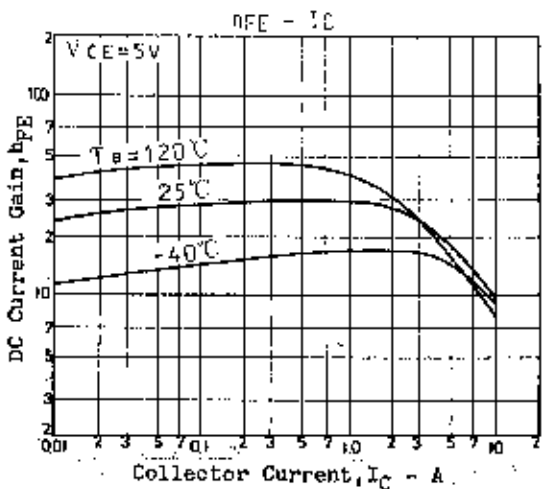
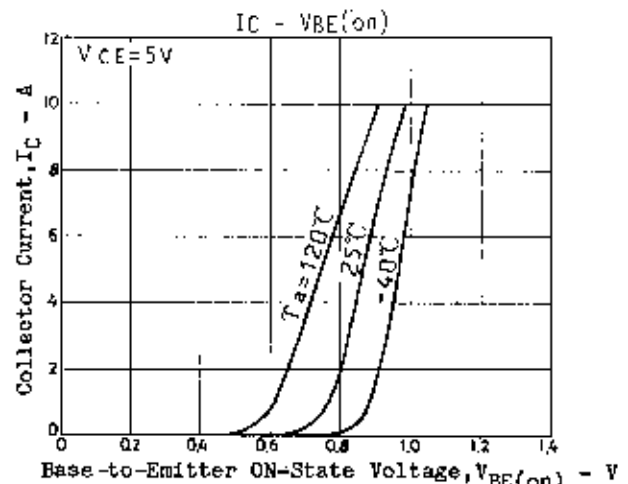
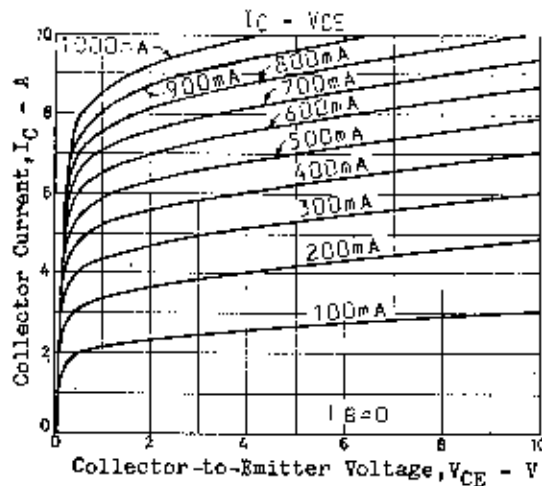
15	L	30	20	M	40	30	N	50
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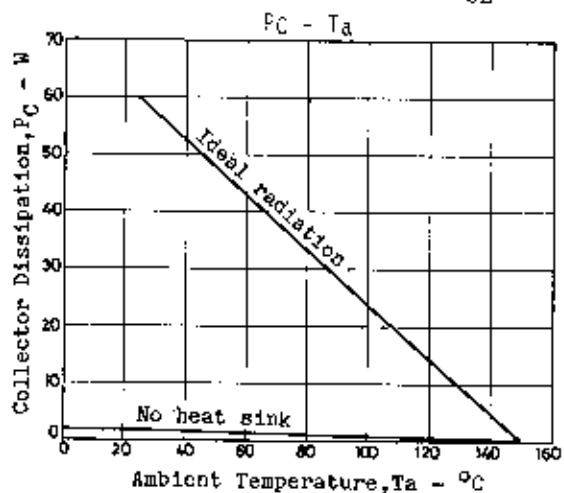
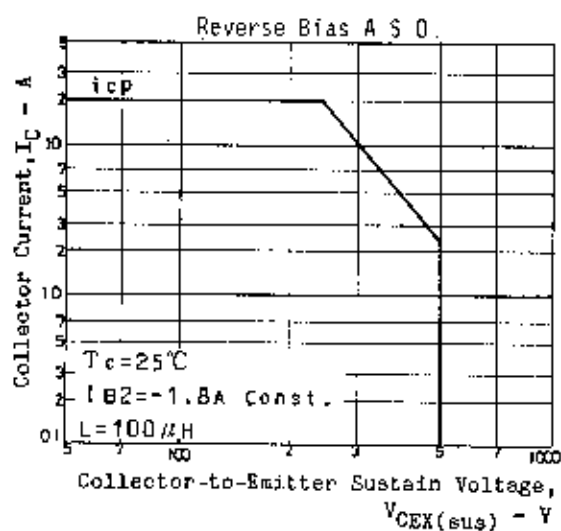
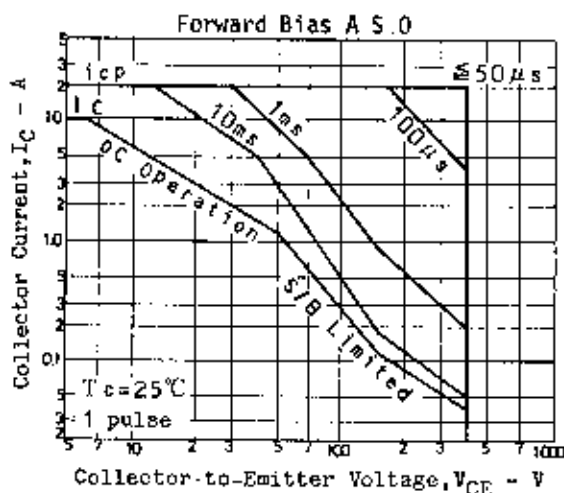
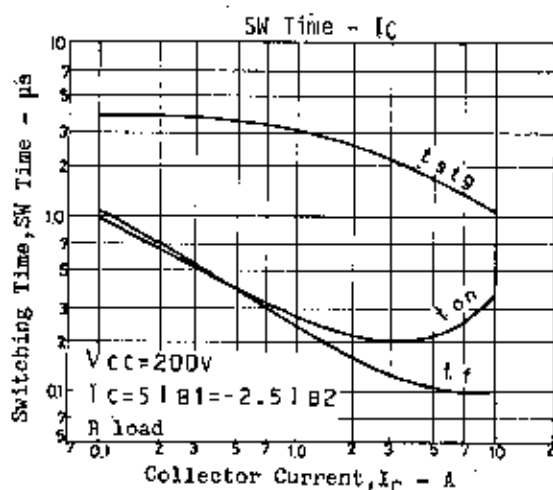
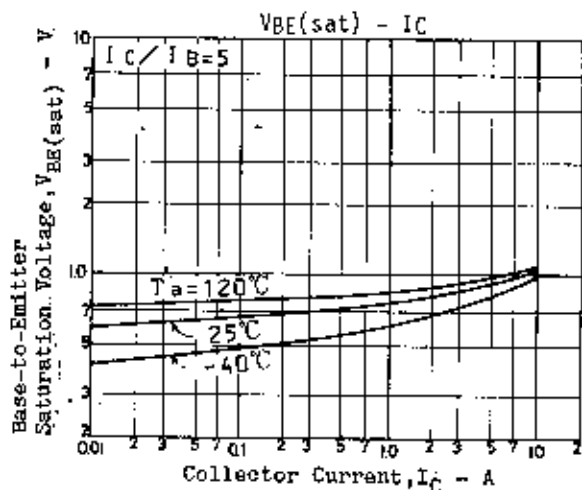
Package Dimensions 2010A
(unit: mm)

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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	$V_{CEX(sus)}$	$I_C=4.5A, I_{B1}=0.45A,$ $I_{B2}=-1.8A, L=500\mu H,$ clamped	400			V
Turn-on Time	t_{on}	$I_C=7A, I_{B1}=1.4A,$ $I_{B2}=-2.8A, R_L=28.6ohms,$ $V_{CC}=200V$			0.5	μs
Storage Time	t_{stg}	$I_C=7A, I_{B1}=1.4A,$ $I_{B2}=-2.8A, R_L=28.6ohms,$ $V_{CC}=200V$			2.5	μs
Fall Time	t_f	$I_C=7A, I_{B1}=1.4A,$ $I_{B2}=-2.8A, R_L=28.6ohms,$ $V_{CC}=200V$			0.3	μs

Switching Time Test Circuit

Unit (Resistance : Ω , Capacitance : F)



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