

SANYO

No.2547A

2SC4171

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage ($V_{CBO} \geq 800V$)
- Fast switching speed
- Wide ASO
- Suitable for sets whose height is restricted

Absolute Maximum Ratings at $T_a = 25^\circ C$

Collector to Base Voltage	V_{CBO}	800	V	
Collector to Emitter Voltage	V_{CEO}	500	V	
Emitter to Base Voltage	V_{EBO}	7	V	
Collector Current	I_C	3	A	
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, \text{Duty Cycle} \leq 10\%$	6	A
Base Current	I_B	1	A	
Collector Dissipation	P_C	1.65	W	
		40	W	
Junction Temperature	T_j	150	$^{\circ}C$	
Storage Temperature	T_{stg}	-55 to +150	$^{\circ}C$	

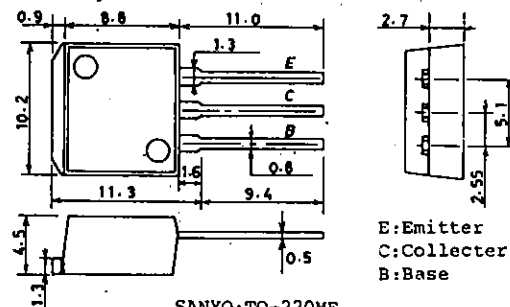
Electrical Characteristics at $T_a = 25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 500V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 0.3A$	15*		50*	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 1.5A$	8			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.5	V
Gain-Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.3A$		18		MHz
Output Capacitance	c_{ob}	$V_{CB} = 10V, f = 1MHz$		40		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	500			V
B-E Breakdown Voltage	$V_{(BR)BEO}$	$I_E = 1mA, I_C = 0$	7			V

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*: The $h_{FE(1)}$ of the 2SC4171 is classified as follows. When specifying the $h_{FE(1)}$ rank, specify two ranks or more in principle.

15	L	30	20	M	40	30	N	50
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Package Dimensions 2049
(unit: mm)

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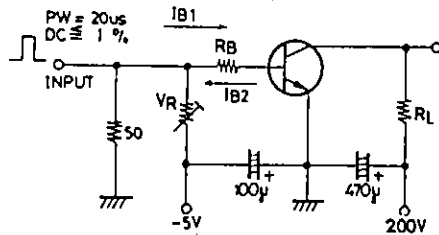
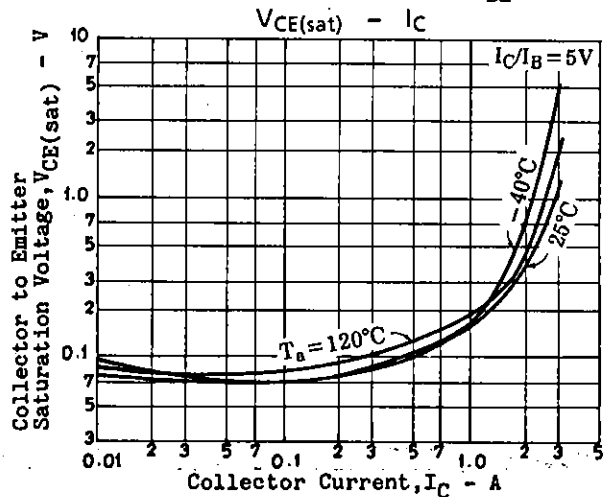
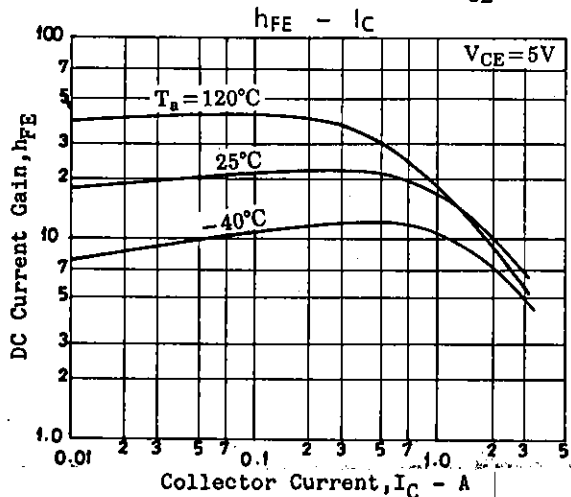
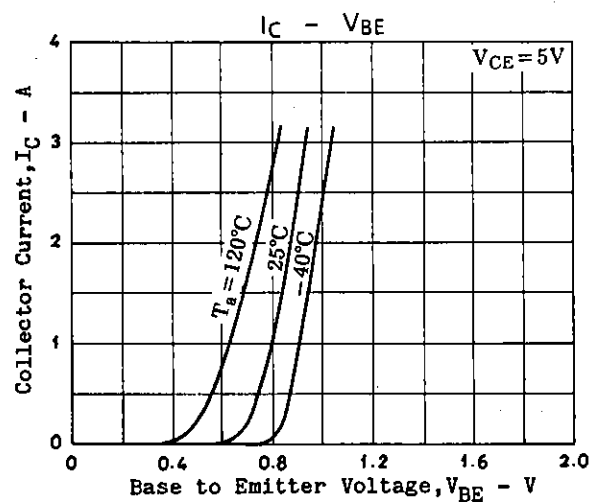
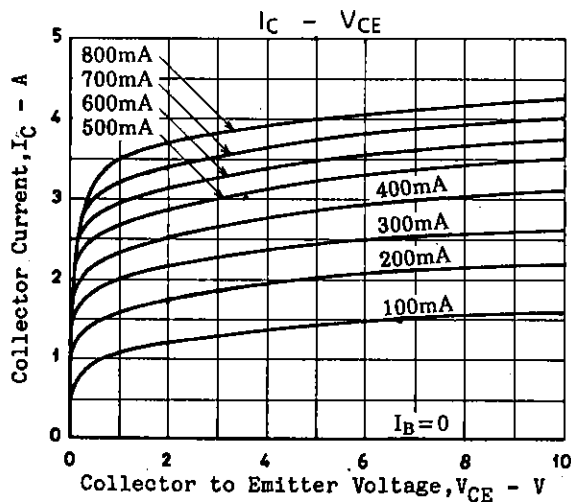
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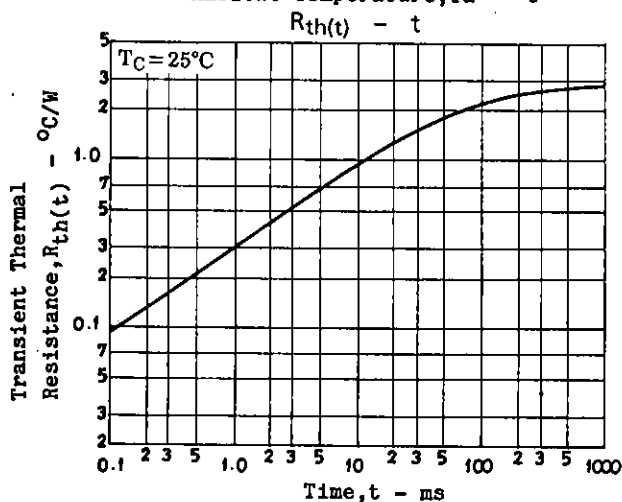
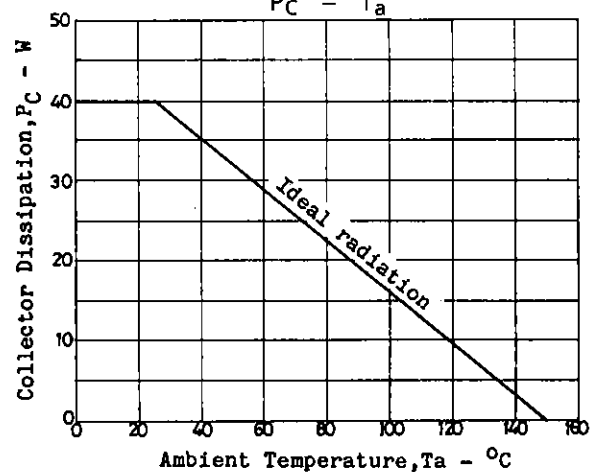
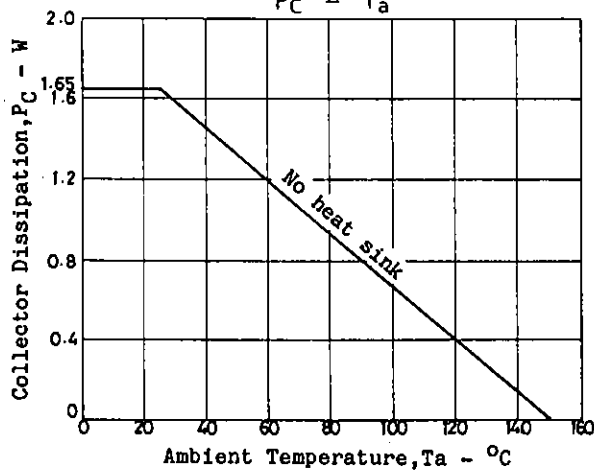
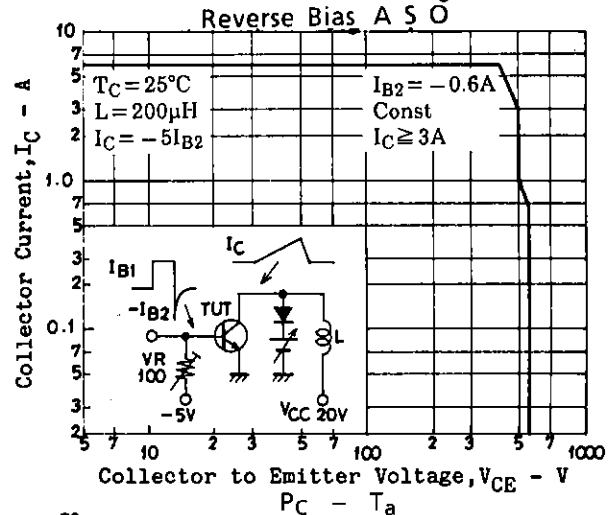
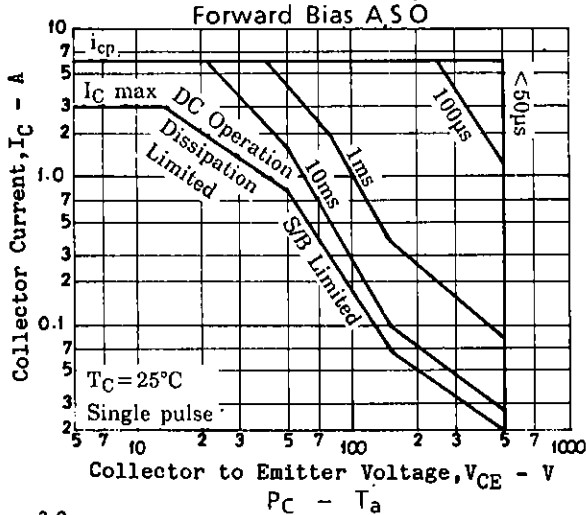
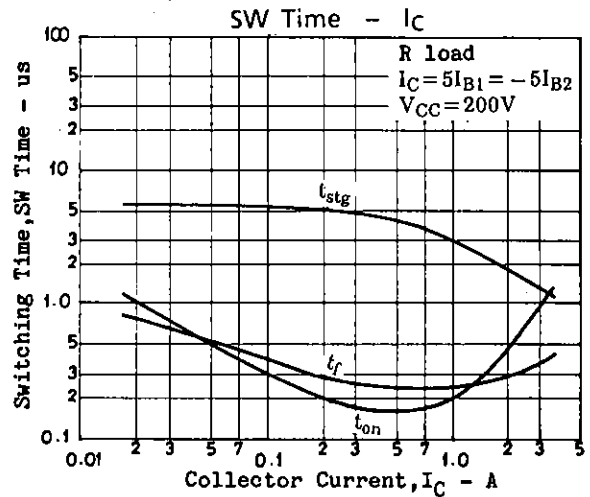
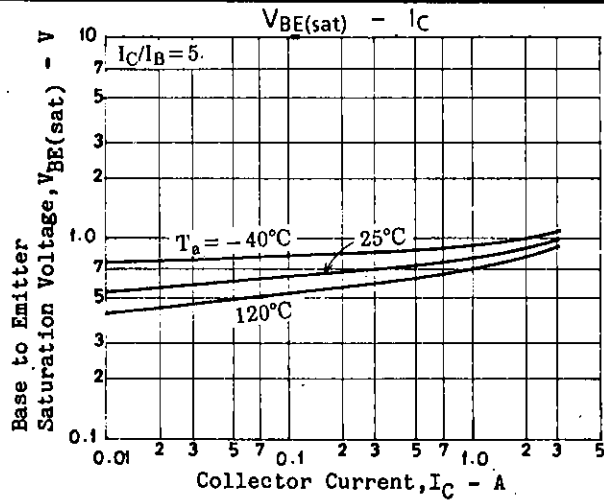
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			min	typ	max	unit
C-E Sustain Voltage	$V_{CE0(sus)}$	$I_C=3A, I_B=0.6A$ $L=50\mu H$	500			V
	$V_{CEX(sus)}(1)$	$I_C=3A, I_{B1}=0.6A$ $L=200\mu H, I_{B2}=-0.6A, \text{Clamped}$	500			V
	$V_{CEX(sus)}(2)$	$I_C=0.6A, I_{B1}=0.12A$ $L=200\mu H, I_{B2}=-0.12A, \text{Clamped}$	550			V
Turn-on Time	t_{on}	$I_C=2A, I_{B1}=0.4A$ $I_{B2}=-0.4A, R_L=100\text{ohms}$ $V_{CC}=200V$			1.0	μs
Storage Time	t_{stg}				3.0	μs
Fall Time	t_f				1.0	μs

Switching Time Test Circuit

Unit (resistance: Ω , capacitance: F)



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