

SANYO

No. 2546A

2SC4172

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 $T_a=25^\circ C$

			unit
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	5	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s, Duty\ Cycle \leq 10\%$	10
Base Current	I_B	2	A
Collector Dissipation	P_C	1.65	W
		$T_c=25^\circ C$	50
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

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

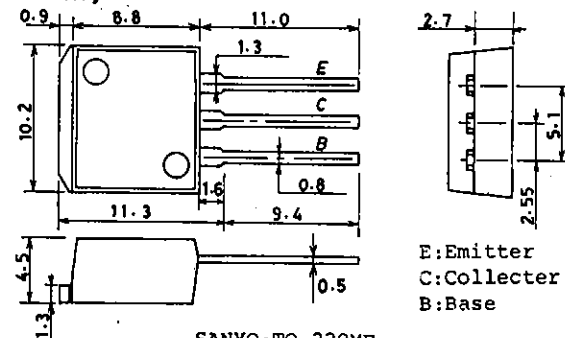
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=500V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=0.6A$	15*		50*	
	$f_{FE(2)}$	$V_{CE}=5V, I_C=3A$	8			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.6A$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=3A, I_B=0.6A$			1.5	V
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=0.6A$		18		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1MHz$		80		pF
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	800			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=4mA, R_{BE}=\infty$	500			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V

Continued on next page.

*: The $h_{FE(1)}$ of the 2SC4172 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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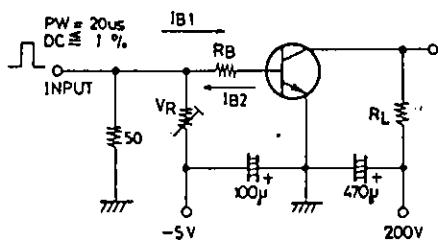
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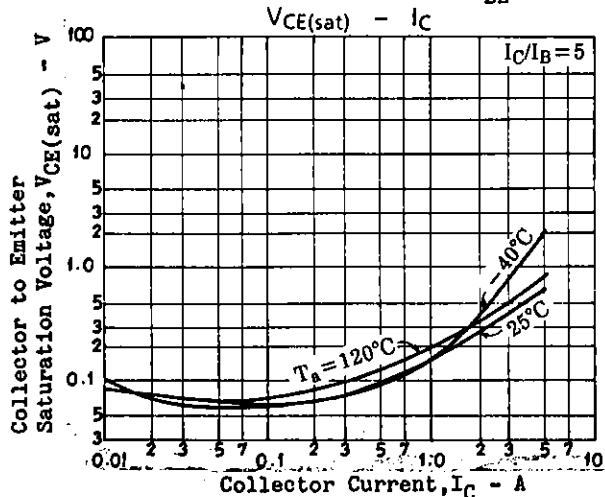
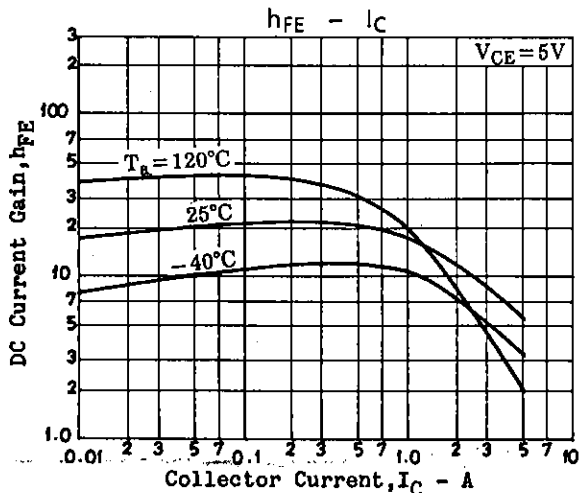
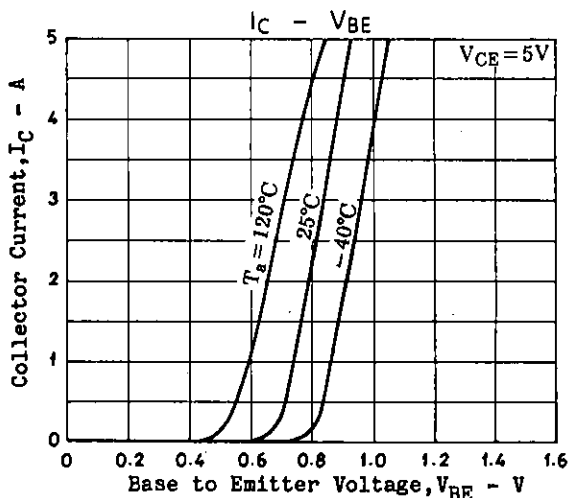
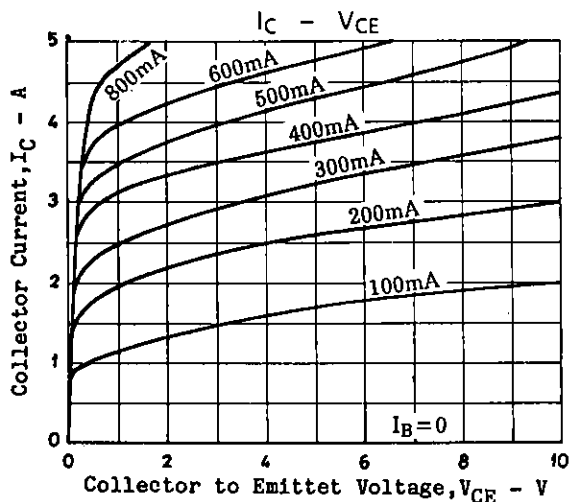
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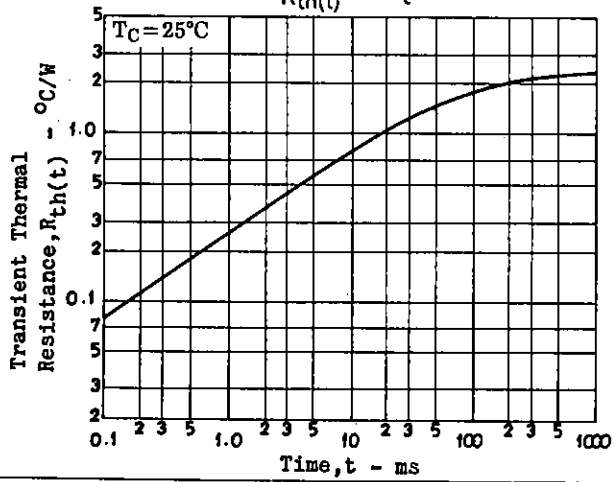
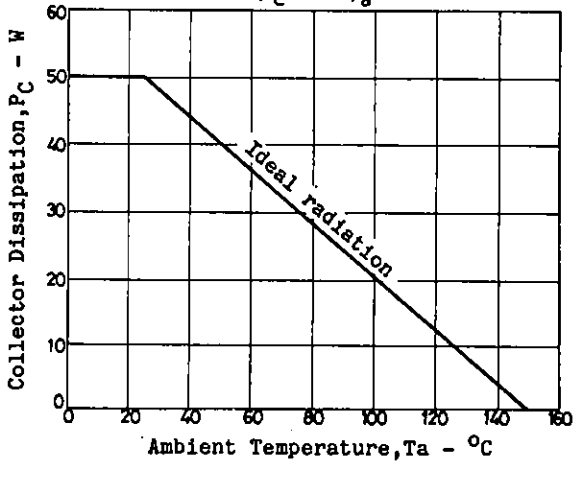
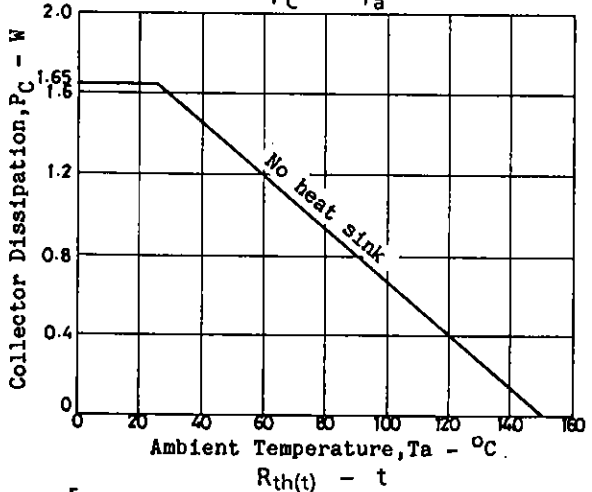
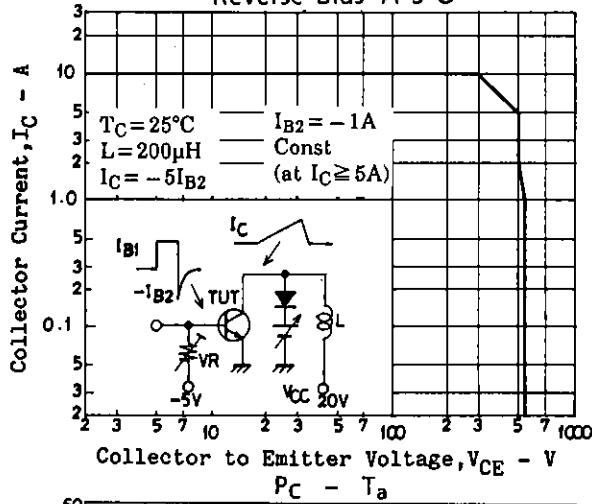
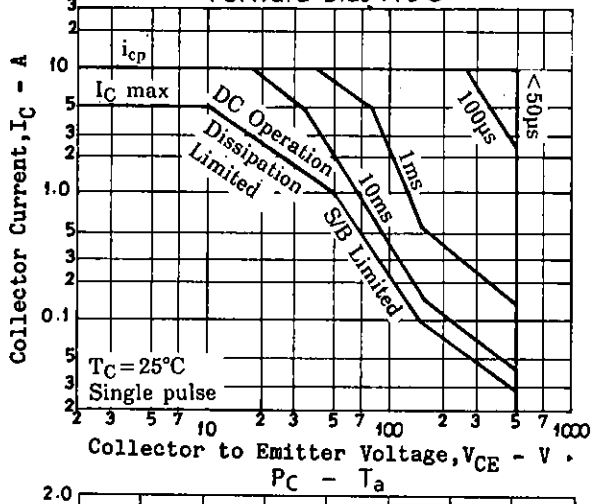
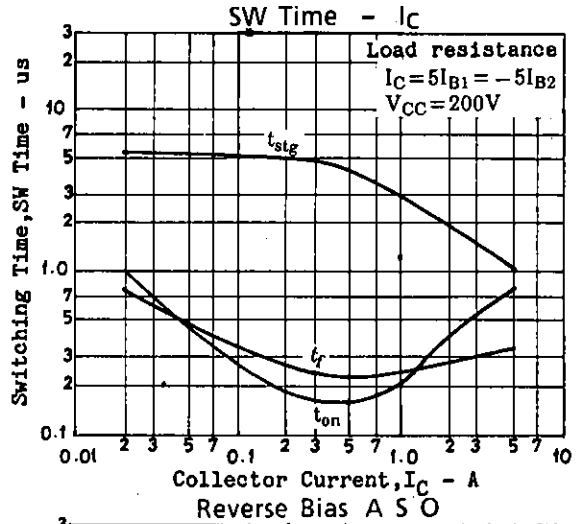
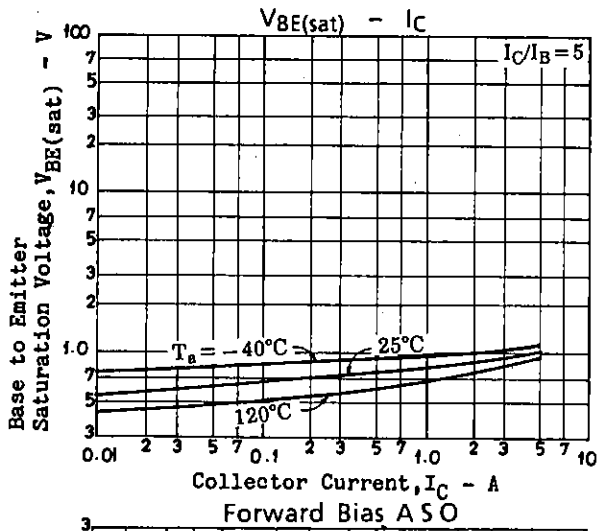
			min	typ	max	unit
C-E Sustain Voltage	$V_{CE0}(sus)$	$I_C=5A, I_B=1.0A$ $L=50\mu H$	500			V
	$V_{CEX}(sus)(1)$	$I_C=5A, I_B=1.0A$ $L=200\mu H, I_{B2}=-1.0A, Clamped$	500			V
	$V_{CEX}(sus)(2)$	$I_C=1.2A, I_{B1}=0.24A$ $L=200\mu H, I_{B2}=-0.24A, Clamped$	550			V
Turn-on Time	t_{on}	$I_C=4A, I_{B1}=0.8A$ $I_{B2}=-0.8A, R_L=50ohms$ $V_{CC}=200V$			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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