

	No.2547A	<h1 style="margin: 0;">2SC4171</h1> <p style="margin: 0;">NPN Triple Diffused Planar Silicon Transistor</p> <p style="margin: 0;">Switching Regulator Applications</p>
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**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	$I_C$	3	A
Peak Collector Current	$i_{cp}$ $PW \leq 300\mu s, Duty\ Cycle \leq 10\%$	6	A
Base Current	$I_B$	1	A
Collector Dissipation	$P_C$	1.65	W
	$T_c=25^\circ C$	40	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

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

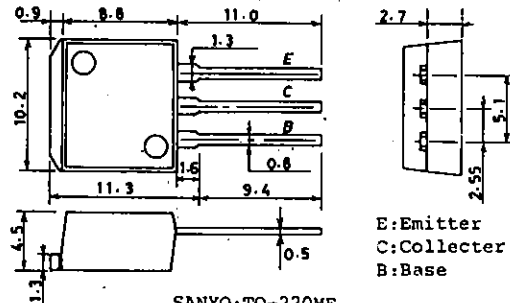
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$ $V_{CB}=500V, I_B=0$				10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$ $V_{EB}=5V, I_C=0$				10	$\mu A$
DC Current Gain	$h_{FE(1)}$ $V_{CE}=5V, I_C=0.3A$	15*			50*	
	$h_{FE(2)}$ $V_{CE}=5V, I_C=1.5A$	8				
C-E Saturation Voltage	$V_{CE(sat)}$ $I_C=1.5A, I_B=0.3A$				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

Continued on next page.

\*: 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)

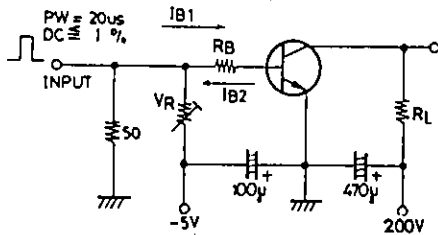


SANYO: TO-220MF

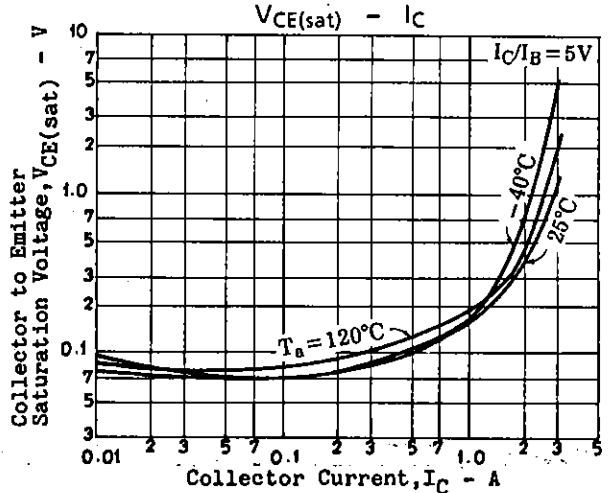
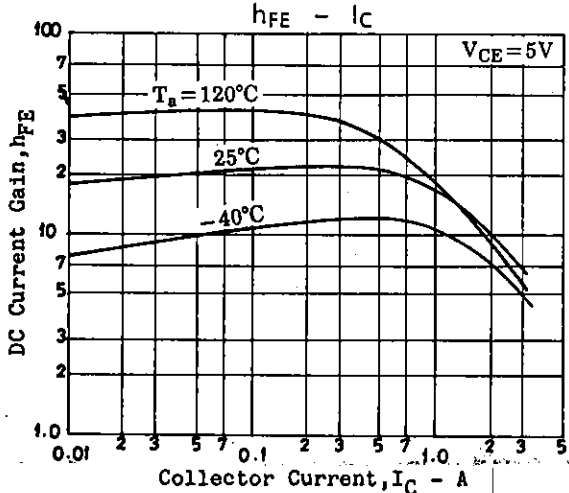
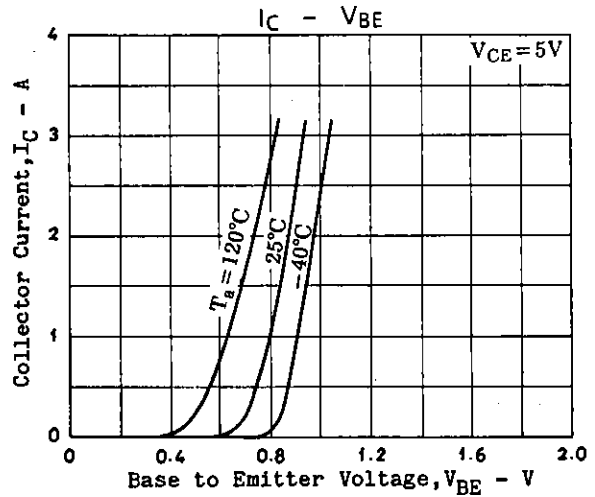
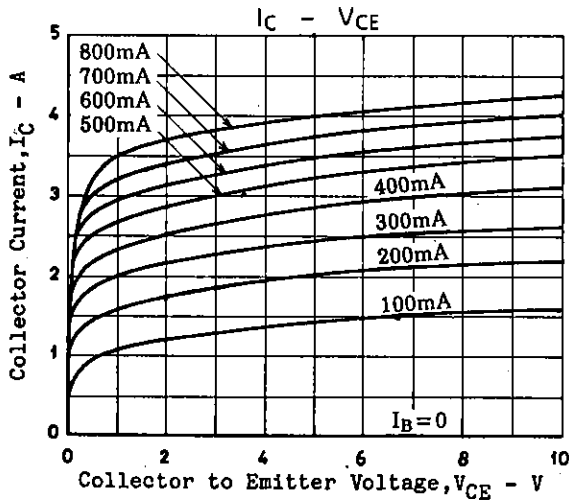
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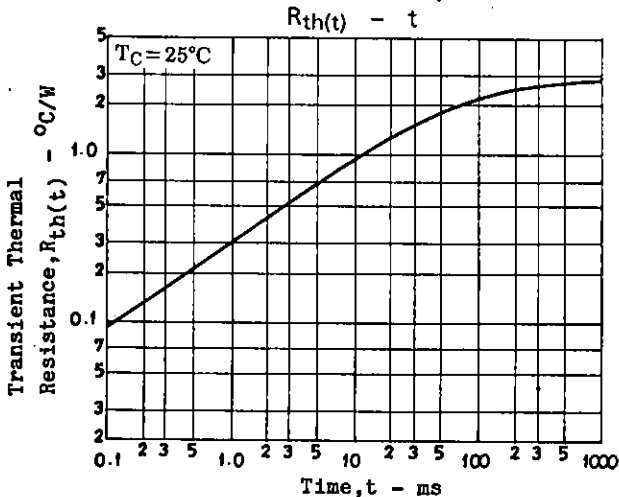
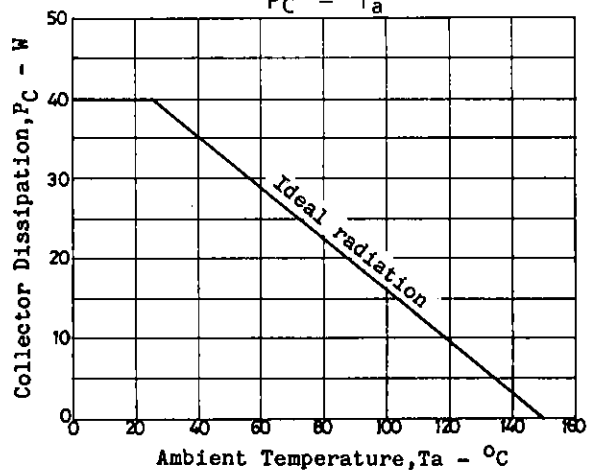
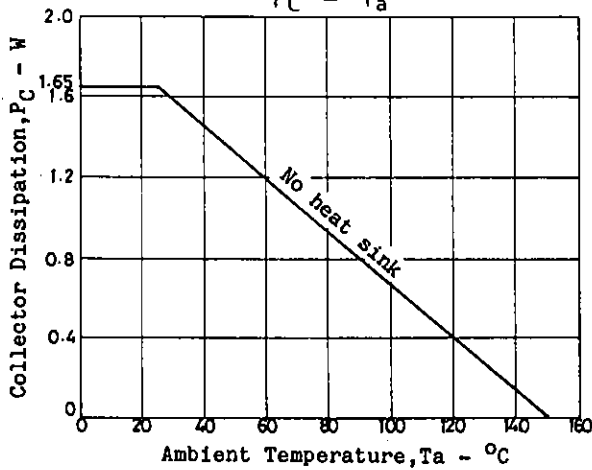
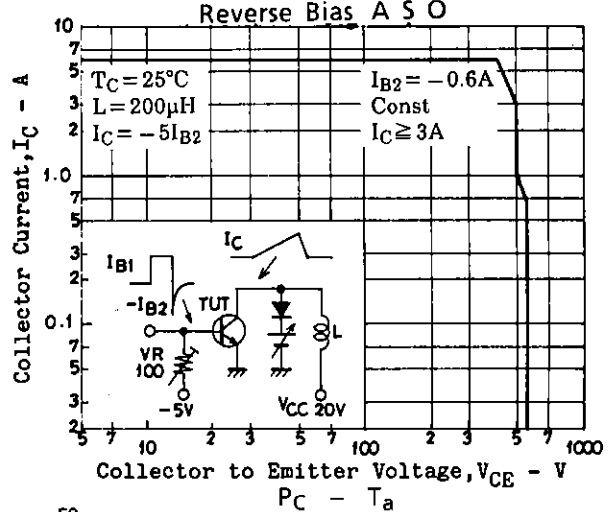
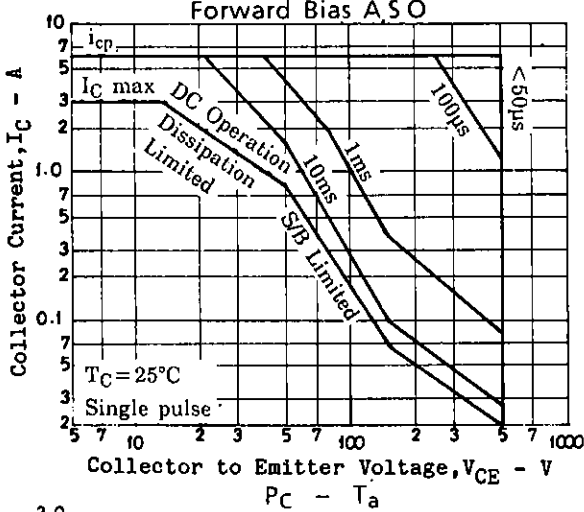
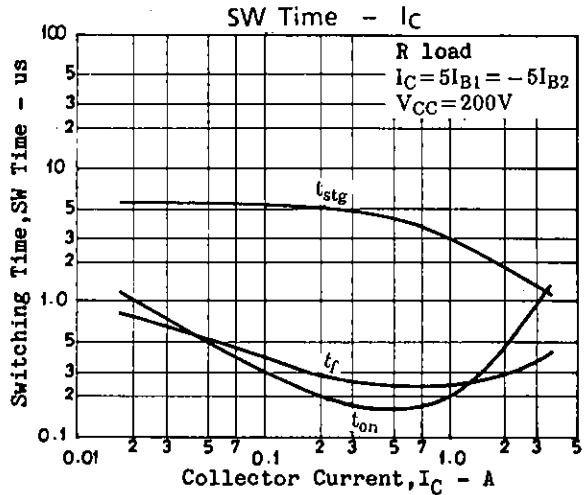
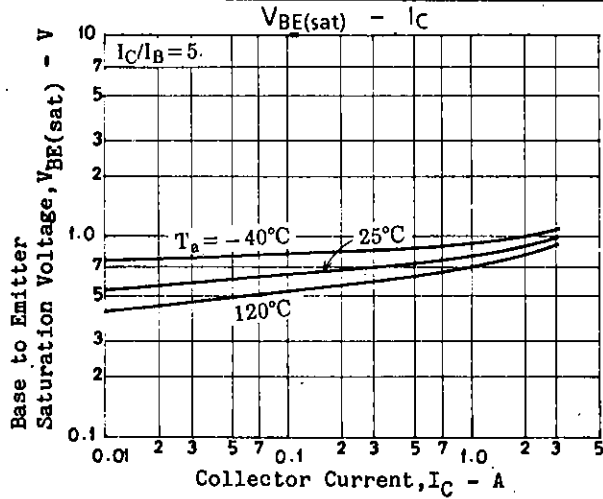
			min	typ	max	unit
C-E Sustain Voltage	$V_{CEO}(sus)$	$I_C=3A, I_B=0.6A$ $L=50\mu H$	500			V
	$V_{CEX}(sus)(1)$	$I_C=3A, I_{B1}=0.6A$ $L=200\mu H, I_{B2}=-0.6A, Clamped$	500			V
	$V_{CEX}(sus)(2)$	$I_C=0.6A, I_{B1}=0.12A$ $L=200\mu H, I_{B2}=-0.12A, Clamped$	550			V
Turn-on Time	$t_{on}$	$I_C=2A, I_{B1}=0.4A$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

Switching Time Test Circuit



Unit (resistance:  $\Omega$ , capacitance: F)





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