

SANYO

No. 2825

2SC4220

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage, high reliability
- Fast switching speed (t_f : 0.1 μ s typ)
- Wide ASO
- Adoption of MBIT process
- Suitable for sets whose height is restricted

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 _{EBO}	7	V	
Collector Current	I _C	7	A	
Peak Collector Current	i _{cp}	PW≤300μs,duty cycle≤10%		14 A
Base Current	I _B	3	A	
Collector Dissipation	P _C	1.65	W	
		Tc=25°C	50	W
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{stg}	-55 to +150	°C	

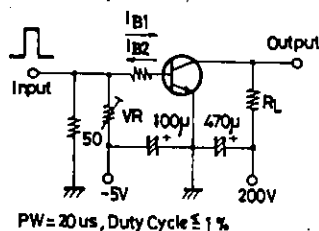
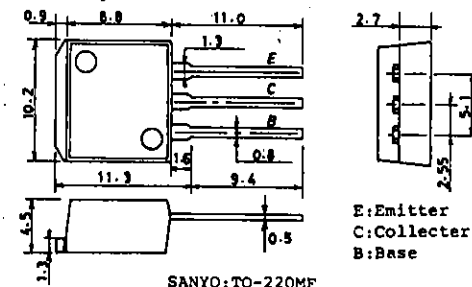
Electrical Characteristics at $T_a=25^\circ\text{C}$

			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	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=0.8\text{A}$	15		50	
	$h_{FE}(2)$	$V_{CE}=5\text{V}, I_C=4\text{A}$	10			
	$h_{FE}(3)$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	10			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=4\text{A}, I_B=0.8\text{A}$			1.5	V
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=0.8\text{A}$		20		MHz
Output Capacitance	c_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		80		pF

Continued on next page.

*:The $h_{FE}(1)$ of the 2SC4220 is classified as follows. When specifying the $h_{FE}(1)$ rank, specify two ranks or more.

15	L	30	20	M	40	30	N	50
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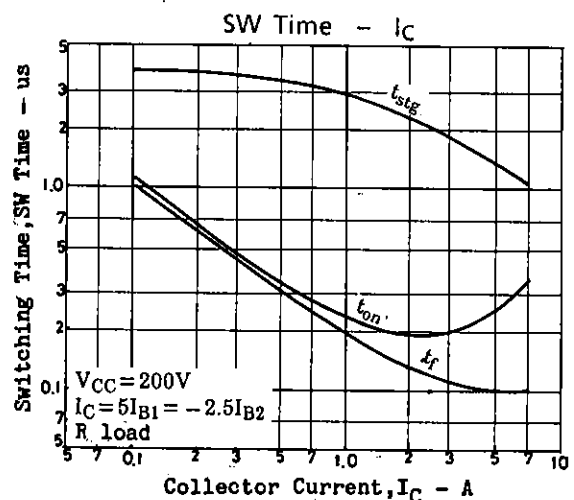
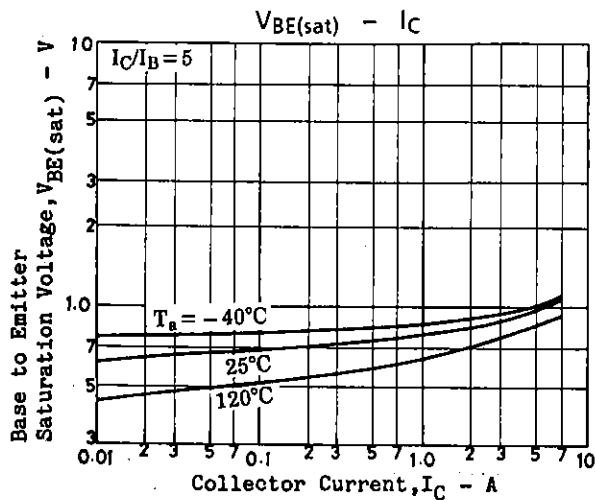
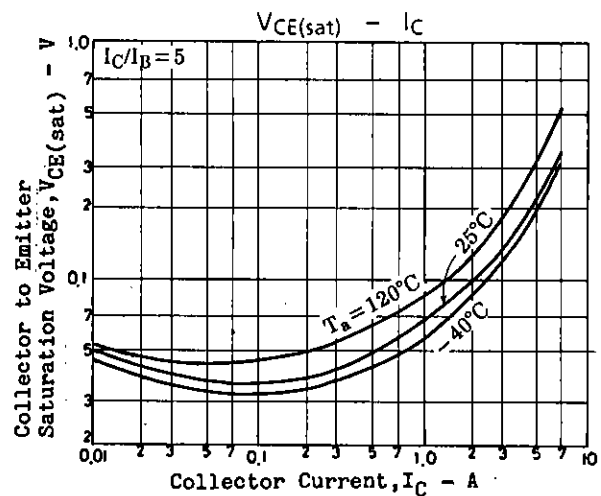
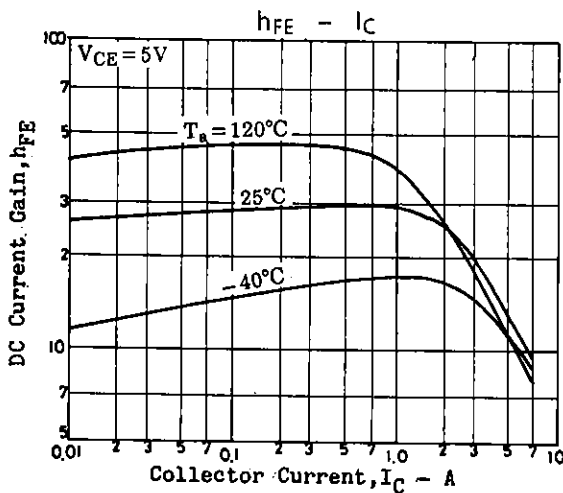
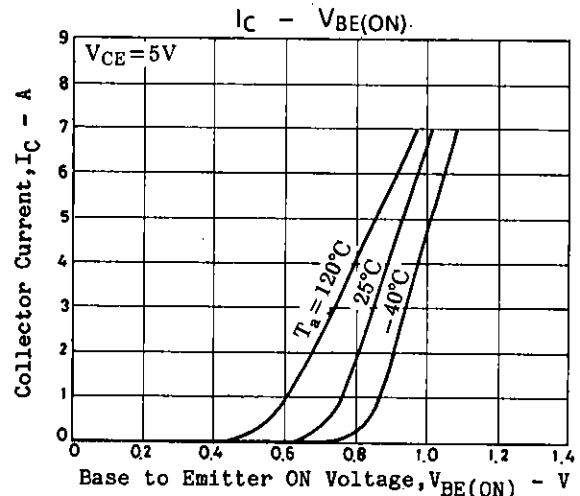
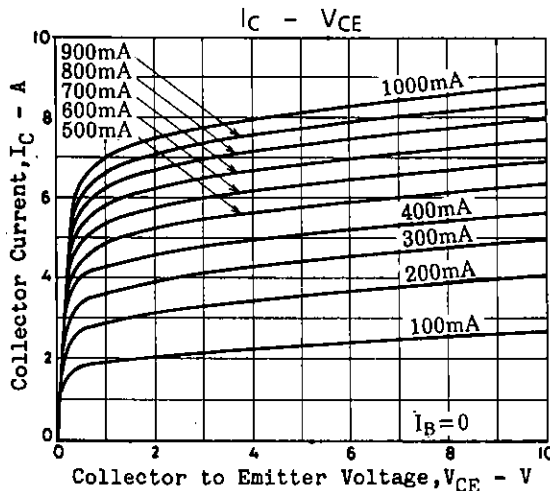
Switching Time Test CircuitUnit (resistance: Ω , capacitance: F)**Package Dimensions 2049**
(unit: mm)

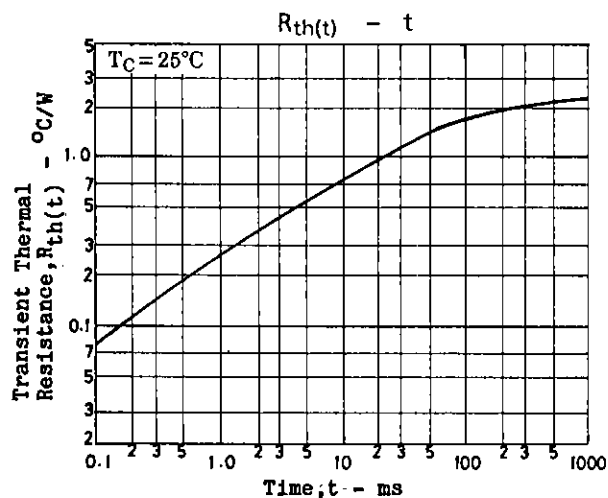
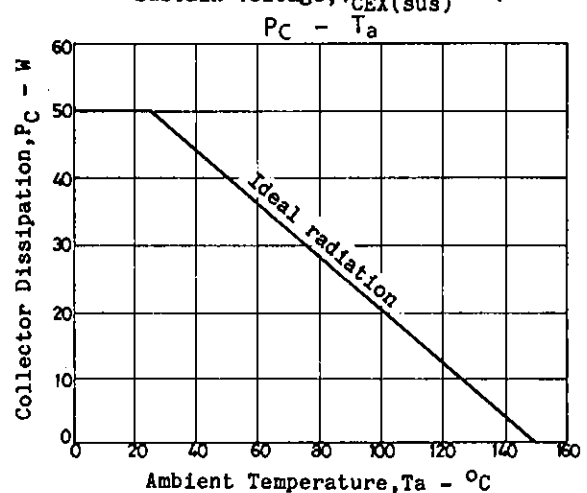
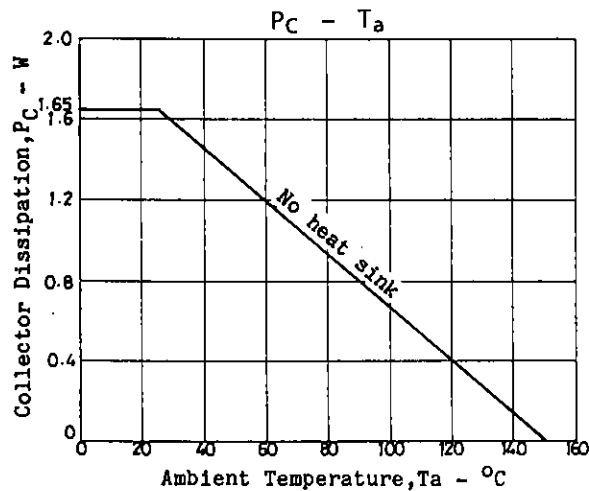
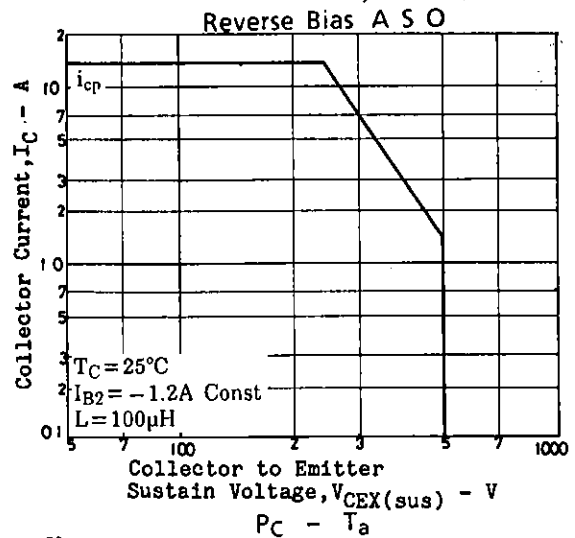
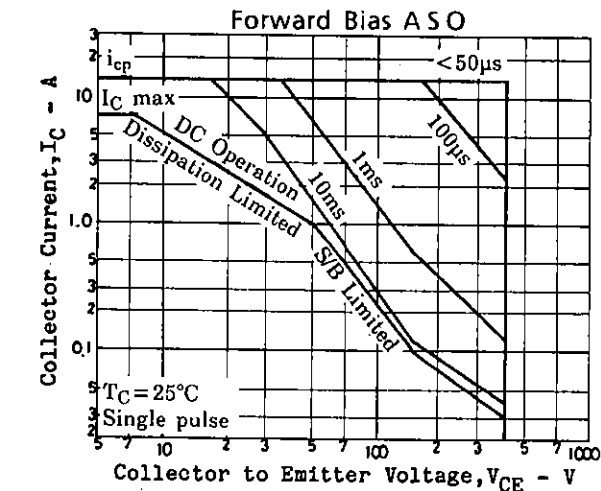
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8118MO, TS No. 2825-1/3

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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	$V_{CEX(sus)}$	$I_C=3A, I_{B1}=-0.3A$ $L=1mH, I_{B2}=-1.2A, \text{clamped}$	400			V
Turn-ON Time	t_{on}	$I_C=5A, I_{B1}=1A$ $I_{B2}=-2A, R_L=40\Omega$ $V_{CC}=200V$			0.5	μs
Storage Time	t_{stg}				2.5	μs
Fall Time	t_f				0.3	μs





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