Ordering number: EN 2825

SANYO

No. 2825

2SC4220

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

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

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	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

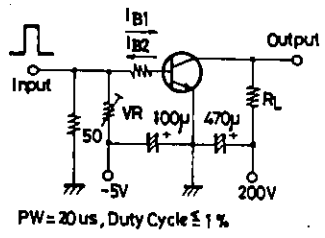
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=400V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			10	μA
DC Current Gain	*$h_{FE(1)}$	V_{CE}=5V, I_C=0.8A	15		50	
	$h_{FE(2)}$	V_{CE}=5V, I_C=4A	10			
	$h_{FE(3)}$	V_{CE}=5V, I_C=10mA	10			
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=4A, I_B=0.8A			0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=4A, I_B=0.8A			1.5	V
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=0.8A		20		MHz
Output Capacitance	c_{ob}	V_{CB}=10V, f=1MHz		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

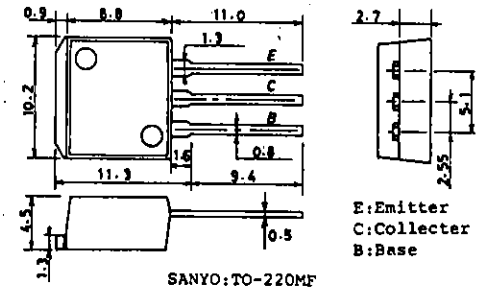
Switching Time Test Circuit



PW=20us, Duty Cycle≦1%

Unit (resistance: Ω, capacitance: F)

Package Dimensions 2049
(unit: mm)

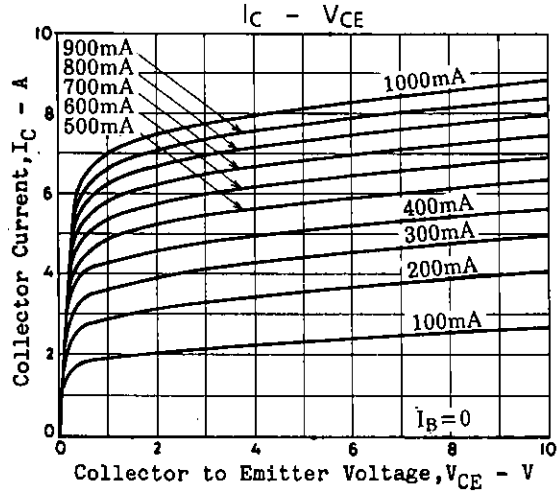


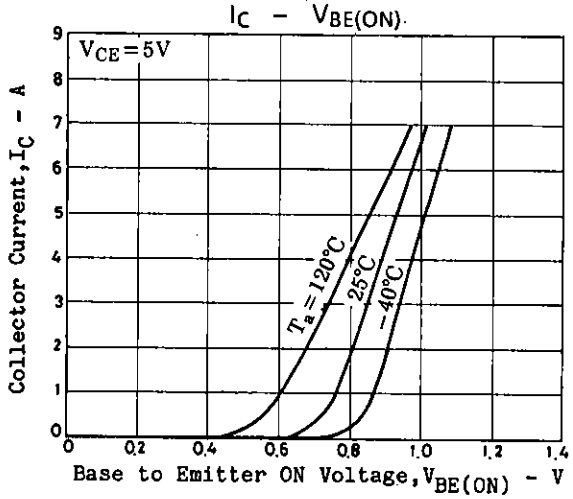
E: Emitter
C: Collecter
B: Base

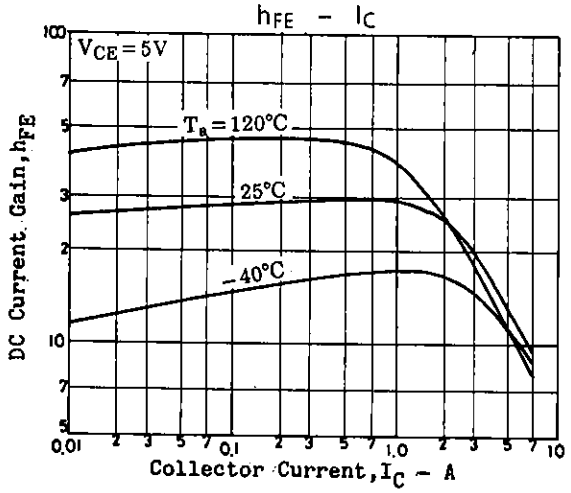
SANYO: TO-220MF

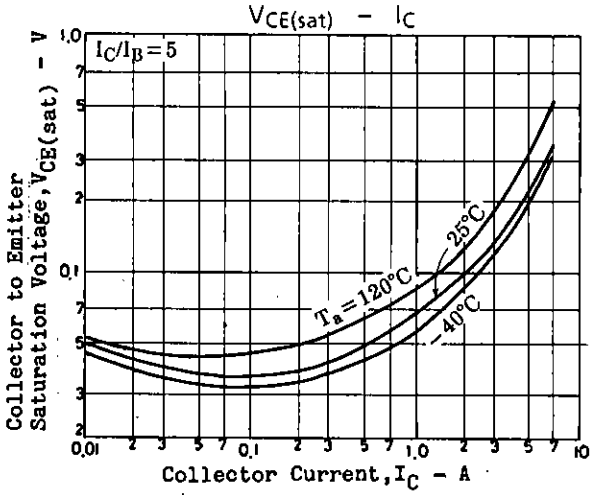
Continued from preceding page.

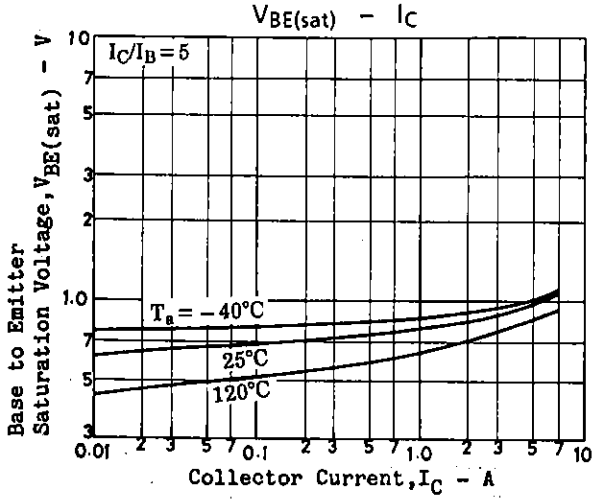
			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=5mA, R_{BE}=∞	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	I_C=3A, I_{B1}=-0.3A L=1mH, I_{B2}=-1.2A, clamped	400			V
Turn-ON Time	t_{on}	I_C=5A, I_{B1}=1A I_{B2}=-2A, R_L=40ohms V_{CC}=200V			0.5	μs
Storage Time	t_{stg}				2.5	μs
Fall Time	t_f				0.3	μs

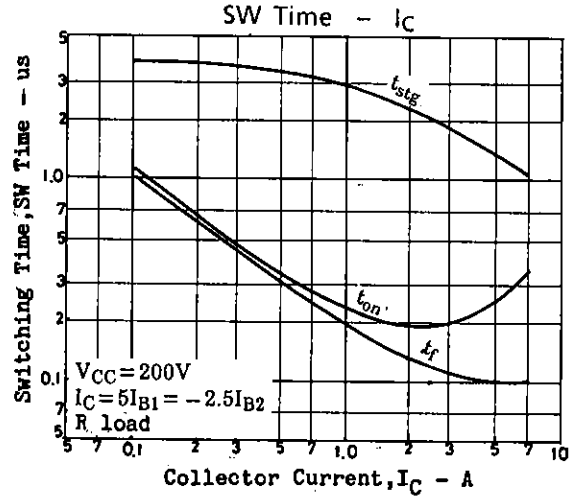




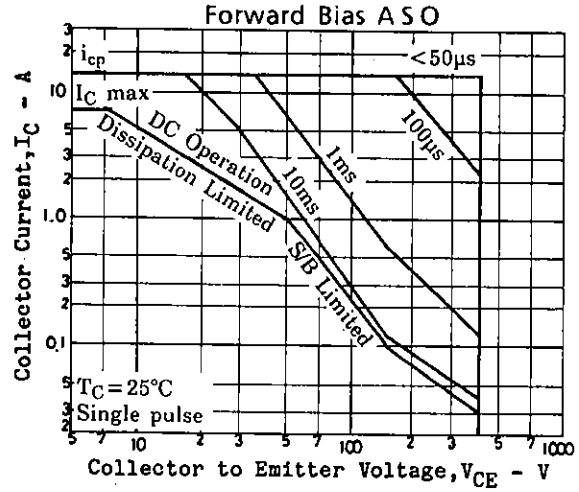




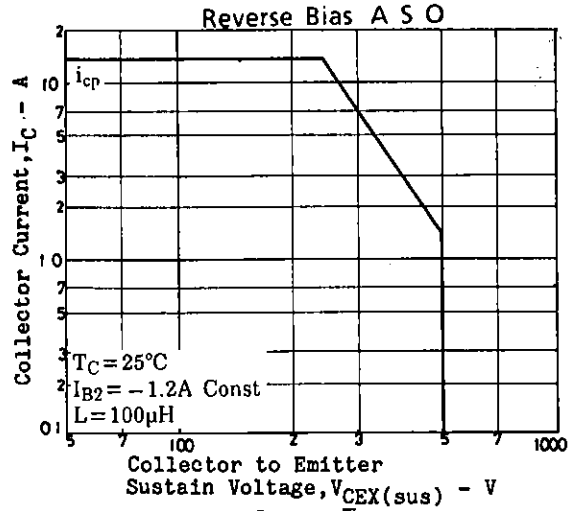




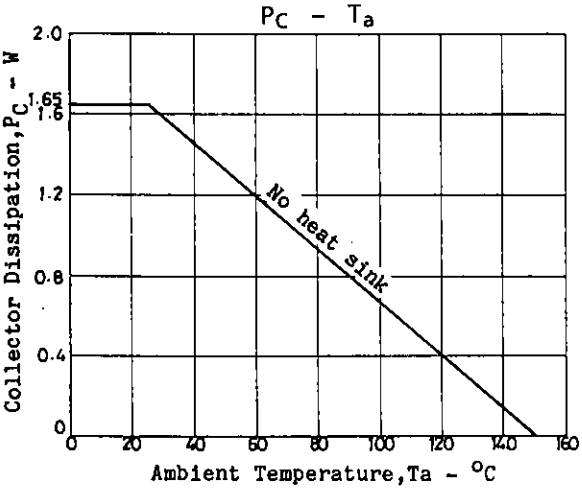
Forward Bias A S O



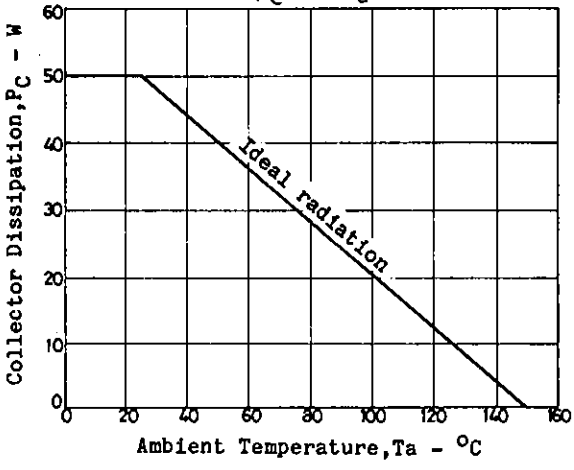
Reverse Bias A S O



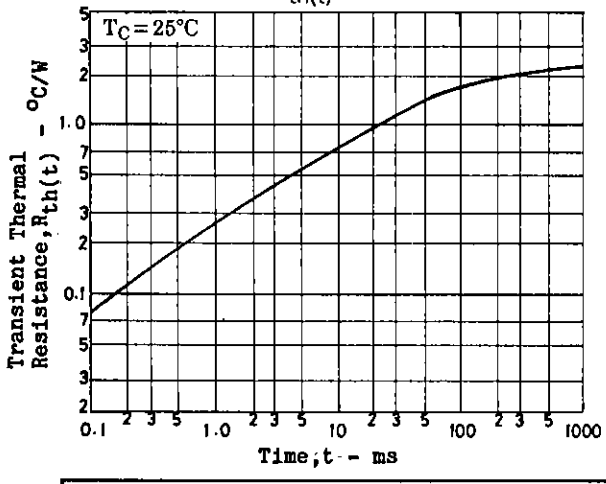
P_C - T_a



P_C - T_a



$R_{th(t)}$ - t



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