Ordering number: EN 2482

SANYO No.2482

2SC4161

NPN Triple Diffused Planar Type Silicon Transistor

SWITCHING REGULATOR APPLICATIONS

Features

- High breakdown voltage, high reliability
- Fast switching speed (t_f=0.1μs typ)
- Wide ASO
- Adoption of MBIT process
- Micaless package facilitating mounting

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		2	W
		Tc=25°C	30	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_{FE1}	V_{CE}=5V, I_C=0.8A	15*		50*	
	h_{FE2}	V_{CE}=5V, I_C=4A	10			
	h_{FE3}	V_{CE}=5V, I_C=10mA	10			
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
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
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

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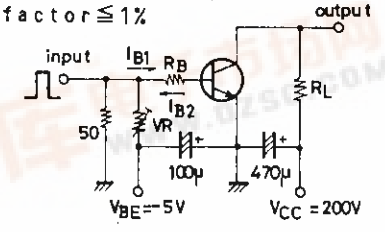
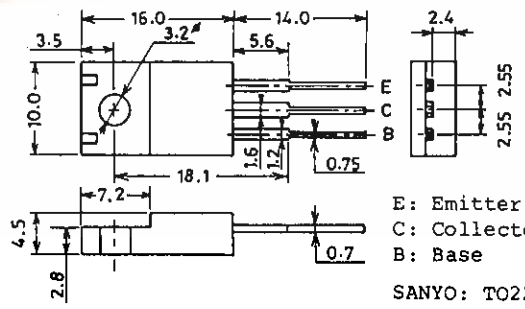
Switching Time Test Circuit

PW=20μs, duty factor≦1%



Unit (Resistance : Ω, Capacitance : F)

Pckage Dimensions 2041 (unit:mm)



E: Emitter
C: Collecter
B: Base

SANYO: TO220ML

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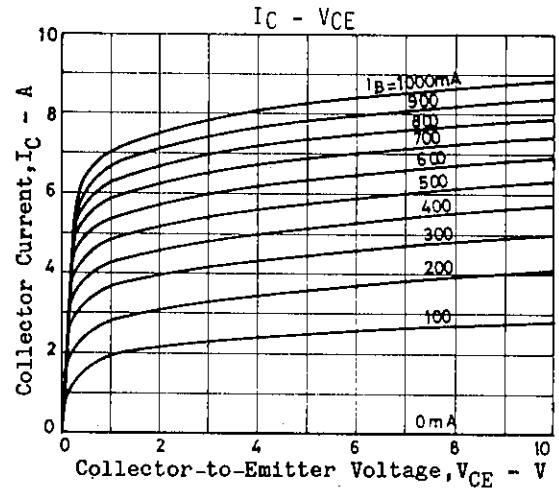
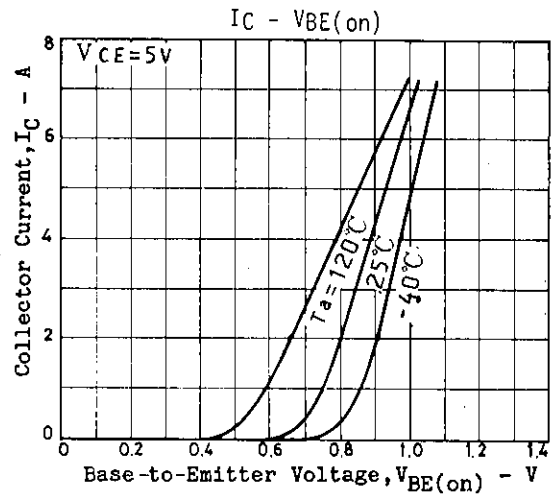
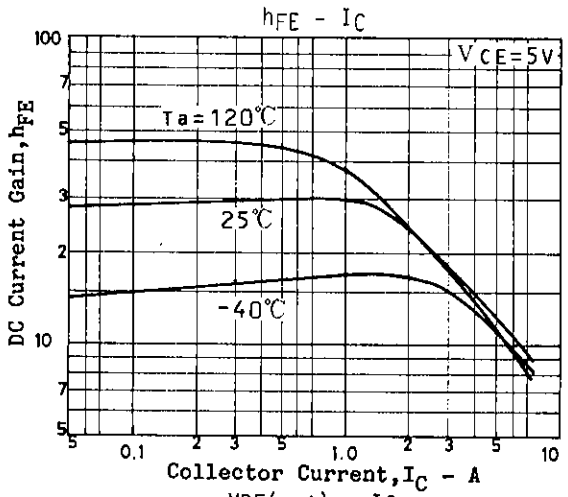
			min	typ	max	unit
C-E Sustain Voltage	$V_{CEX(sus)}$	I_C=3A,I_{B1}=0.3A, I_{B2}=-1.2A,L=1mH,clamped	400			V
Turn-on Time	t_{on}	I_C=5A,I_{B1}=1A,I_{B2}=-2A, R_L=40ohms,V_{CC}=200V			0.5	μs
Storage Time	t_{stg}	" "			2.5	μs
Fall Time	t_f	" "			0.3	μs

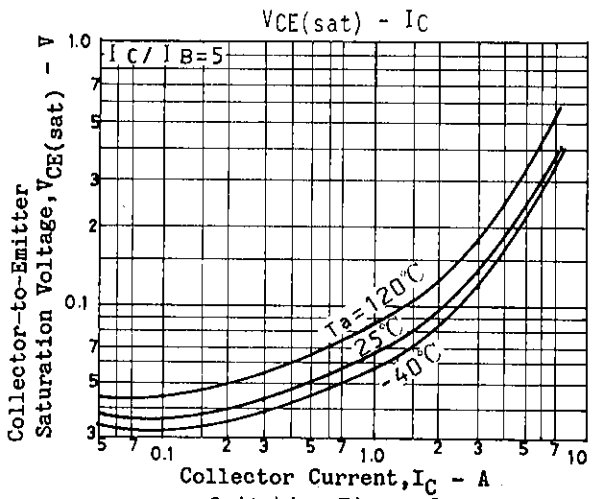
*: The h_{FE1} of the 2SC4161 is classified as follows. When specifying the h_{FE1} rank, specify two ranks or more in principle.

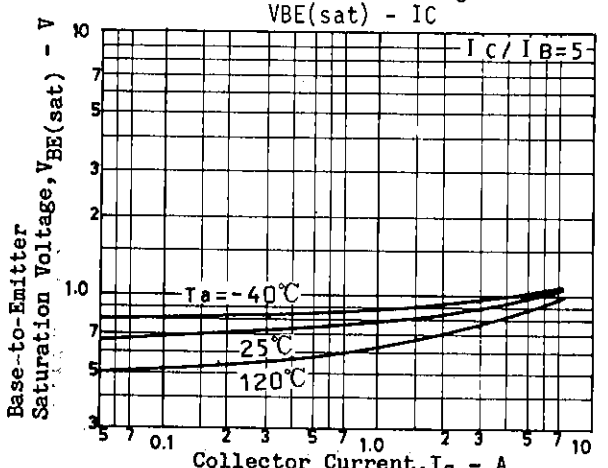
15 L 30	20 M 40	30 N 50

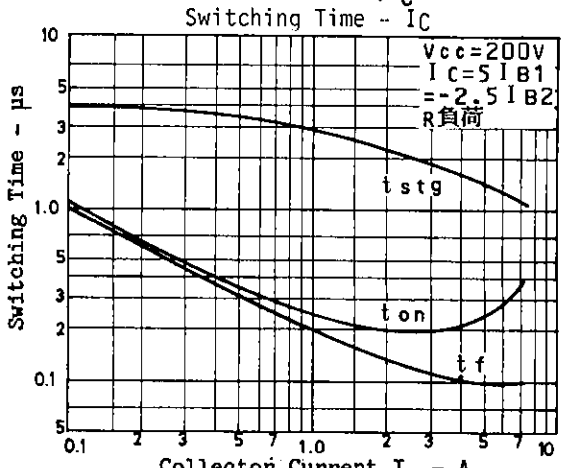




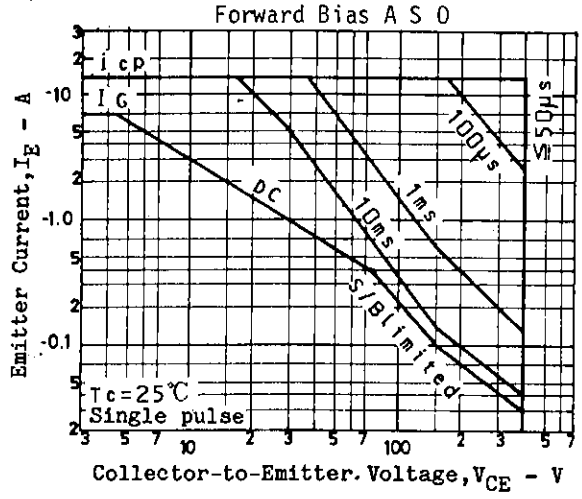




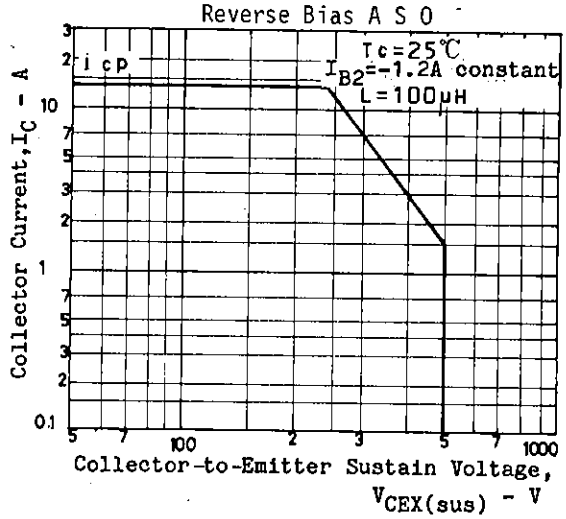




Forward Bias A S O



Reverse Bias A S O



P_C - T_a