

<b>SANYO</b>	No. 1596C	<b>2SC3461</b>
NPN Triple Diffused Planar Type Silicon Transistor FOR SWITCHING REGULATORS		

**Features**

- . High breakdown voltage and high reliability.
- . Fast switching speed ( $t_f$ : 0.1 $\mu$ s typ.)
- . Wide ASO.
- . Adoption of MBIT process.

**Absolute Maximum Ratings at Ta=25°C**

Collector-to-Base Voltage	$V_{CB0}$	1100	V	unit
Collector-to-Emitter Voltage	$V_{CE0}$	800	V	
Emitter-to-Base Voltage	$V_{EBO}$	7	V	
Collector Current	$I_C$	8	A	
Peak Collector Current	$i_{cp}$	PW $\leq$ 300 $\mu$ s, Duty Cycle $\leq$ 10%		25
Base Current	$I_B$	4	A	
Collector Dissipation	$P_C$	$T_C=25^\circ C$		140
Junction Temperature	$T_j$	150	°C	
Storage Temperature	$T_{stg}$	-55 to +150		°C

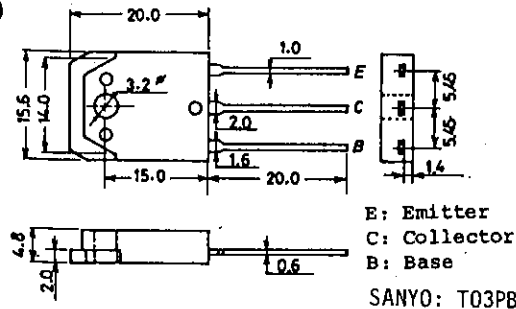
**Electrical Characteristics at Ta=25°C**

		min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=800V, I_E=0$		10	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$		10	$\mu A$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=0.6A$		10*	40*
	$h_{FE}(2)$	$V_{CE}=5V, I_C=3A$		8	
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=0.6A$		15	MHz
Output Capacitance	$c_{ob}$	$V_{CB}=10V, f=1MHz$		155	pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=4A, I_B=0.8A$		2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=4A, I_B=0.8A$		1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$		1100	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$		800	V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$		7	V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=4A$		800	V
Turn-On Time	$t_{on}$	$2I_{B1}=-I_{B2}=0.8A,$ $L=1mH, \text{Clamped}$ $V_{CC}=400V,$ $5I_{B2}=-2.5I_{B2}=I_C=6A,$ $R_L=66.7\text{ohms}$		0.5	$\mu s$
Storage Time	$t_{stg}$			3.0	$\mu s$
Fall Time	$t_f$			0.3	$\mu s$

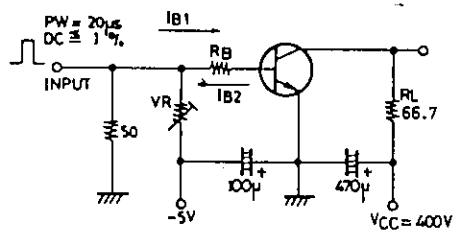
\*: The 2SC3461 is classified by 0.6A  $h_{FE}$  as follows:

10	K	20	15	L	30	20	M	40
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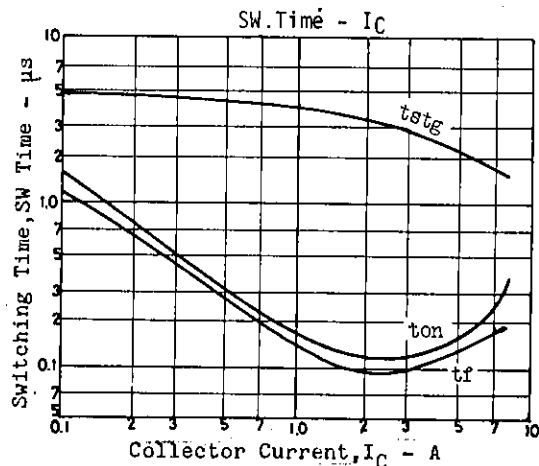
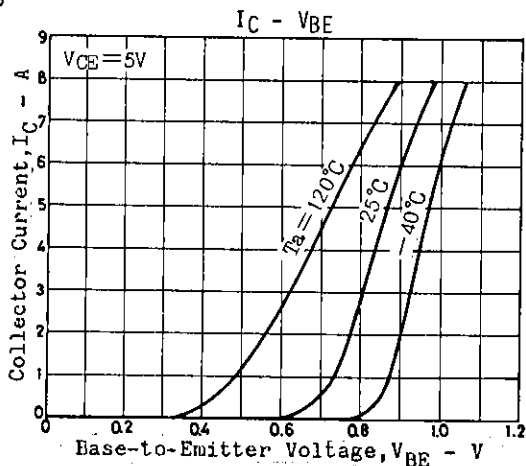
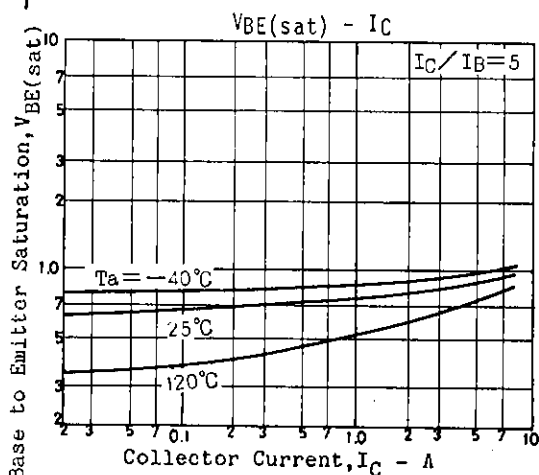
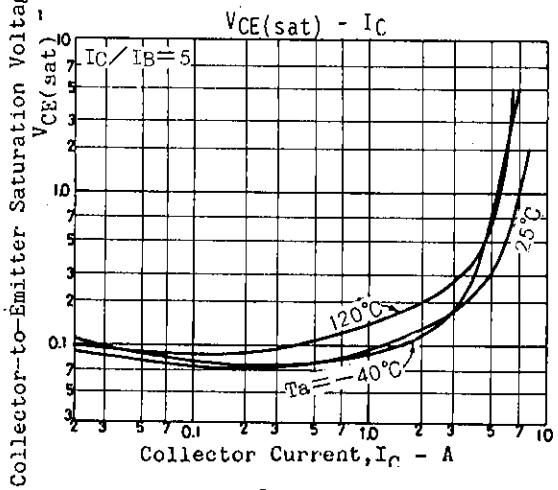
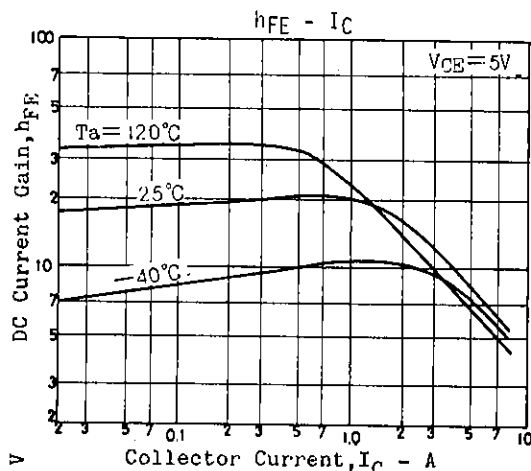
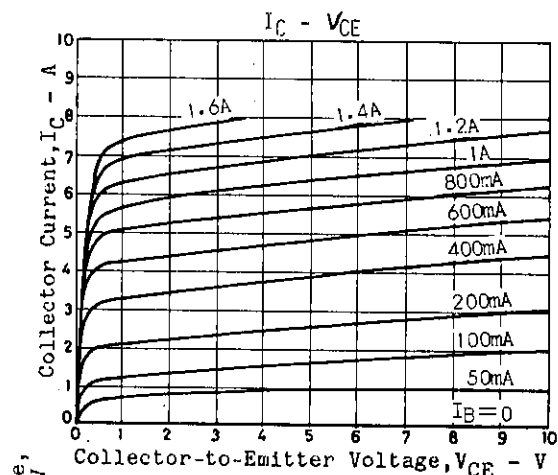
**Package Dimensions 2022**  
(unit: mm)

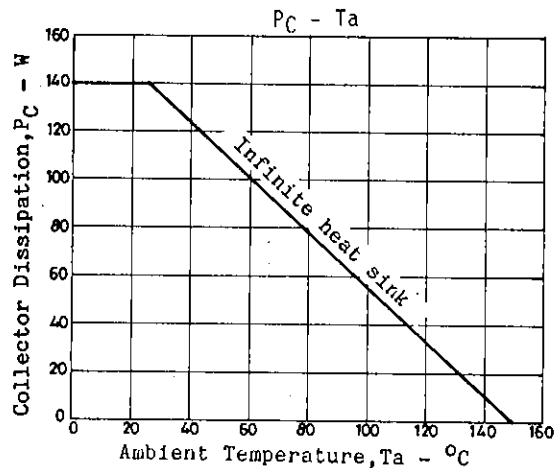
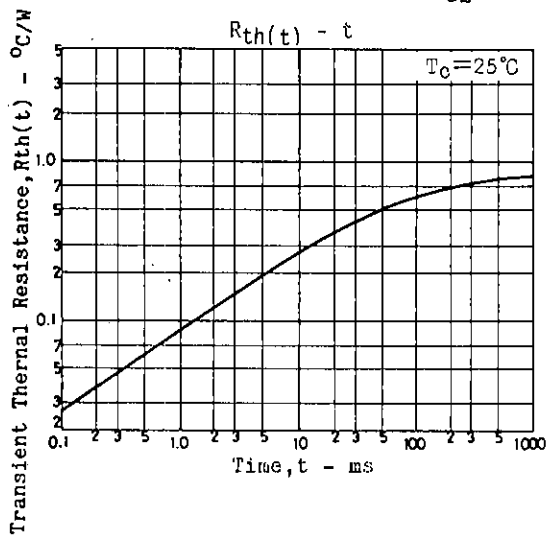
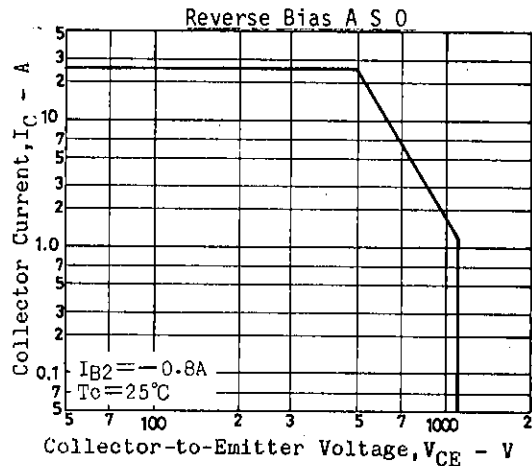
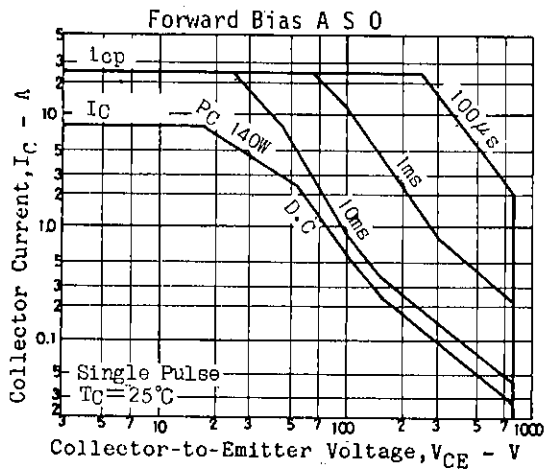


Switching Time Test Circuit



Unit (Resistance : Ω, Capacitance : F)





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