Ordering number: EN 3147

SANYO No.3147

2SC4601

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

. Surface mount type device making the following possible
-Reduction in the number of manufacturing processes for 2SC4601-applied equipment
-High density surface mount applications
-Small size of 2SC4601-applied equipment
· High breakdown voltage, high reliability
· Fast switching speed
· Wide ASO
· Adoption of MBIT process

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector to Base Voltage	V_{CBO}		1100	V
Collector to Emitter Voltage	V_{CEO}		800	V
Emitter to Base Voltage	V_{EBO}		7	V
Collector Current	I_C		1.5	A
Collector Current(Pulse)	I_{CP}	PW ≦ 300μs,duty cycle ≦ 10%	5	A
Base Current	I_B		0.8	A
Collector Dissipation	P_C		1.65	W
		Tc = 25°C	40	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

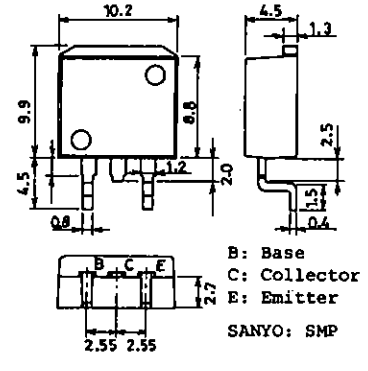
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 800V,I_E = 0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V,I_C = 0			10	μA
DC Current Gain	$h_{FE}(1)$	V_{CE} = 5V,I_C = 0.1A	10※		40※	
	$h_{FE}(2)$	V_{CE} = 5V,I_C = 0.5A	8			
Gain-Bandwidth Product	f_T	V_{CE} = 10V,I_C = 0.1A		15		MHz
Output Capacitance	c_{ob}	V_{CB} = 10V,f = 1MHz		35		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = 0.75A,I_B = 0.15A			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = 0.75A,I_B = 0.15A			1.5	V

Continued on next page.

※ : For the $h_{FE}(1)$ of the 2SC4601, specify two ranks or more in principle.

10 K 20	15 L 30	20 M 40

Package Dimensions 2069
(unit : mm)



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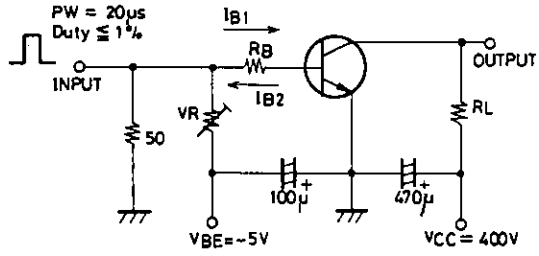
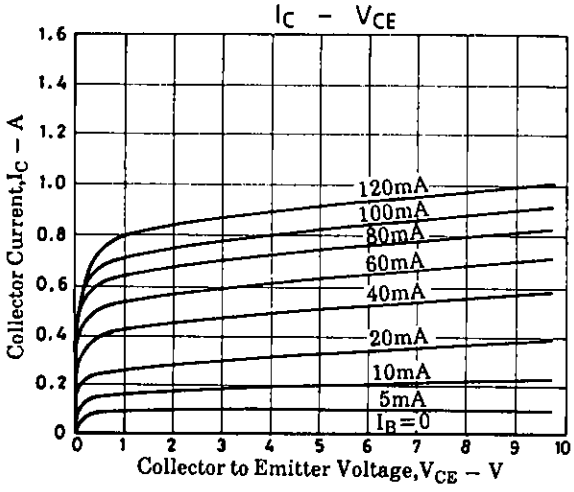
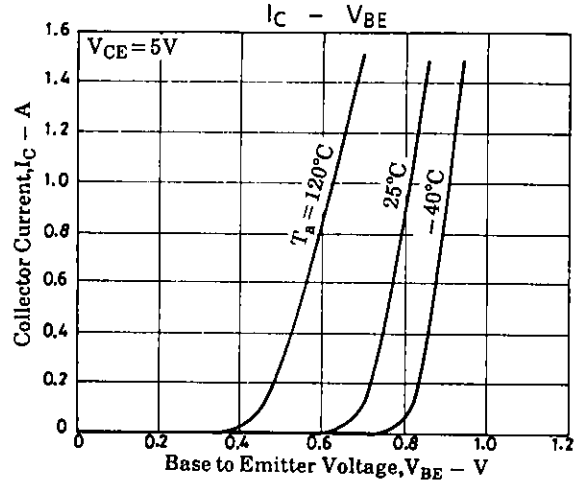
			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	1100			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	800			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=0.75A, I_{B1}=-I_{B2}=0.15A$, L=5mH, clamped	800			V
Turn-ON Time	t_{on}	$I_C=1A, I_{B1}=0.2A$,			0.5	μs
Storage Time	t_{stg}	$I_{B2}=-0.4A, R_L=400\Omega$,			3.0	μs
Fall Time	t_f	$V_{CC}=400V$			0.3	μs

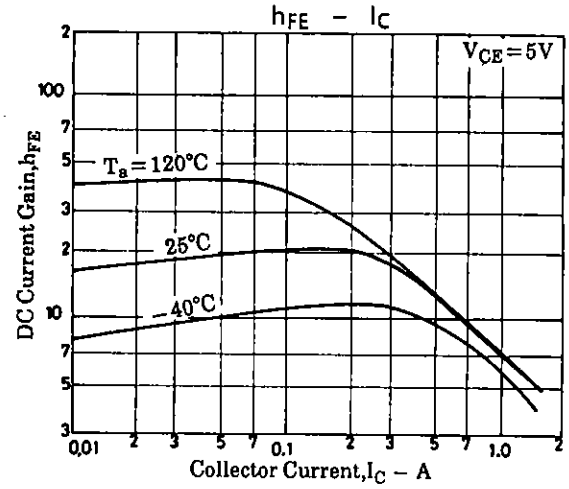
Switching Time Test Circuit

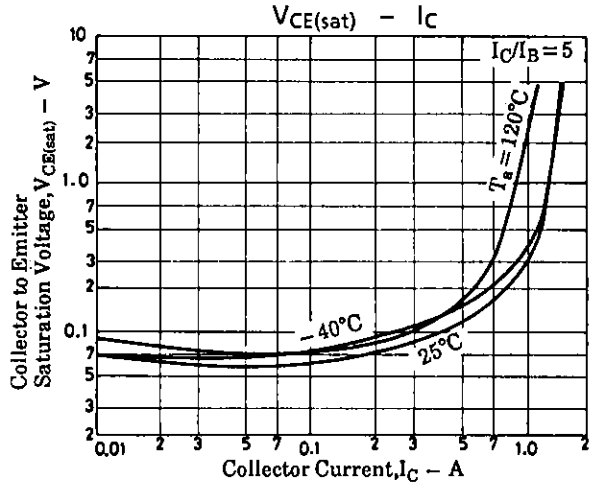


Unit (Resistance : Ω, Capacitance : F)

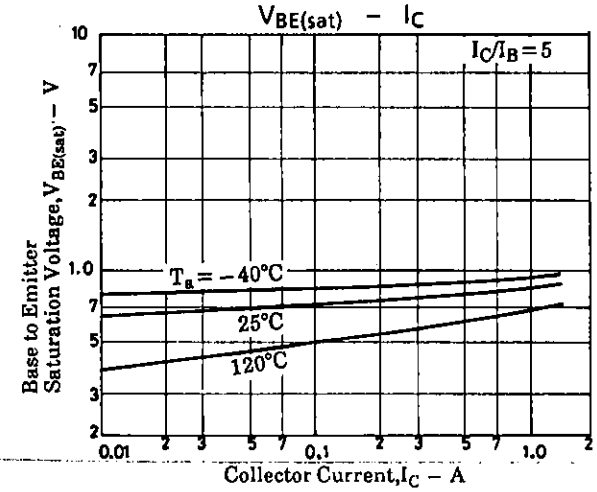




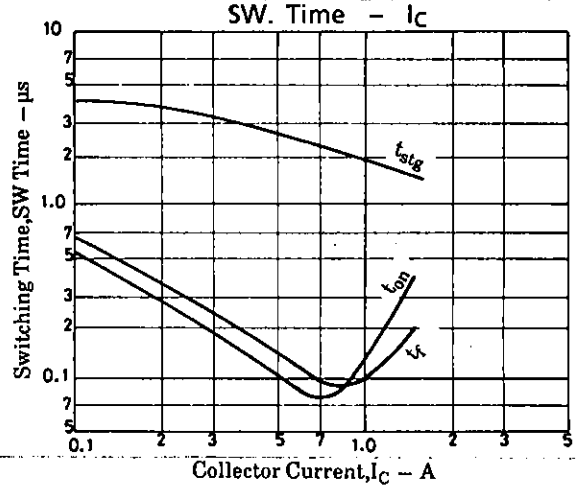




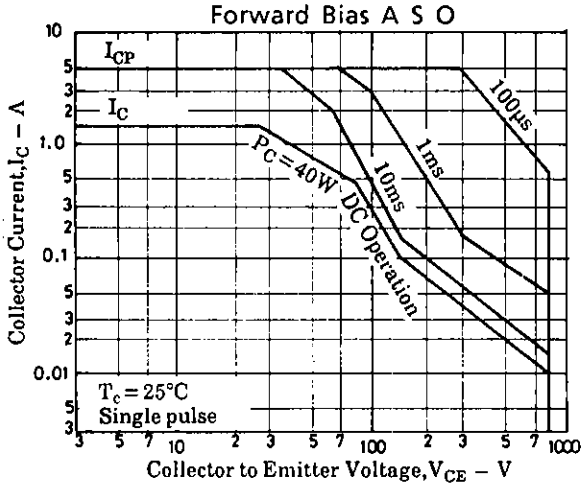
$V_{BE(sat)}$ – I_C



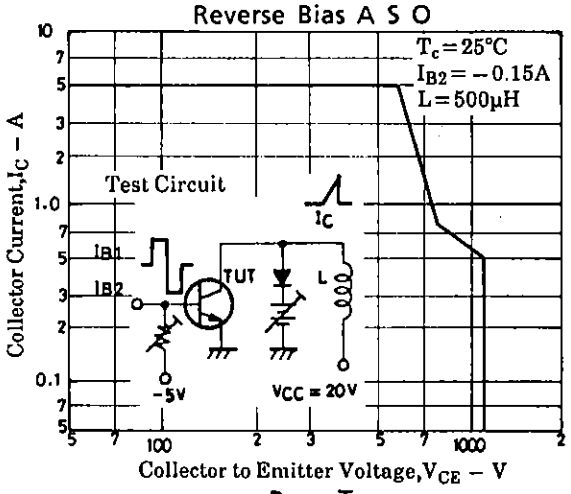
SW. Time – I_C



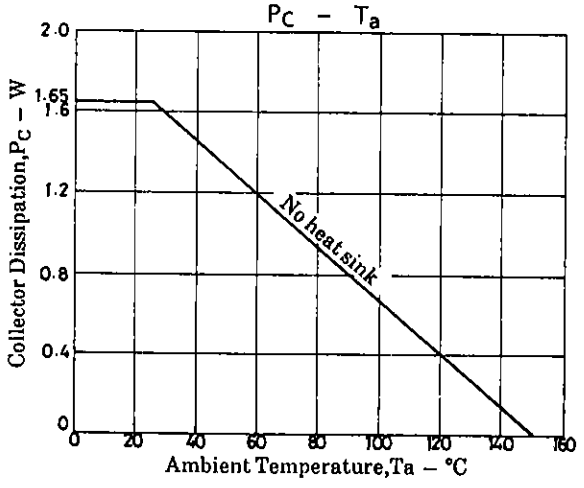
Forward Bias A S O



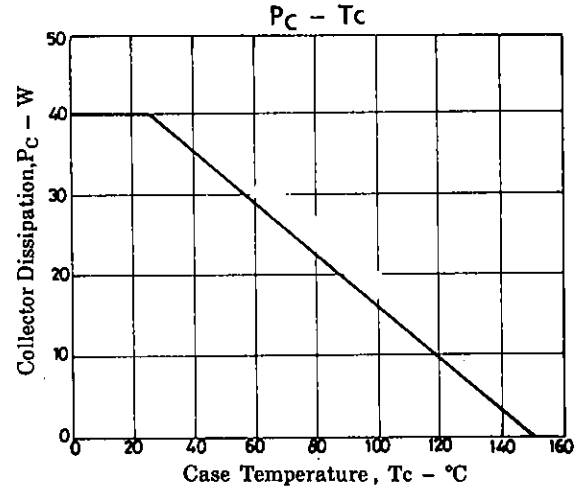
Reverse Bias A S O



P_C – T_a



P_C – Tc



$R_{th(t)}$ – t