


SANYO Semiconductors

DATA SHEET

2SC6106 — NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage and high reliability.
- Ultrahigh-speed switching.
- Wide ASO.
- Adoption of MBIT process.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		1000	V
Collector-to-Emitter Voltage	V _{CEO}		500	V
Emitter-to-Base Voltage	V _{EBO}		7	V
Collector Current	I _C		4	A
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	8	A
Collector Dissipation	P _C		1	W
		T _c =25°C	30	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} =500V, I _E =0A			10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0A			10	μA
DC Current Gain	h _{FE1}	V _{CE} =5V, I _C =0.3A	40		80	
	h _{FE2}	V _{CE} =5V, I _C =2.0A	8			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.3A		18		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		40		pF

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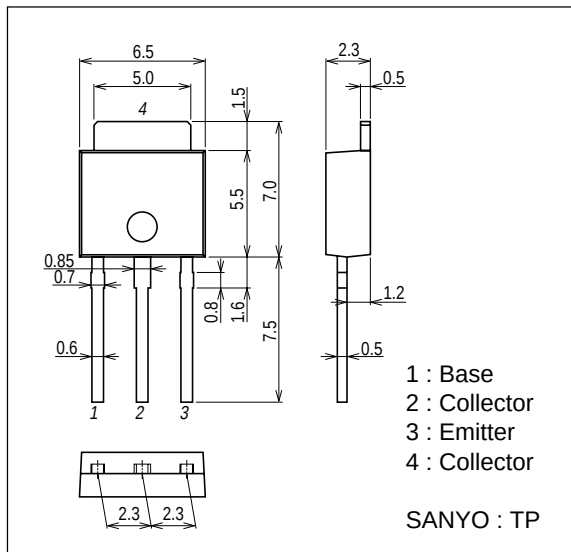
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=0.3A$			1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=0.3A$			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0A$	1000			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	500			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0A$	8			V
Turn-ON Time	t_{on}	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=2A, R_L=100\Omega$			0.5	μs
Storage Time	t_{stg}	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=2A, R_L=100\Omega$			3.0	μs
Fall Time	t_f	$V_{CC}=200V, 5I_{B1}=-2.5I_{B2}=I_C=2A, R_L=100\Omega$			0.3	μs

Package Dimensions

unit : mm (typ)

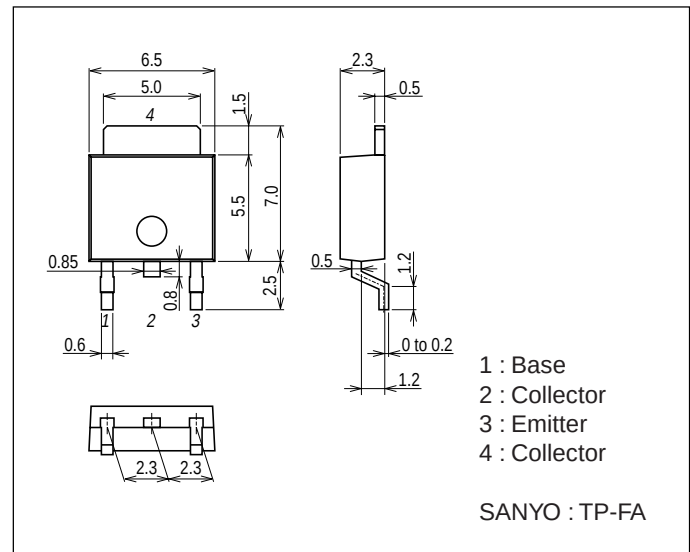
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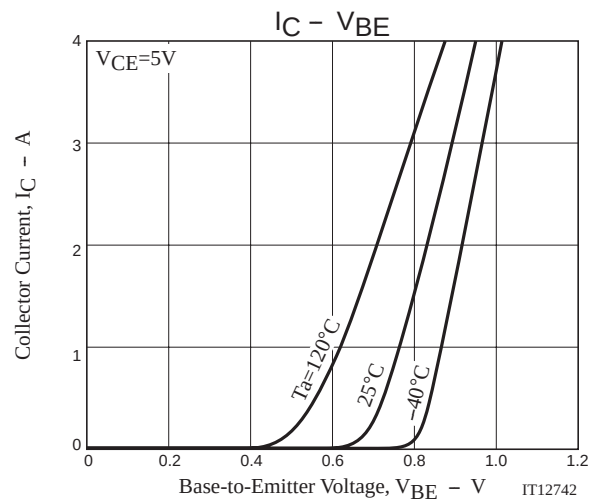
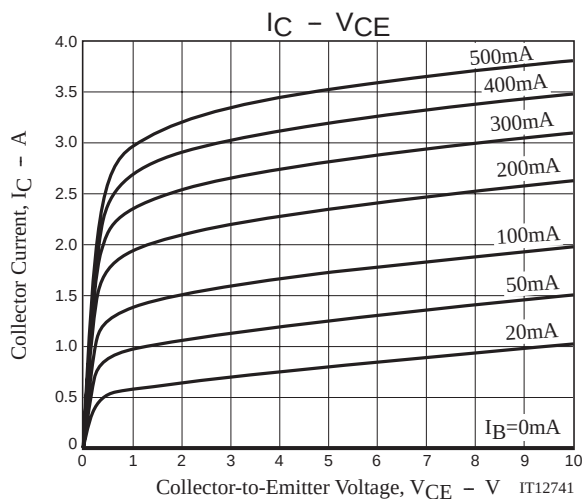
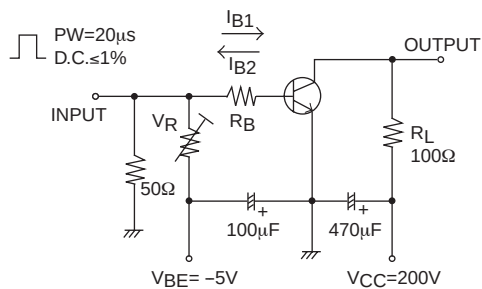
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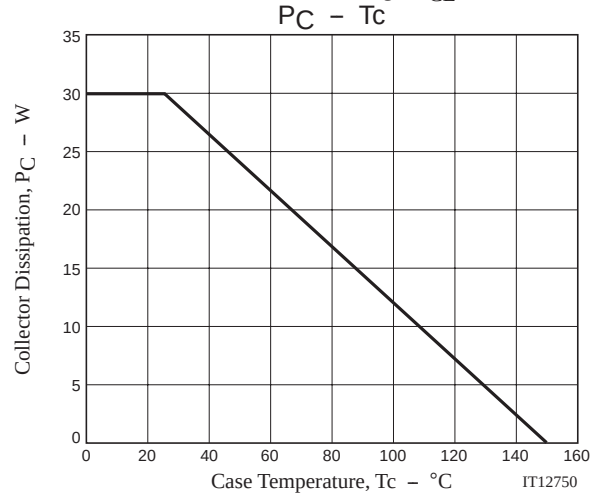
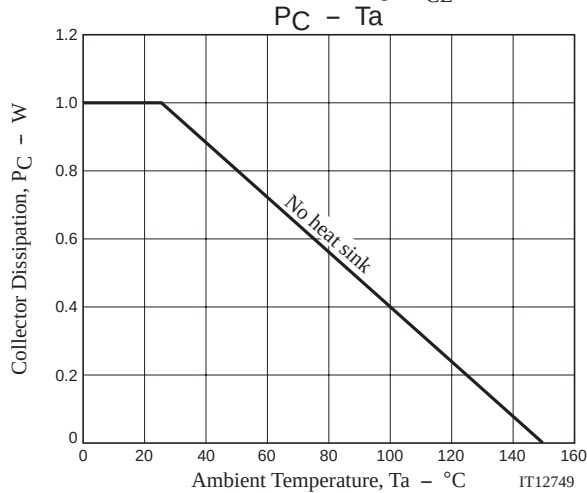
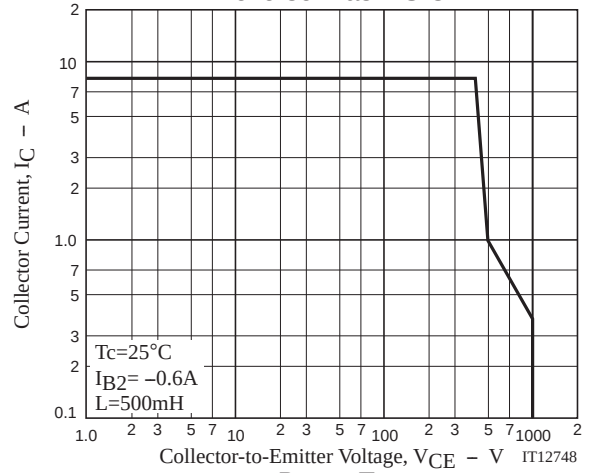
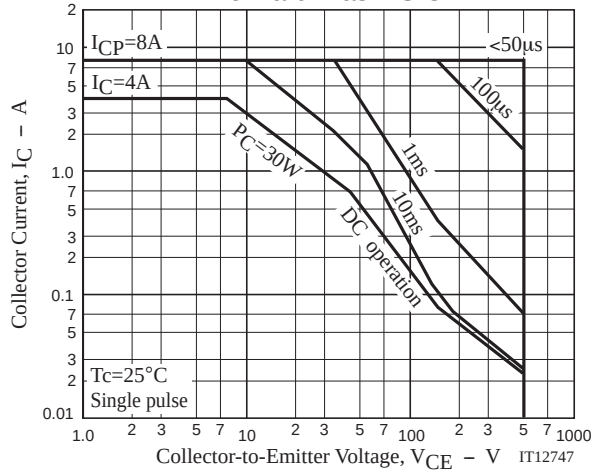
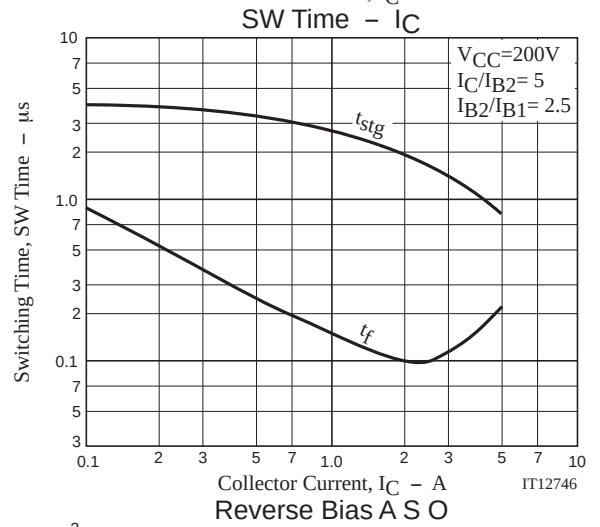
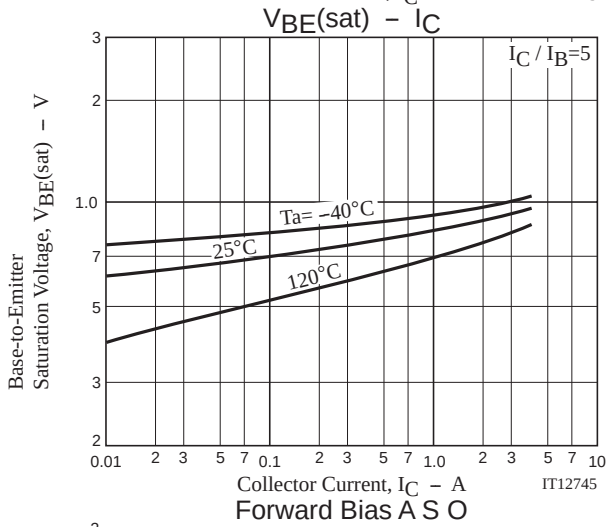
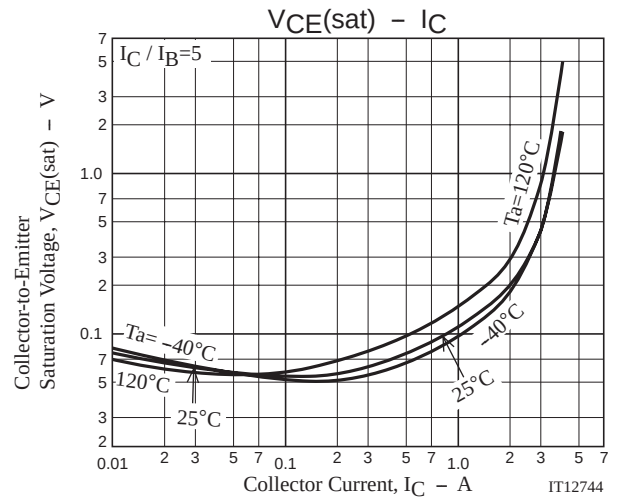
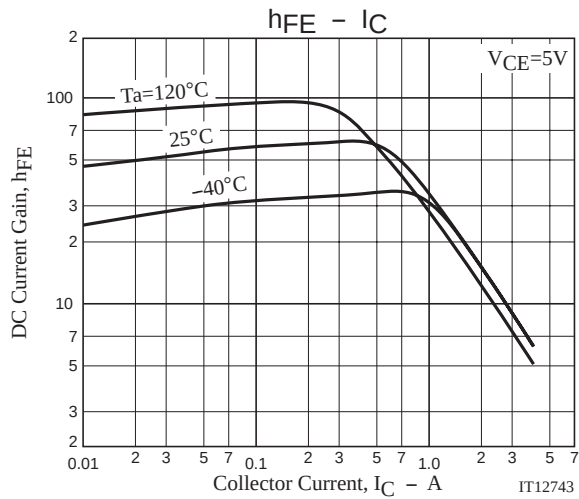
unit : mm (typ)

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Switching Time Test Circuit





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