Ordering number : ENA1139

SANYO Semiconductors
DATA SHEET

TT2274T — NPN Triple Diffused Planar Silicon Transistor
Switching Regulator Applications

Features

- High breakdown voltage (V_{CBO}≥1400V).
- Ultrahigh-speed switching.
- Wide ASO.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1400	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		1	A
Collector Current (Pulse)	I_{CP}	PW≤300μs, duty cycle≤10%	2	A
Collector Dissipation	P_C		1	W
		Tc=25°C	25	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-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}=800V, I_E=0A			10	μA
Collector Cutoff Current	I_{CES}	V_{CB}=1400V, R_{BE}=0Ω			1	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0A			1	mA
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=0.1A	15		35	
	$h_{FE}2$	V_{CE}=5V, I_C=0.5A	4			

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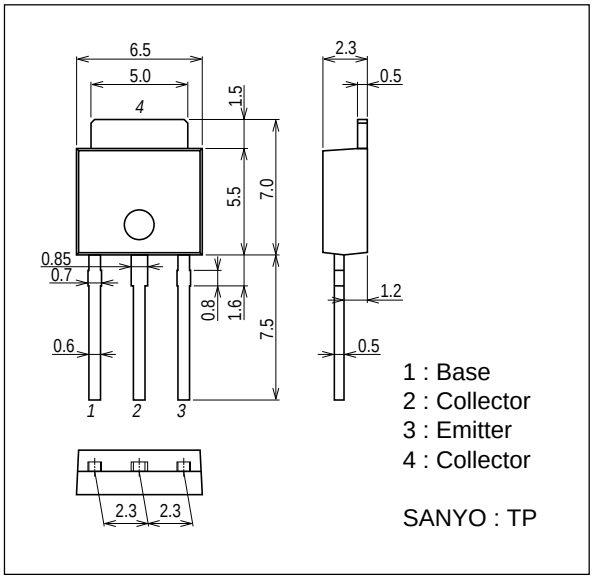
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=0.25A, I_B=0.05A			1.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=0.5A, I_B=0.1A			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0A	1400			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=5mA, R_{BE}=∞	800			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0A	5			V
Storage Time	t_{stg}	I_C=0.5A, I_{B1}=0.1A, I_{B2}=-0.25A, R_L=400Ω, V_{CC}=200V		1.5	3.0	μs
Fall Time	t_f	I_C=0.5A, I_{B1}=0.1A, I_{B2}=-0.25A, R_L=400Ω, V_{CC}=200V		0.25	0.4	μs

Package Dimensions

unit : mm (typ)

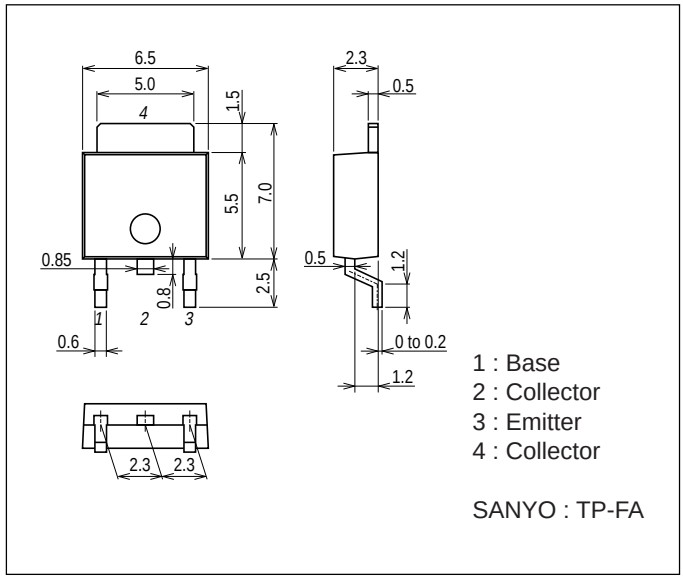
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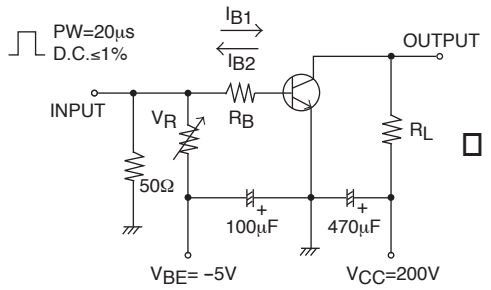
Package Dimensions

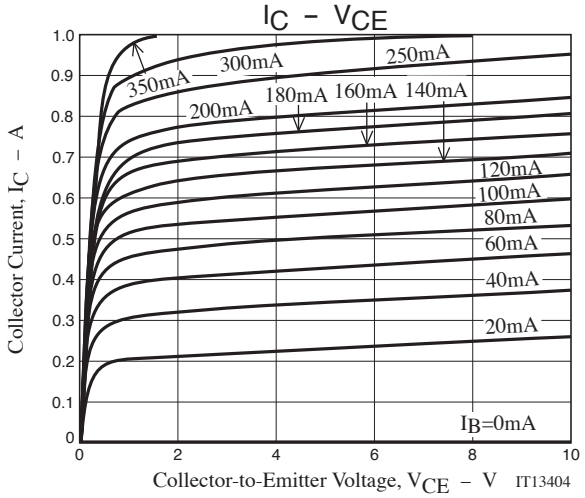
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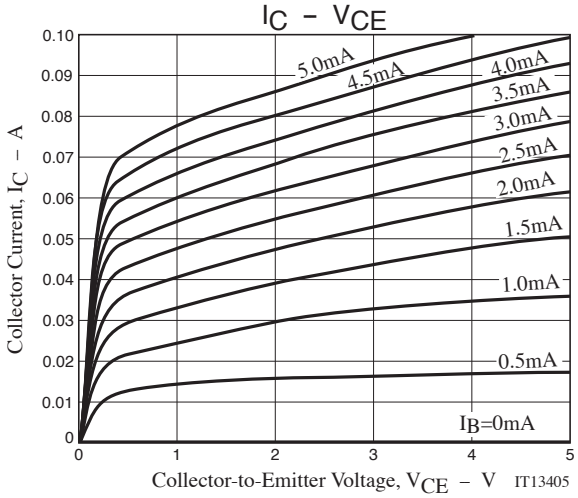
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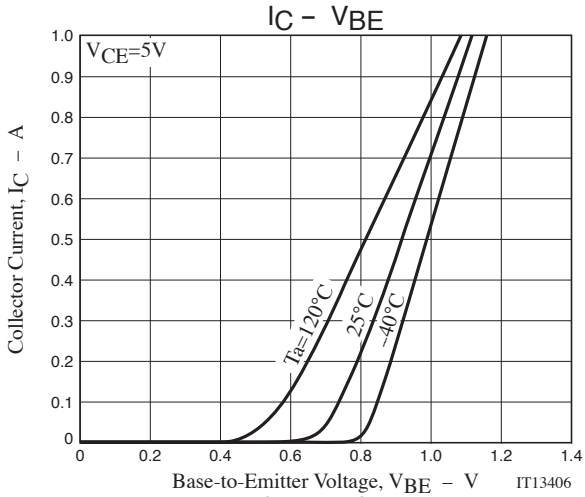


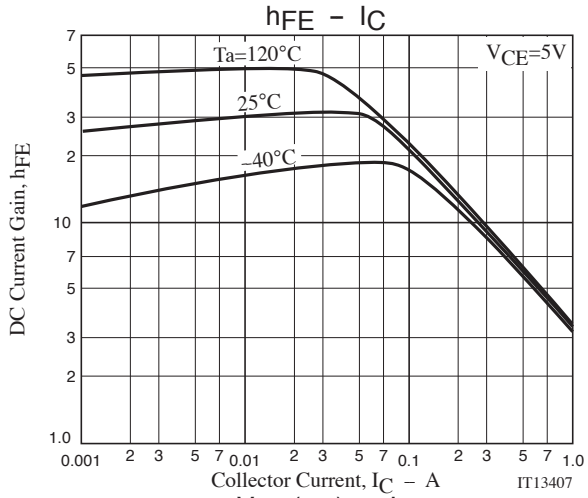
Switching Time Test Circuit

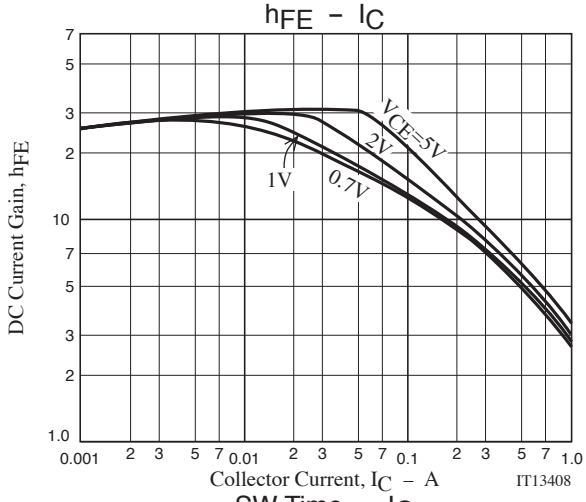


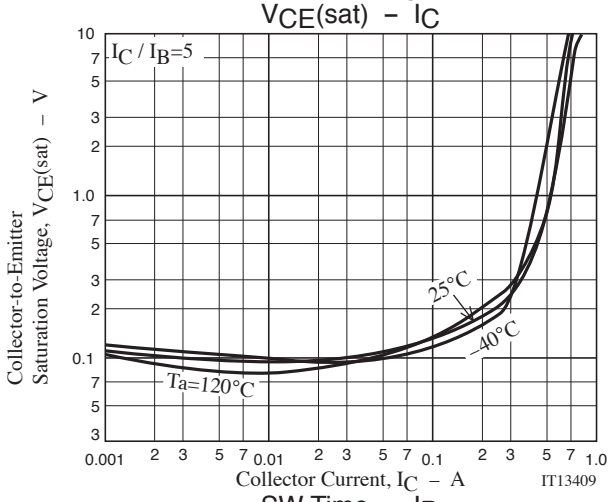


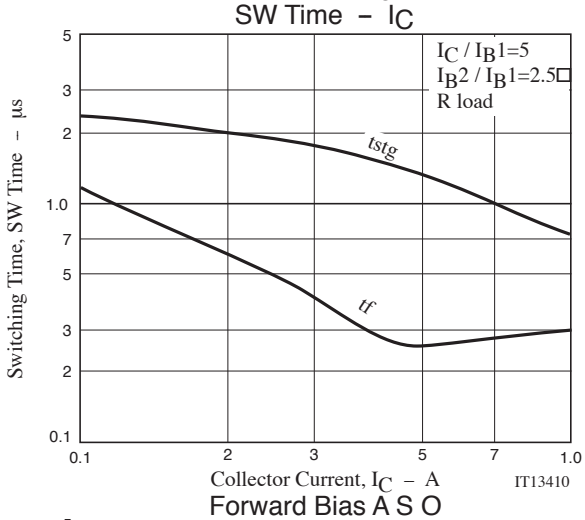


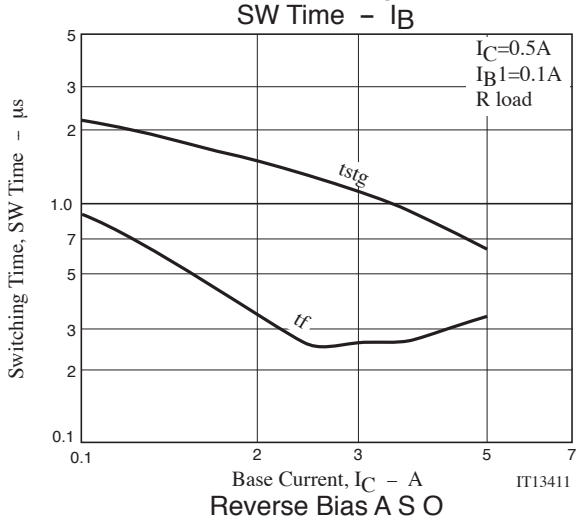

IC – VBE
VCE=5V
Ta=120°C
25°C
–40°C
Collector Current, IC – A
Base-to-Emitter Voltage, VBE – V
IT13406

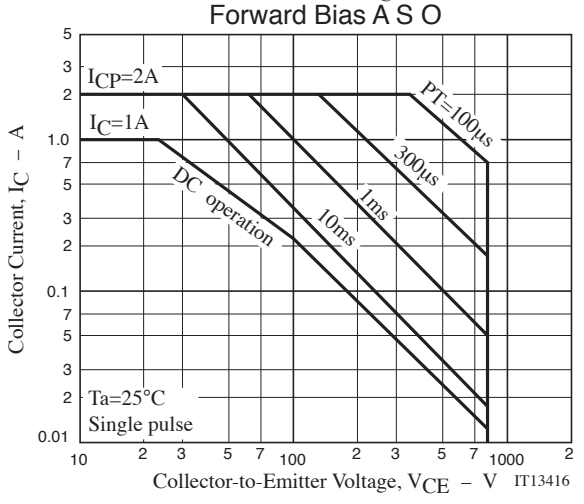

hFE – IC
Ta=120°C
VCE=5V
25°C
–40°C
DC Current Gain, hFE
Collector Current, IC – A
IT13407

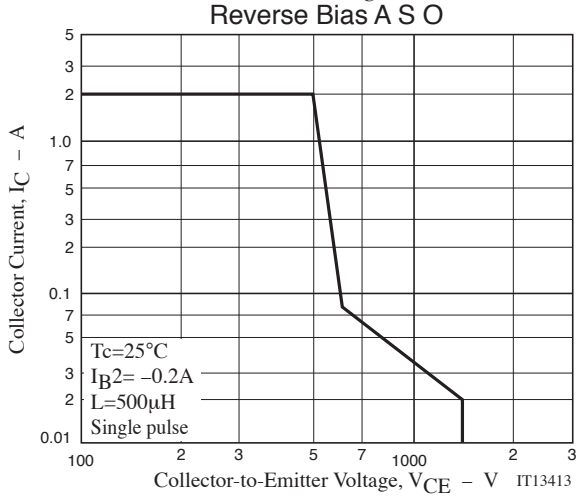

hFE – IC
VCE=5V
2V
1V
0.7V
DC Current Gain, hFE
Collector Current, IC – A
IT13408

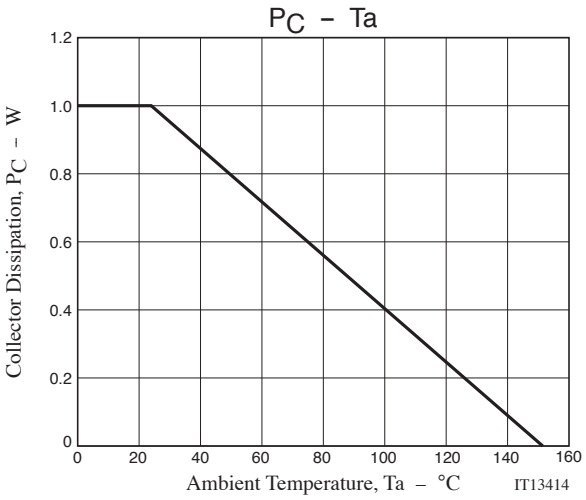

VCE(sat) – IC
IC / IB=5
25°C
–40°C
Ta=120°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A
IT13409

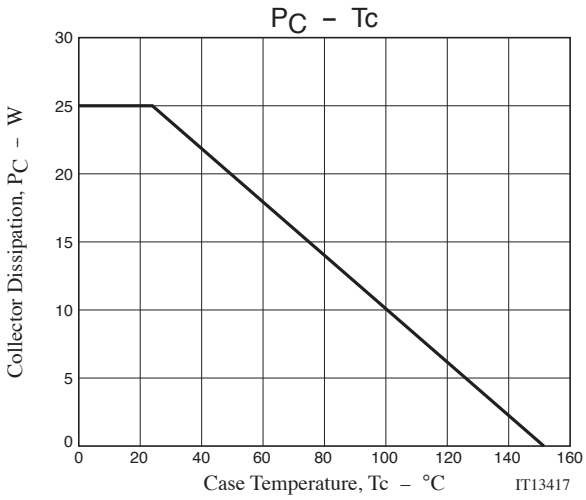

SW Time – IC
IC / IB1=5
IB2 / IB1=2.5□
R load
tstg
tf
Switching Time, SW Time – µs
Collector Current, IC – A
IT13410


SW Time – IB
IC=0.5A
IB1=0.1A
R load
tstg
tf
Switching Time, SW Time – µs
Base Current, IC – A
IT13411


Forward Bias A S O
ICP=2A
IC=1A
PT=100µs
300µs
1ms
10ms
DC operation
Ta=25°C
Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT13416


Reverse Bias A S O
Tc=25°C
IB2= –0.2A
L=500µH
Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT13413





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