



SANYO Semiconductors DATA SHEET

2SC6113 — NPN Triple Diffused Planar Silicon Transistor For 14, 21 inch TV Power Supply

Applications

- Recommended for use in 14, 21 inch TV power supply.

Features

- High breakdown voltage and high reliability.
- Ultrahigh-speed switching.
- Wide ASO.
- Adoption of MBIT process.
- Attachment workability is good by Mica-less package.

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 _{CE0}		500	V
Emitter-to-Base Voltage	V _{EB0}		7	V
Collector Current	I _C		15	A
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	25	A
Collector Dissipation	P _C		3	W
		T _c =25°C	60	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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SANYO Semiconductor Co., Ltd.

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40908KB TI IM TC-00001309 No. A1155-1/4

2SC6113

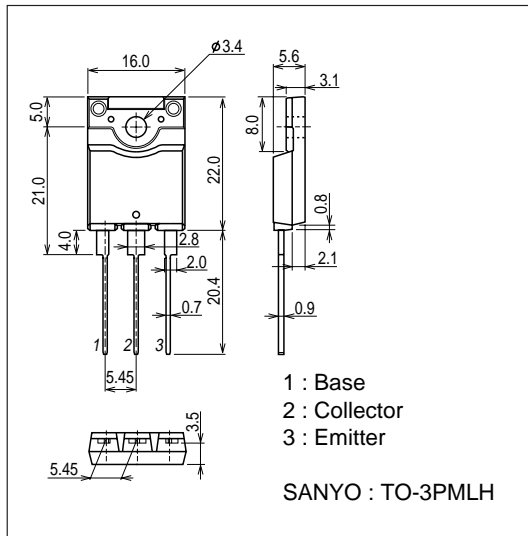
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=500\text{V}, I_E=0\text{A}$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0\text{A}$			10	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=1.2\text{A}$	40		80	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=6\text{A}$	8			
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=1.2\text{A}$		18		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		80		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=6\text{A}, I_B=1.2\text{A}$			1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=6\text{A}, I_B=1.2\text{A}$			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0\text{A}$	1000			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5\text{mA}, R_{BE}=\infty$	500			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0\text{A}$	7			V
Collector-to-Emitter Saturation Voltage	$V_{CEX(sus)}$	$I_C=2.5\text{A}, I_{B1}=-I_{B2}=2\text{A}, L=1\text{mH}, \text{clamped}$	500			V
Turn-ON Time	t_{on}	$V_{CC}=200\text{V}, 5I_{B1}=-2.5I_{B2}=I_C=7\text{A}, R_L=50\Omega$			0.5	μs
Storage Time	t_{stg}	$V_{CC}=200\text{V}, 5I_{B1}=-2.5I_{B2}=I_C=7\text{A}, R_L=50\Omega$			3.0	μs
Fall Time	t_f	$V_{CC}=200\text{V}, 5I_{B1}=-2.5I_{B2}=I_C=7\text{A}, R_L=50\Omega$			0.3	μs

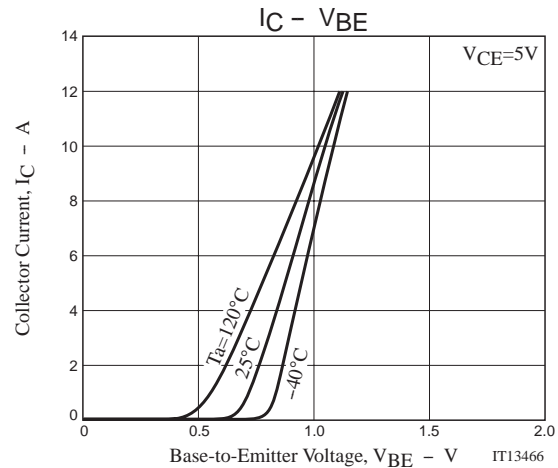
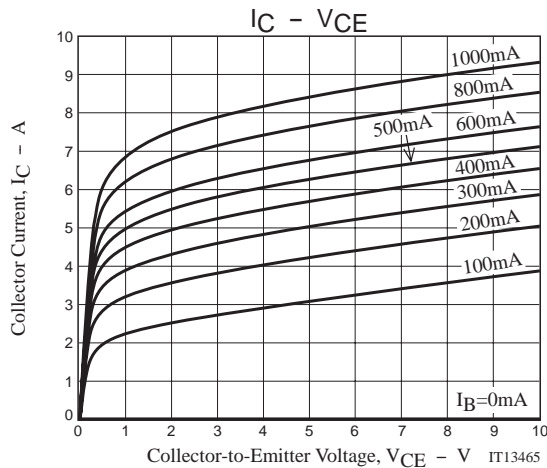
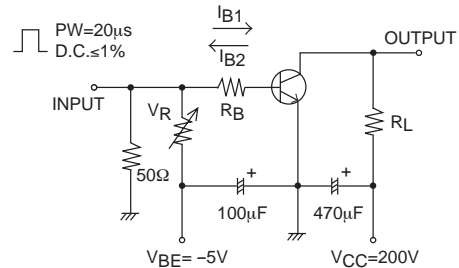
Package Dimensions

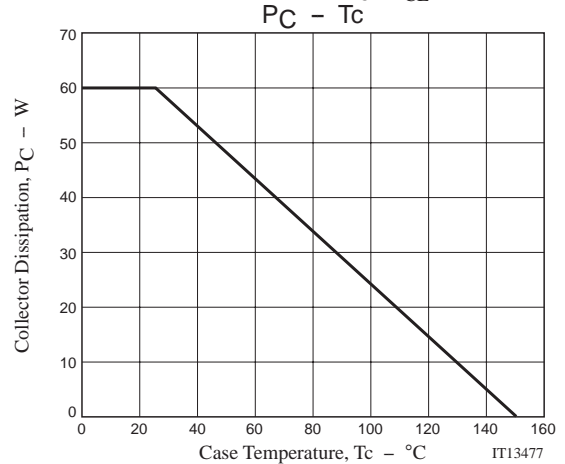
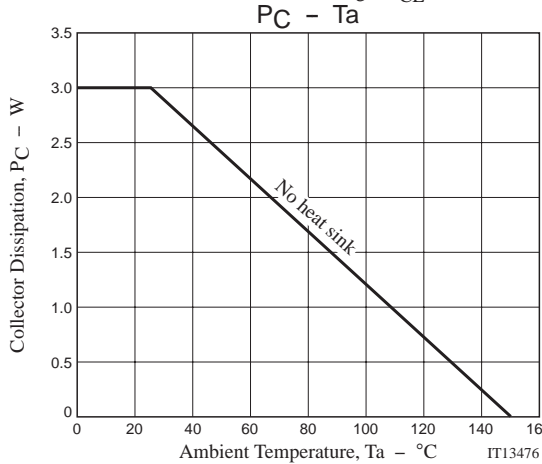
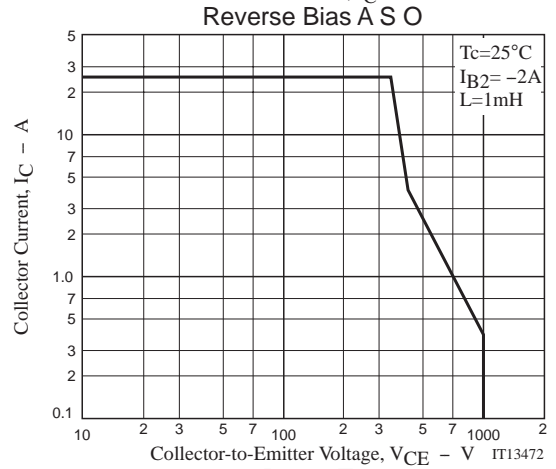
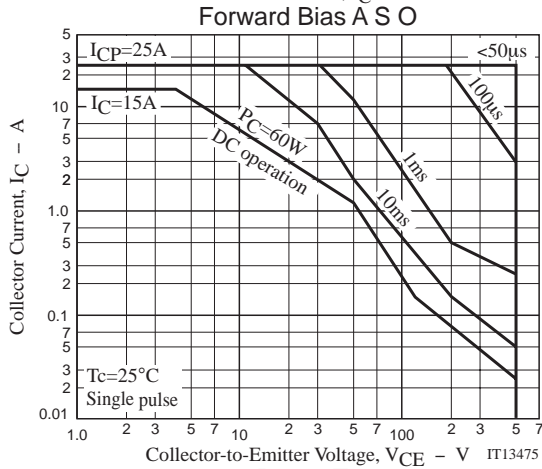
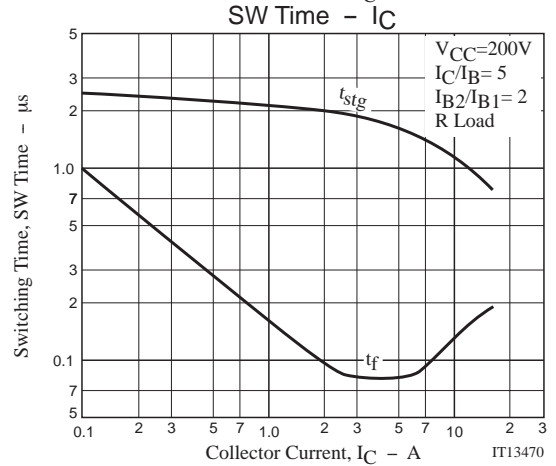
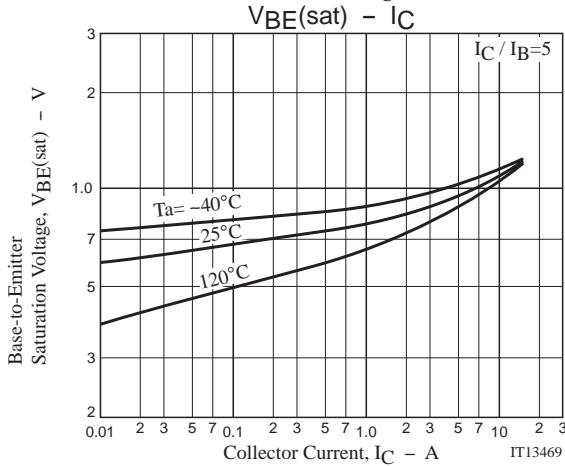
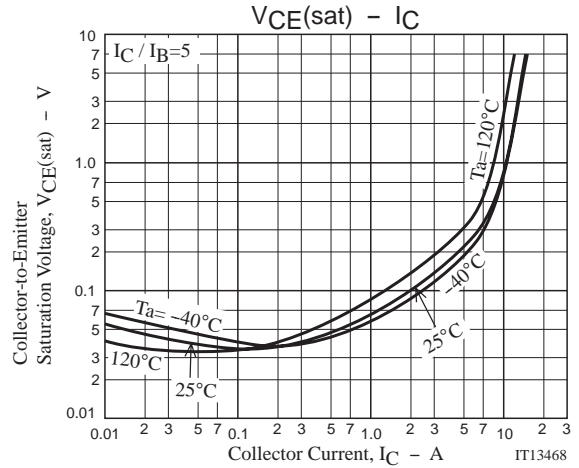
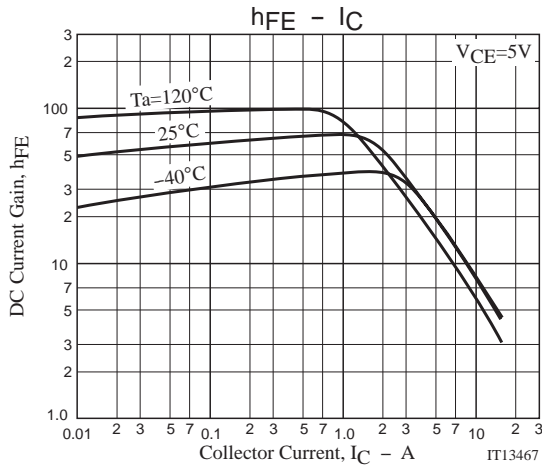
unit : mm (typ)

7504-001



Switching Time Test Circuit





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