



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SA2124 — PNP Epitaxial Planar Silicon Transistor

# High-Current Switching Applications

### Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

### Features

- Adoption of MBIT processes.
- Low collector-to-emitter saturation voltage.
- High current capacity.
- High-speed switching.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		-30	V
Collector-to-Emitter Voltage	VCEO		-30	V
Emitter-to-Base Voltage	VEBO		-6	V
Collector Current	IC		-2	A
Collector Current (Pulse)	ICP		-5	A
Base Current	IB		-400	mA
Collector Dissipation	PC	Mounted on a ceramic board (450mm <sup>2</sup> ×0.8m)	1.3	W
		Tc=25°C	3.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Marking : AX

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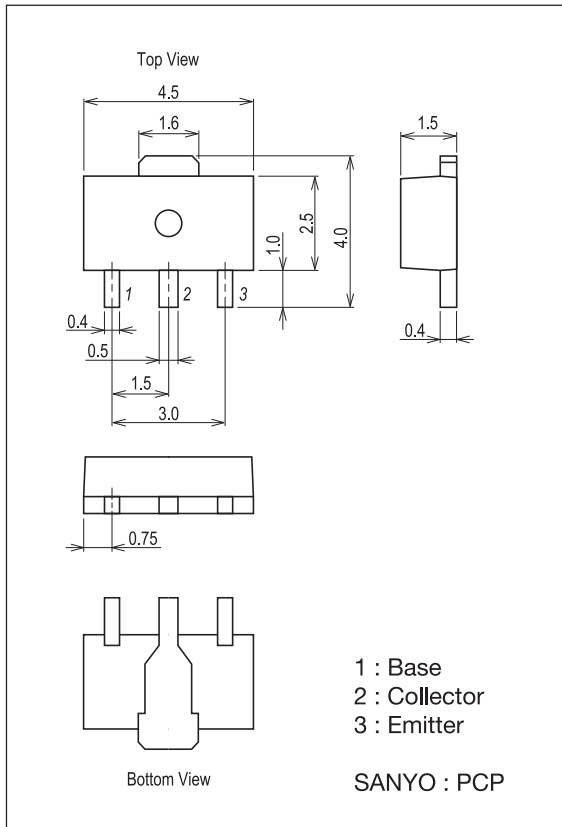
# 2SA2124

## Electrical Characteristics at Ta=25°C

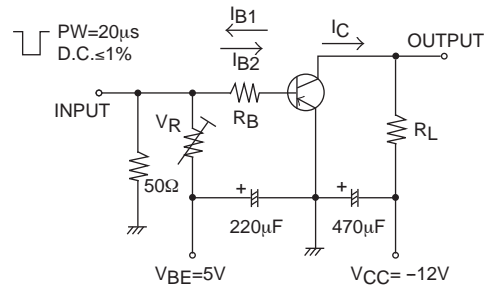
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-30V, I_E=0A$			-0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-4V, I_C=0A$			-0.1	$\mu A$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=-2V, I_C=-100mA$	200		560	
	$h_{FE}(2)$	$V_{CE}=-2V, I_C=-1.5A$	65			
Gain-Bandwidth Product	$f_T$	$V_{CE}=-10V, I_C=-300mA$		440		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE}(sat)$	$I_C=-1.5A, I_B=-75mA$		-0.2	-0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE}(sat)$	$I_C=-1.5V, I_B=-75mA$		-0.95	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0A$	-30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0A$	-6			V
Output Capacitance	$C_{ob}$	$V_{CB}=-10V, f=1MHz$		17		pF
Turn-On Time	$t_{on}$	See specified Test Circuit.		45		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		200		ns
Fall Time	$t_f$	See specified Test Circuit.		23		ns

## Package Dimensions

unit : mm (typ)  
7007B-004

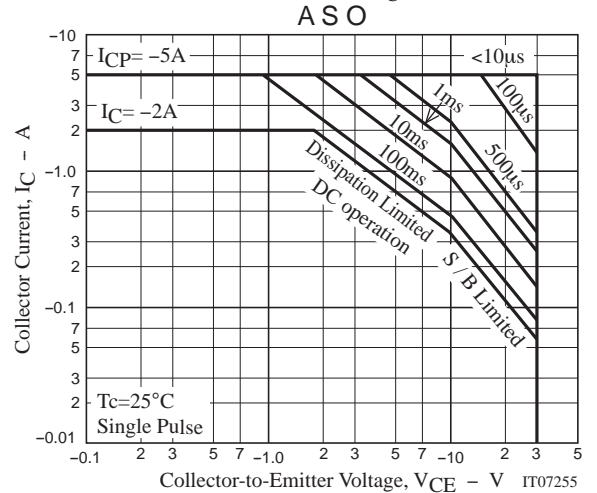
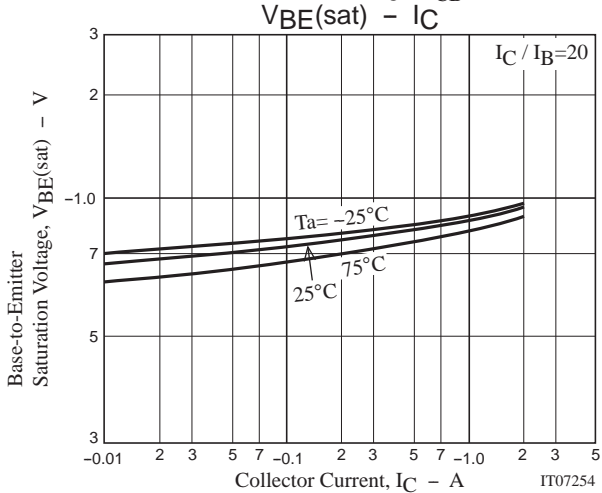
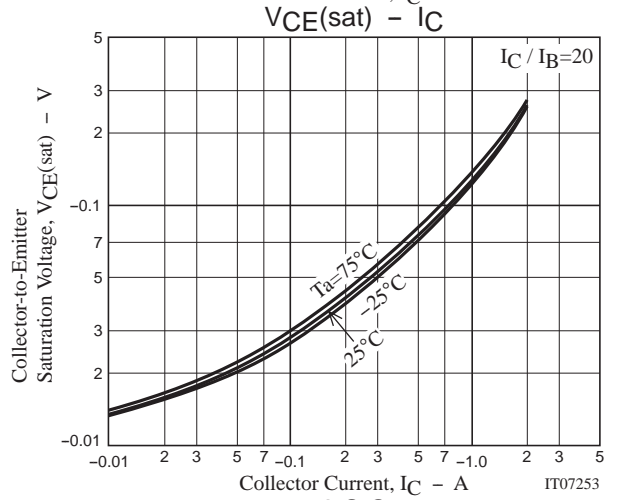
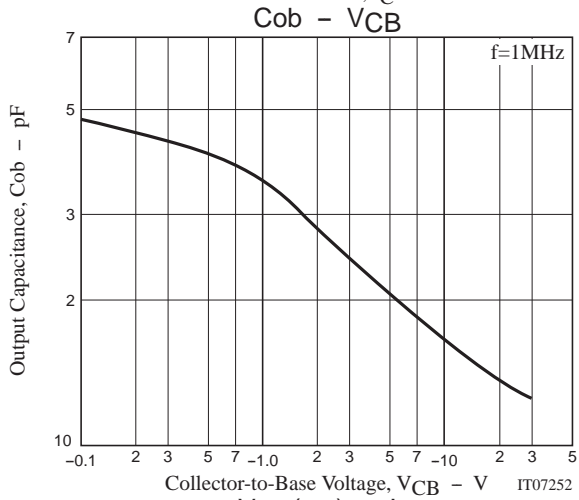
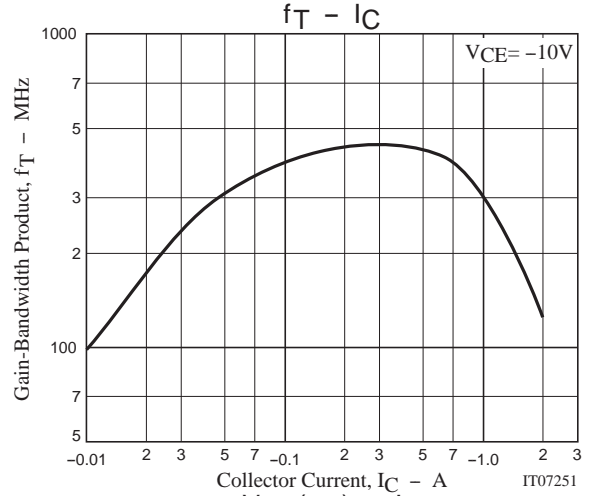
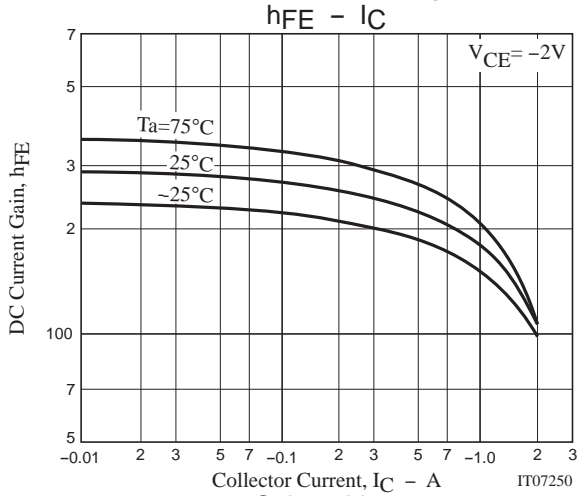
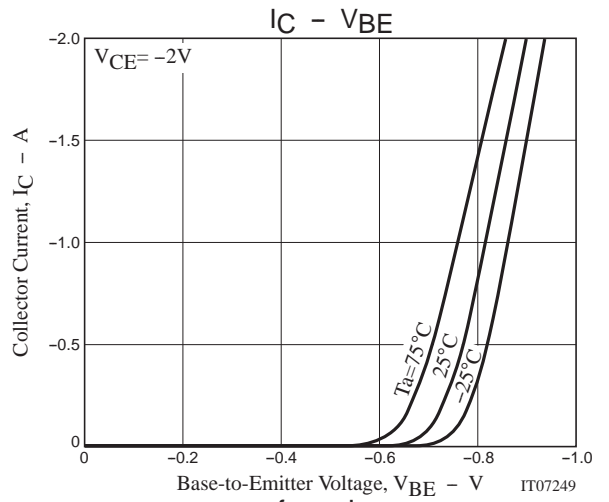
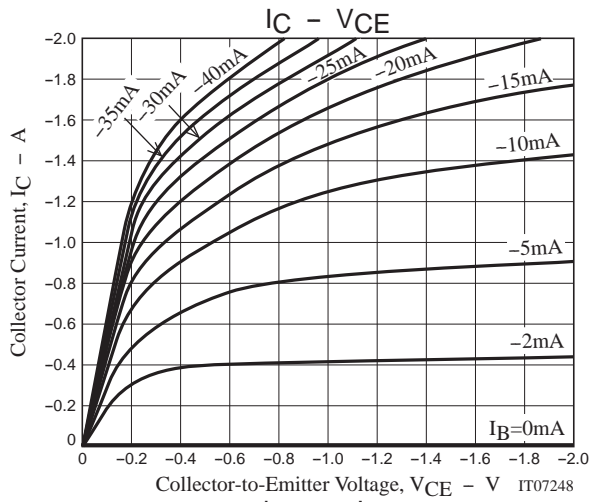


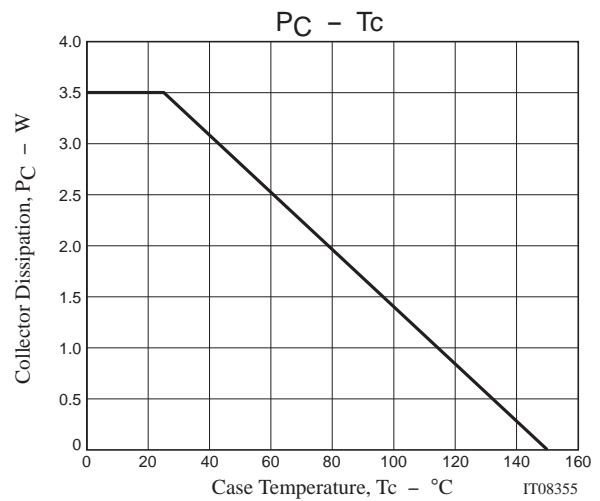
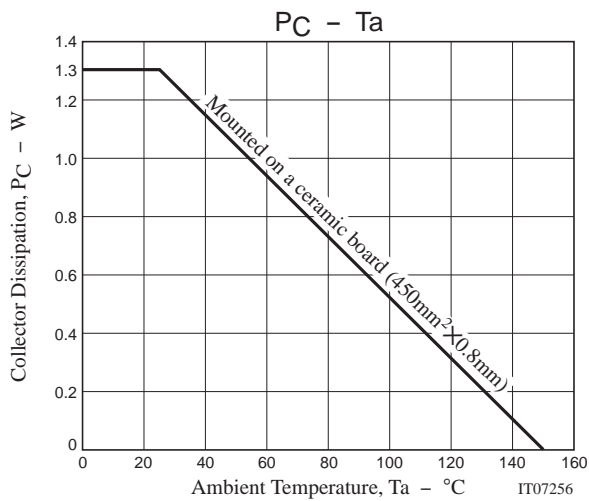
## Switching Time Test Circuit



$$I_C = -20I_{B1} = 20I_{B2} = -0.5A$$

# 2SA2124





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