



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
- Large current capacity
- High-speed switching

Specifications

Absolute Maximum Ratings at Ta=25°C

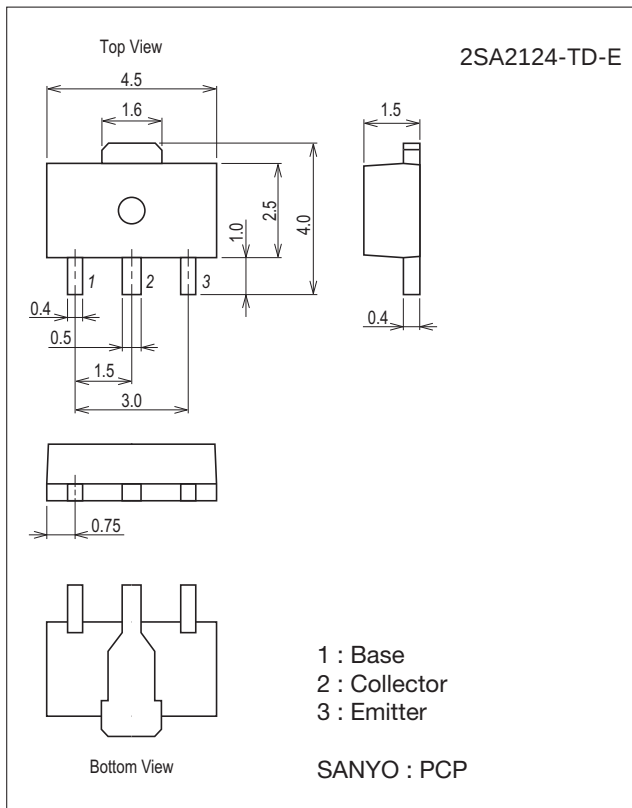
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-30	V
Collector-to-Emitter Voltage	V _{CE0}		-30	V
Emitter-to-Base Voltage	V _{EB0}		-6	V
Collector Current	I _C		-2	A
Collector Current (Pulse)	I _{CP}		-5	A

Continued on next page.

Package Dimensions

unit : mm (typ)

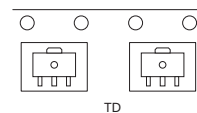
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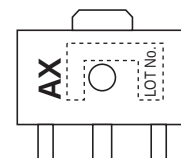
Product & Package Information

- Package : PCP
- JEITA, JEDEC : SC-62, SOT-89, TO-243
- Minimum Packing Quantity : 1,000 pcs./reel

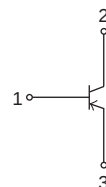
Packing Type: TD



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://www.sanyosemi.com/en/network/>

2SA2124

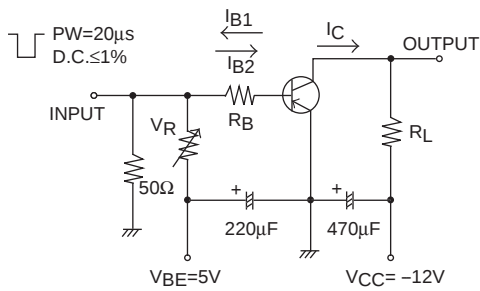
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Parameter	Symbol	Conditions	Ratings	Unit
Base Current	I_B		-400	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (450mm ² ×0.8mm)	1.3	W
		$T_C=25^{\circ}\text{C}$	3.5	W
Junction Temperature	T_j		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-30\text{V}$, $I_E=0\text{A}$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0\text{A}$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}$, $I_C=-100\text{mA}$	200		560	
	h_{FE2}	$V_{CE}=-2\text{V}$, $I_C=-1.5\text{A}$	65			
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}$, $I_C=-300\text{mA}$		440		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.5\text{A}$, $I_B=-75\text{mA}$		-0.2	-0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.5\text{A}$, $I_B=-75\text{mA}$		-0.95	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$, $I_E=0\text{A}$	-30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $R_{BE}=\infty$	-30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$, $I_C=0\text{A}$	-6			V
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$		17		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		45		ns
Storage Time	t_{stg}			200		ns
Fall Time	t_f			23		ns

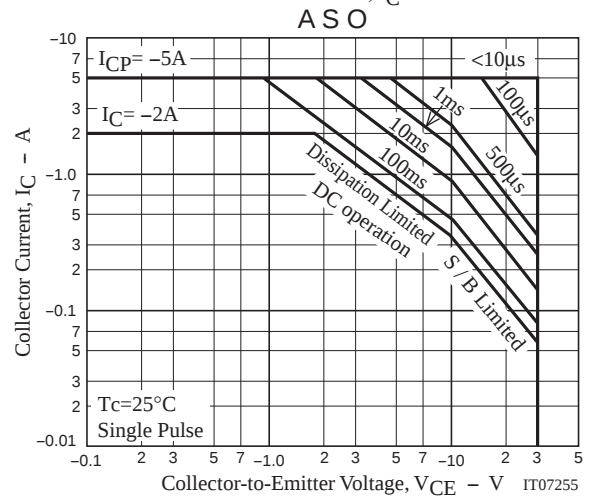
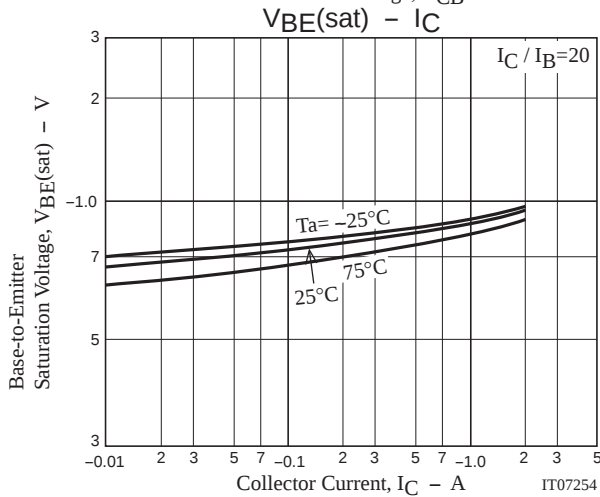
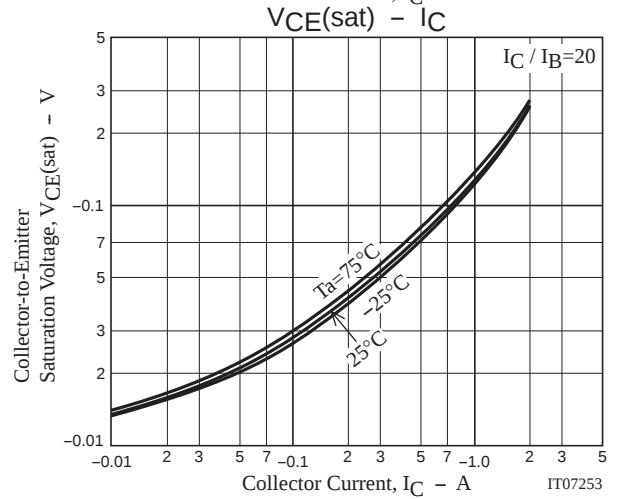
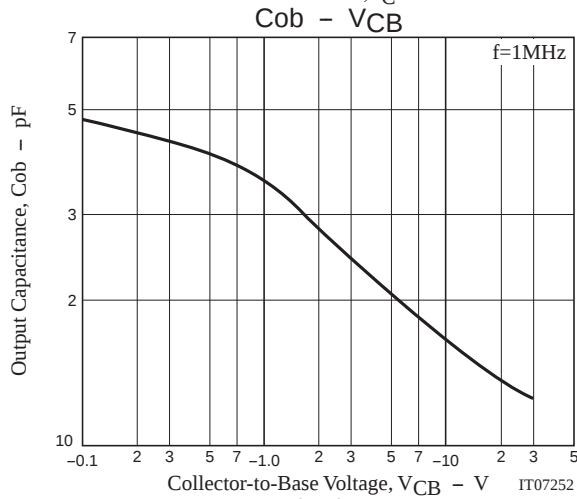
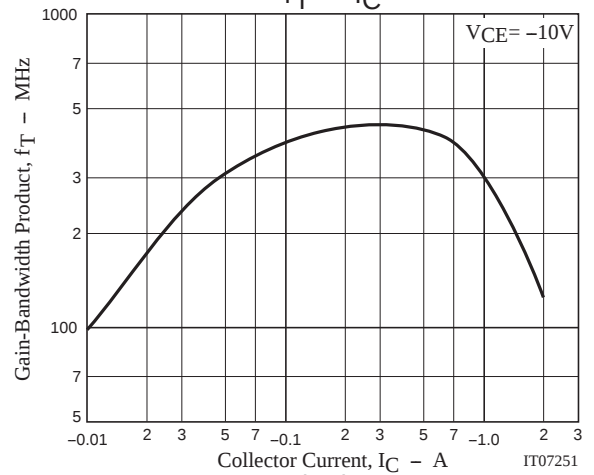
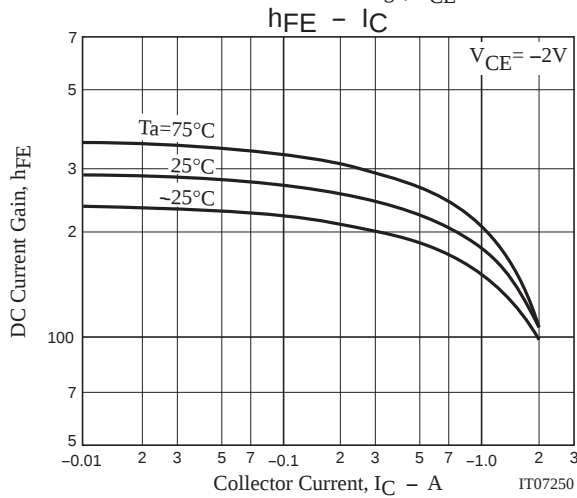
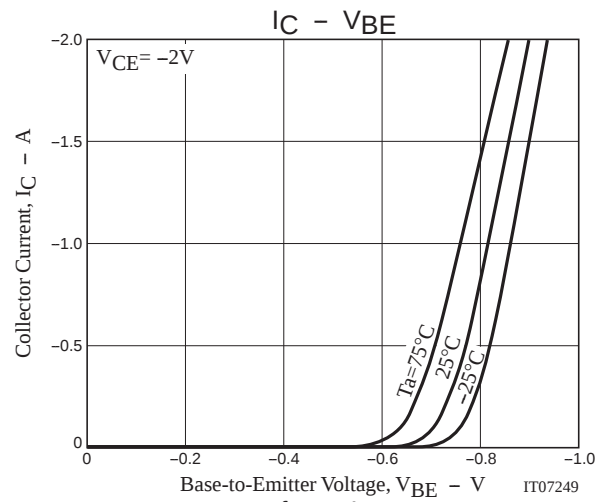
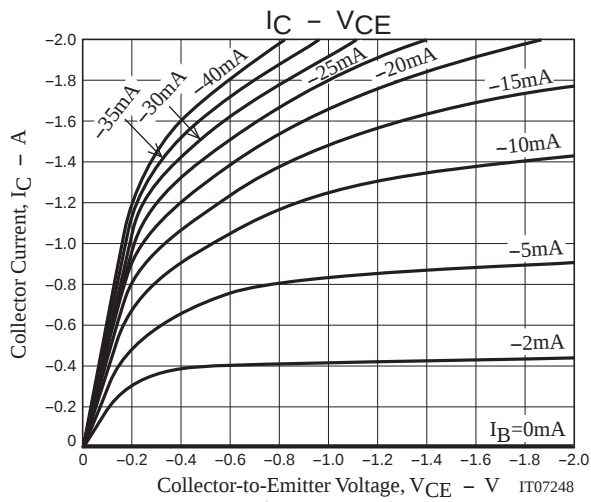
Switching Time Test Circuit

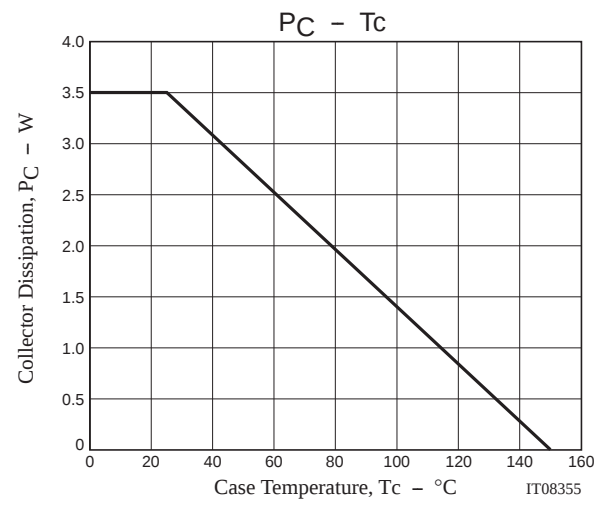
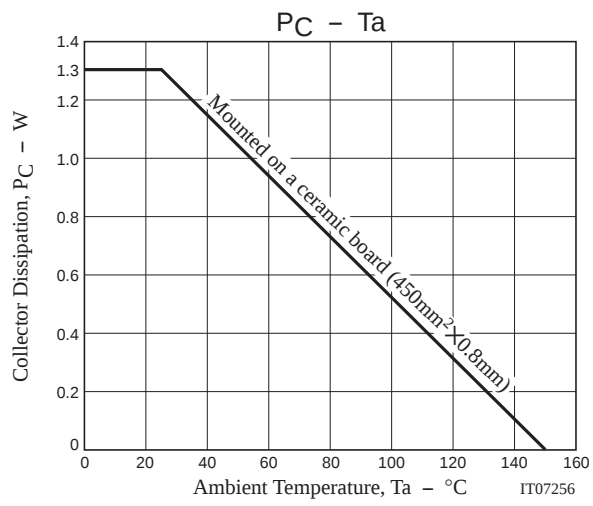


$$I_C=20I_{B1}=-20I_{B2}=-0.5\text{A}$$

Ordering Information

Device	Package	Shipping	memo
2SA2124-TD-E	PCP	1,000pcs./reel	Pb Free





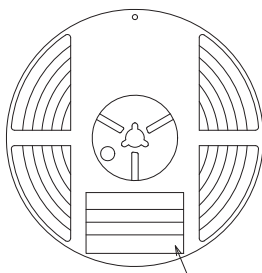
Bag Packing Specification

2SA2124-TD-E

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
PCP	PCP	1,000	4,000	24,000	4 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



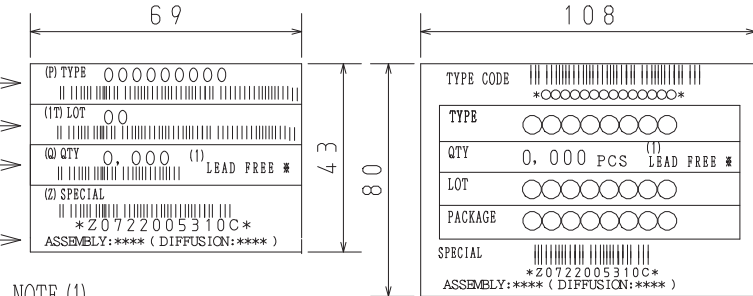
Reel label

Type No. →
LOT No. →
Quantity →
Origin →

Reel label, Inner box label
(unit:mm)

Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.



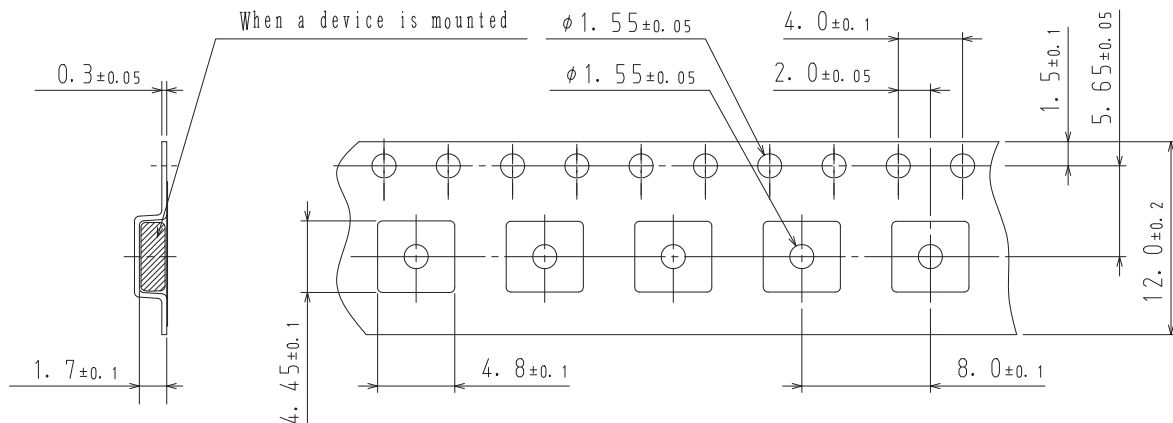
NOTE (1)

The LEAD FREE # description shows that the surface
treatment of the terminal is lead free.

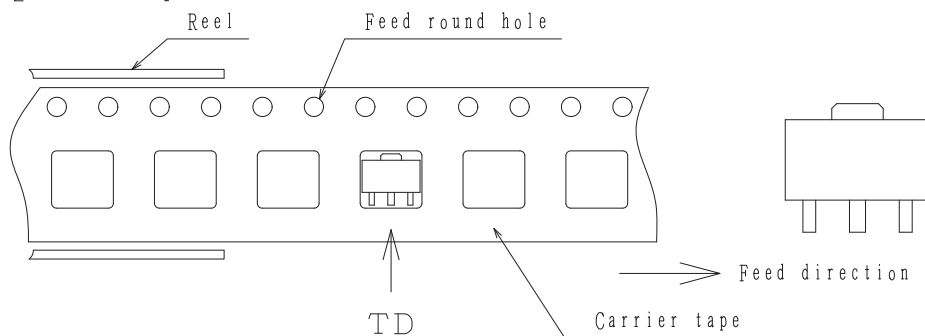
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)

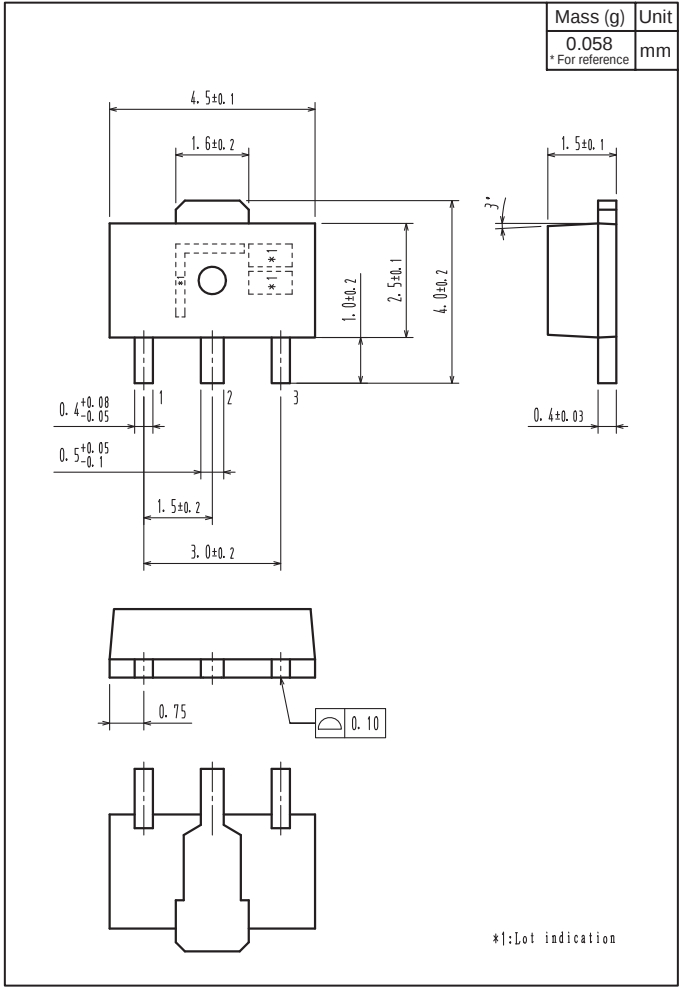


2-2. Device placement direction

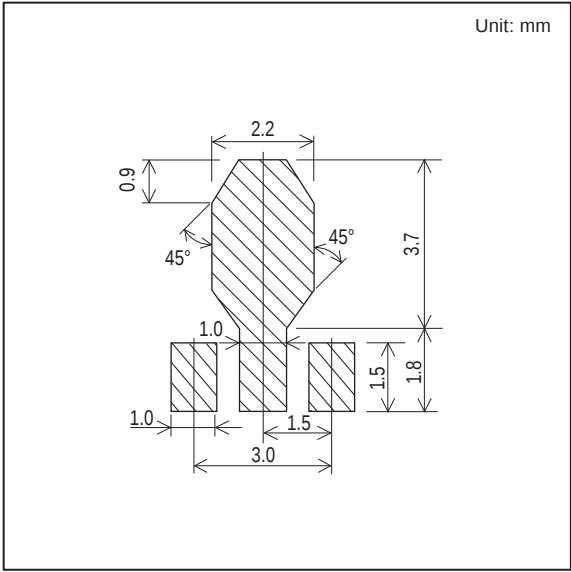


Those with pin 1 index on the feed hole side.....TD

Outline Drawing
2SA2124-TD-E



Land Pattern Example



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