



ON Semiconductor®

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2SA2124

Bipolar Transistor -30V, -2A, Low VCE(sat), PNP Single PCP

Applicaitions

- 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

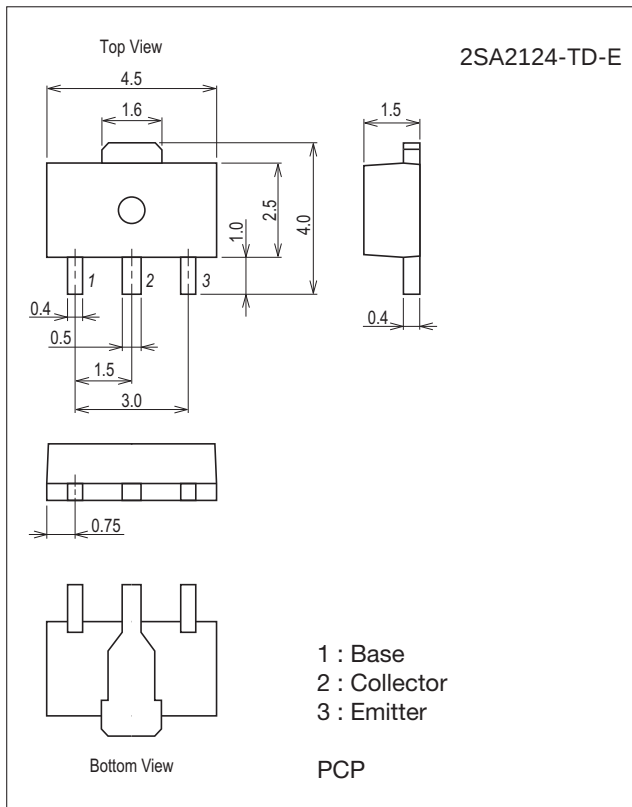
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		-30	V
Collector-to-Emitter Voltage	V _{CEO}		-30	V
Emitter-to-Base Voltage	V _{EBO}		-6	V
Collector Current	I _C		-2	A
Collector Current (Pulse)	I _{CP}		-5	A

Continued on next page.

Package Dimensions

unit : mm (typ)

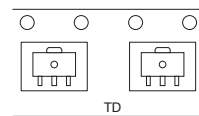
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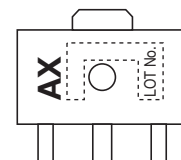
Product & Package Information

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

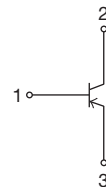
Packing Type: TD



Marking



Electrical Connection



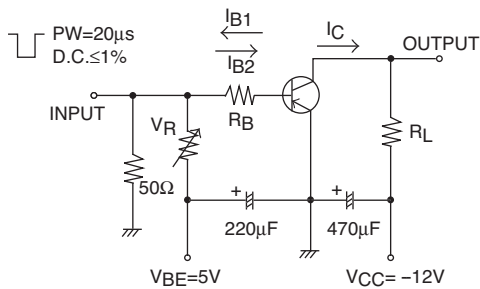
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Parameter	Symbol	Conditions	Ratings	Unit
Base Current	I_B		-400	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (450mm ² ×0.8mm)	1.3	W
		$T_C=25^{\circ}\text{C}$	3.5	W
Junction Temperature	T_j		150	$^{\circ}\text{C}$
Storage Temperature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

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

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

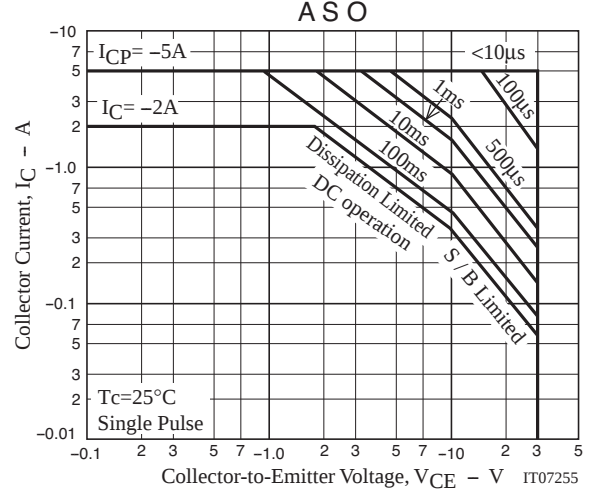
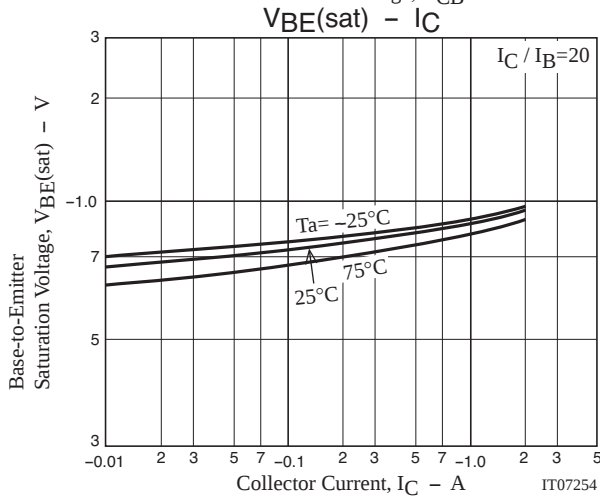
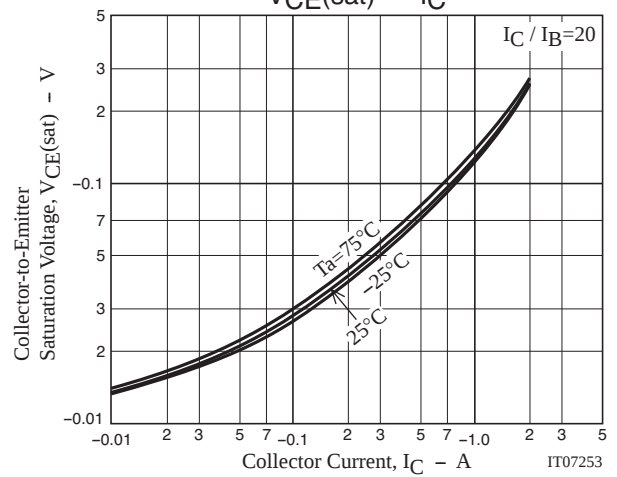
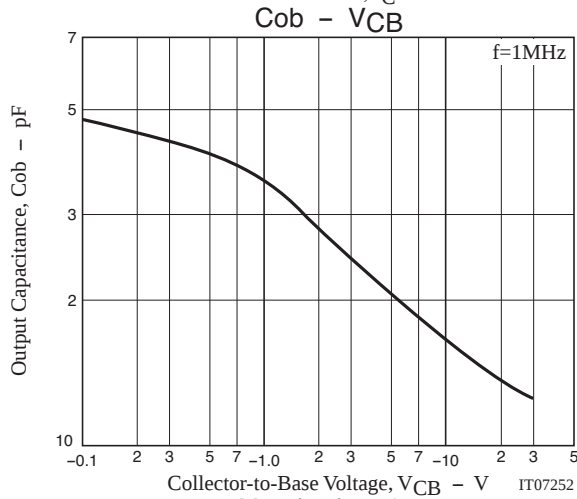
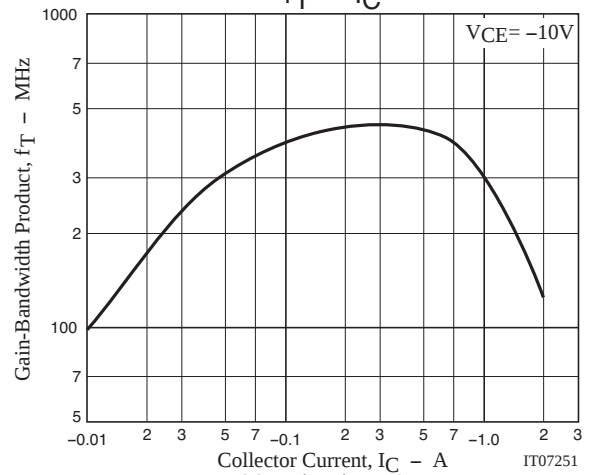
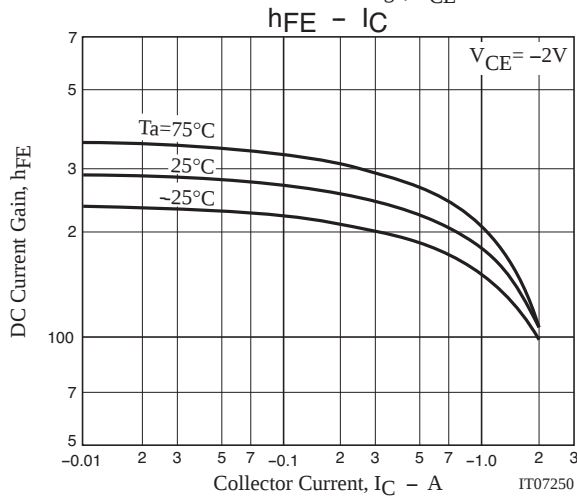
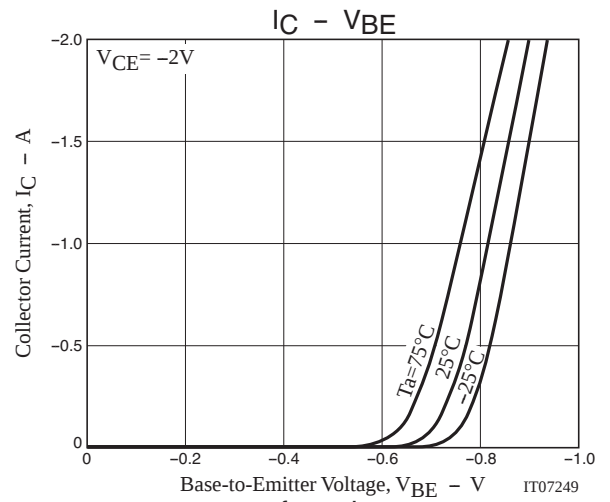
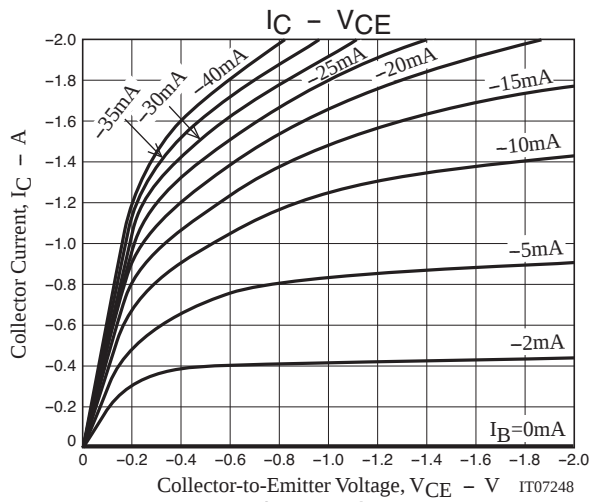
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0\text{A}$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0\text{A}$			-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	200		560	
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-1.5\text{A}$	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

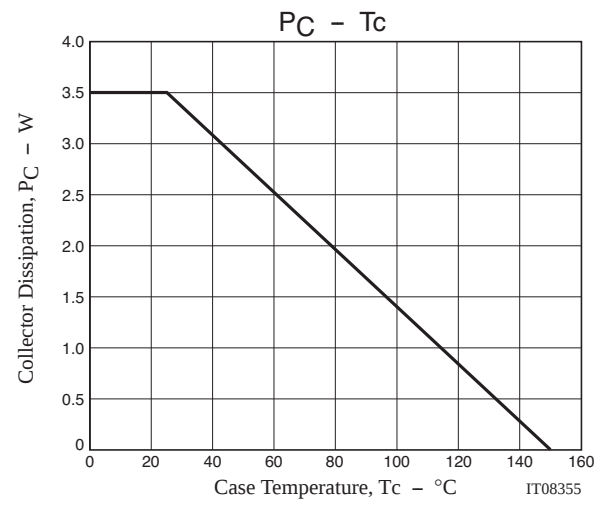
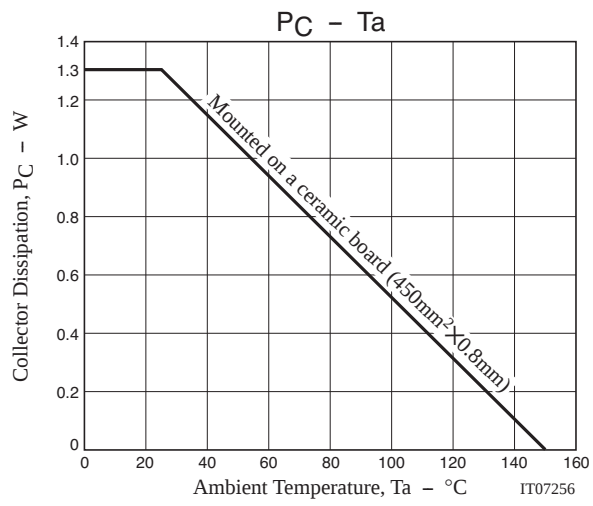
Switching Time Test Circuit

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

Ordering Information

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





Bag Packing Specification

2SA2124-TD-E

1. Packing Format

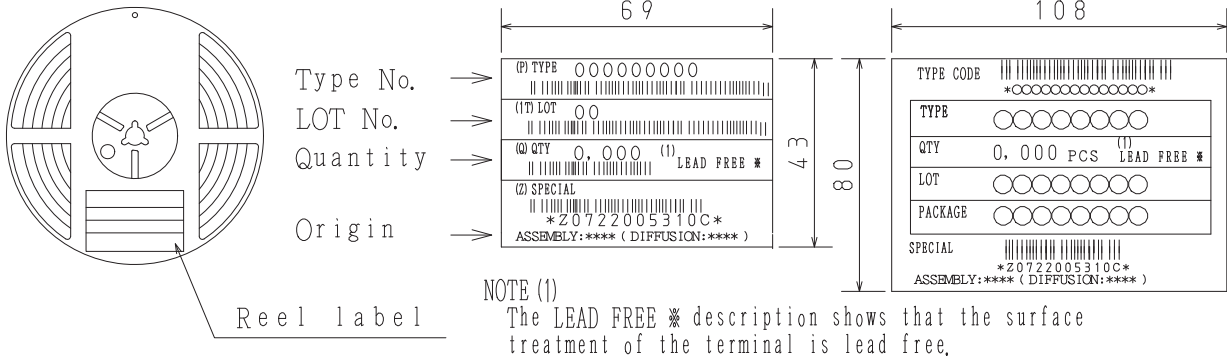
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
PCP	PCP	1,000	4,000	24,000	4 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

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.

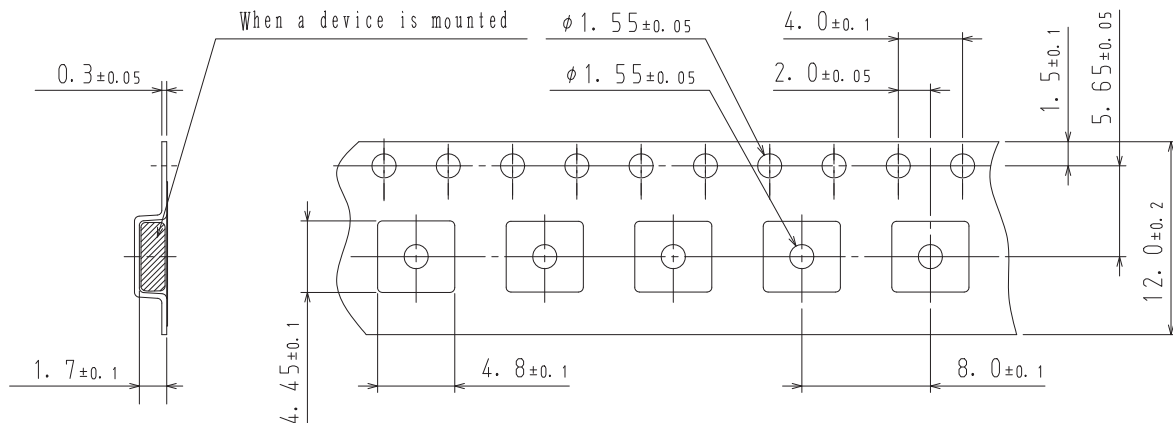
Packing method



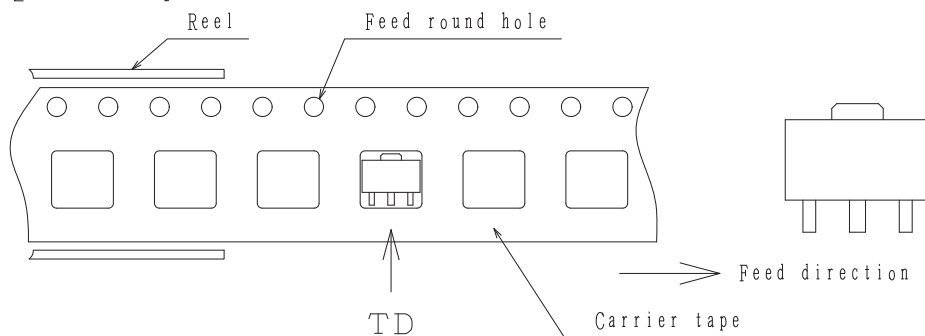
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

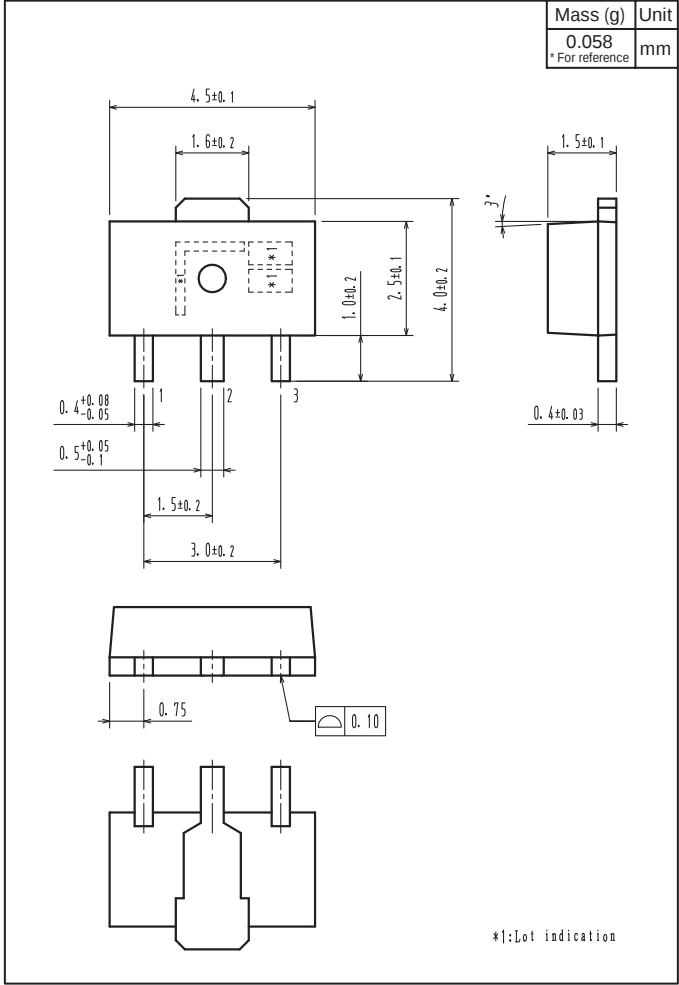


2-2. Device placement direction

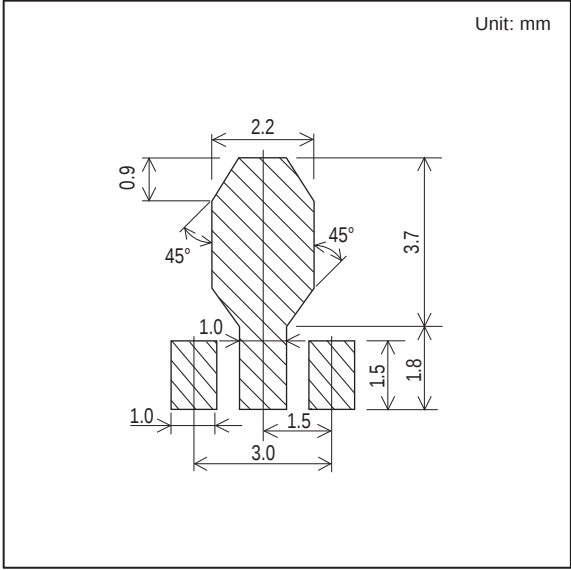


Those with pin 1 index on the feed hole side.....TD

Outline Drawing
2SA2124-TD-E



Land Pattern Example



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