



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

PNP Epitaxial Planar Silicon Transistor

2SA2126 — DC / DC Converter Applications

Applications

- DC / DC converter, relay drivers, lamp drivers, motor drivers

Features

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

Specifications

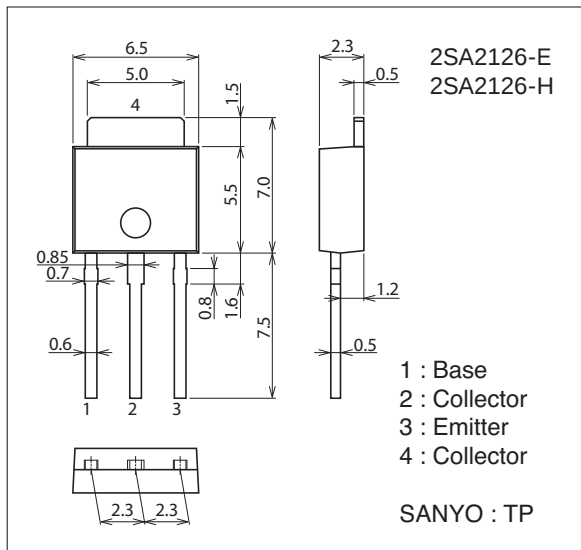
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CES}		-50	V
Collector-to-Emitter Voltage	V_{CEO}		-50	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-6	A
Base Current	I_B		-600	mA

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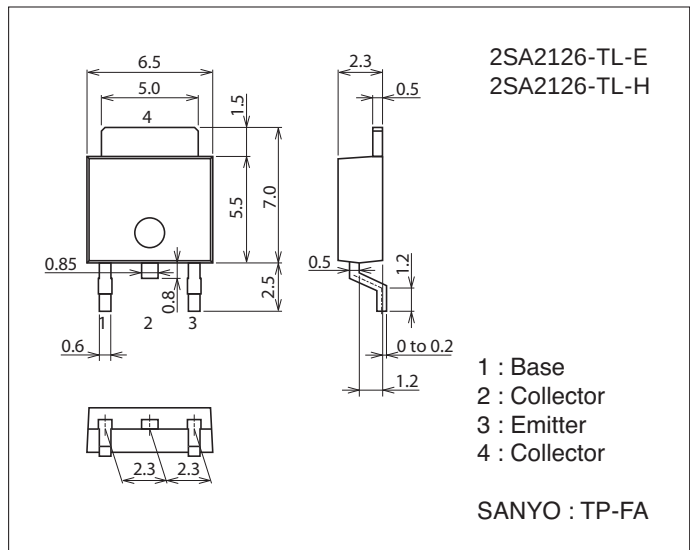
Package Dimensions unit : mm (typ)

7518-003



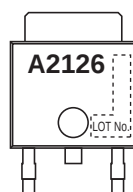
Package Dimensions unit : mm (typ)

7003-003



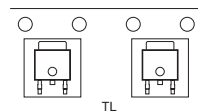
Product & Package Information

- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

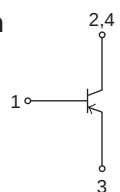
Marking
(TP, TP-FA)

- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://semicon.sanyo.com/en/network>

2SA2126

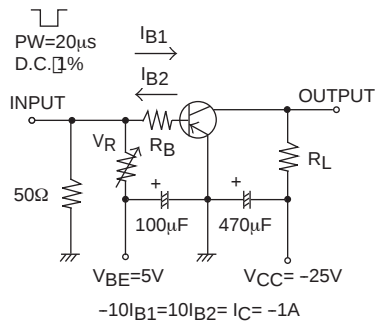
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Parameter	Symbol	Conditions	Ratings	Unit
Collector Dissipation	P _C		0.8	W
		T _C =25°C	15	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at T_a=25°C

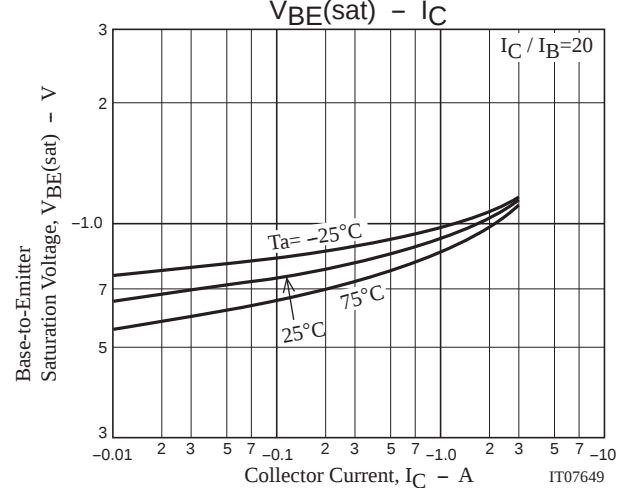
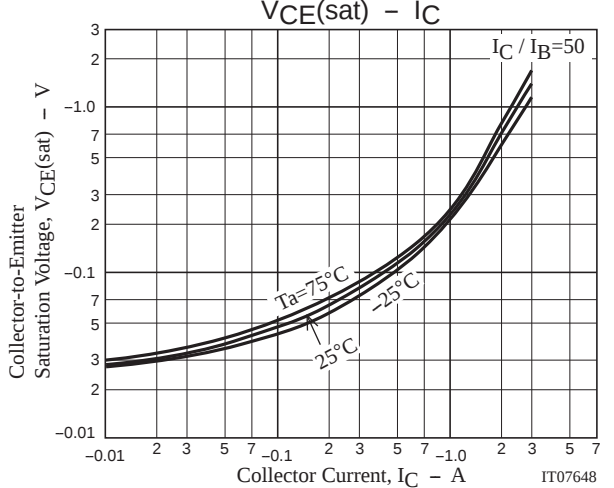
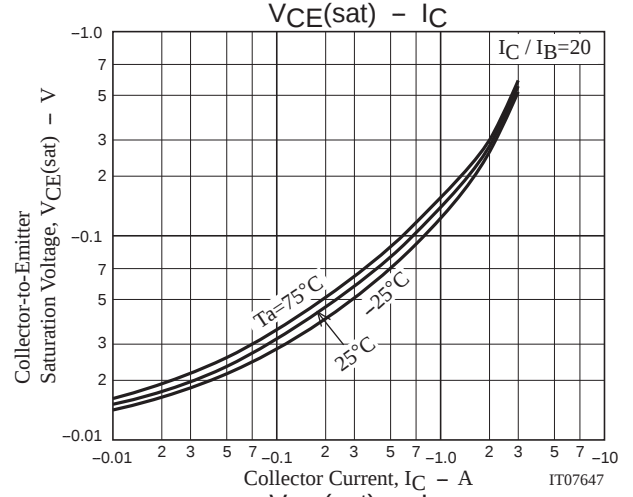
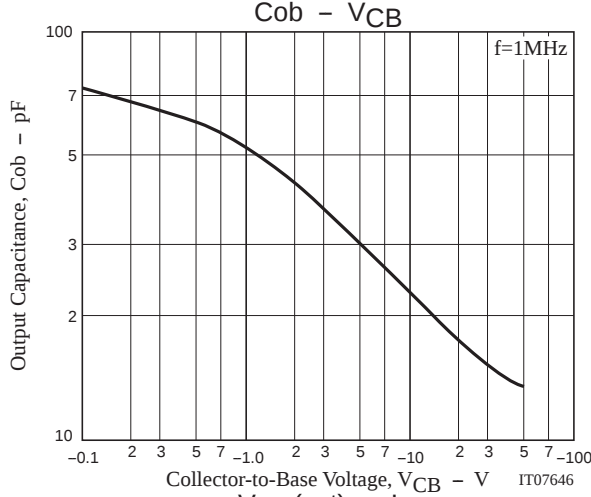
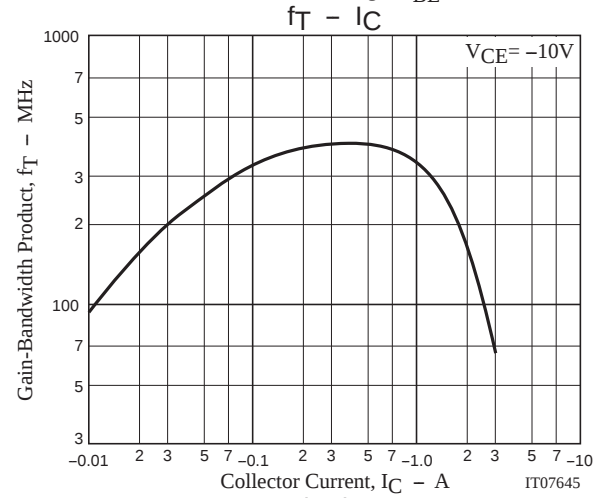
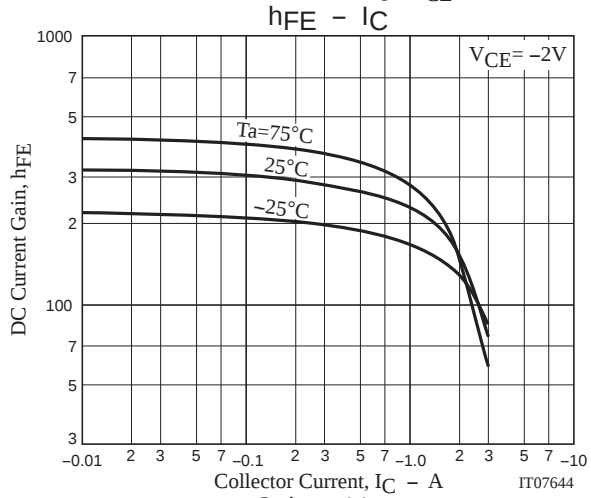
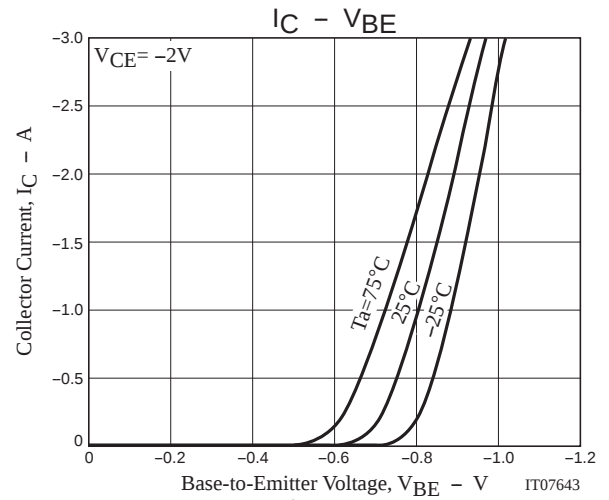
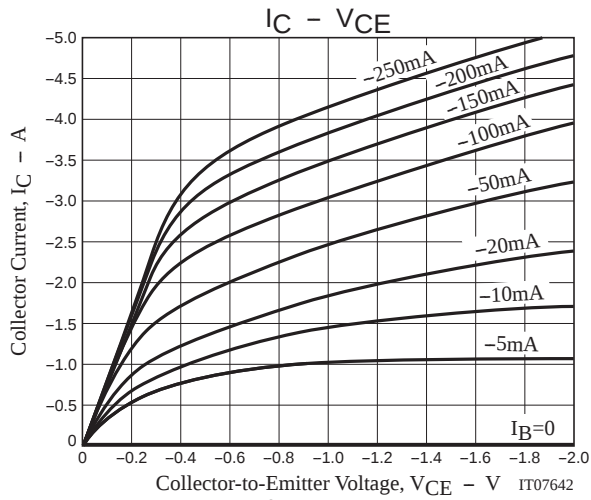
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CBO}	V _{CB} = -40V, I _E =0A			-1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} = -4V, I _C =0A			-1	μA
DC Current Gain	h _{FE}	V _{CE} = -2V, I _C = -100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _C = -500mA		390		MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, f=1MHz		24		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)1}	I _C = -1A, I _B = -50mA		-135	-270	mV
	V _{CE(sat)2}	I _C = -2A, I _B = -100mA		-260	-520	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C = -2A, I _B = -100mA		-0.96	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E =0A	-50			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CES}	I _C = -100μA, R _{BE} =0	-50			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -1mA, R _{BE} =∞	-50			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E = -10μA, I _C =0A	-6			V
Turn-On Time	t _{on}	See specified Test Circuit.		30		ns
Storage Time	t _{stg}			230		ns
Fall Time	t _f			18		ns

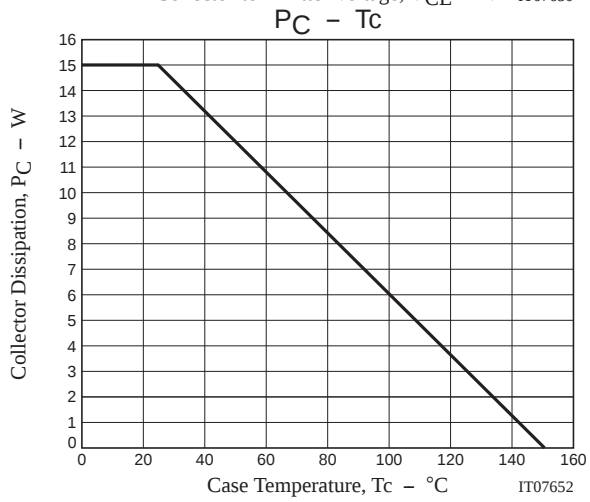
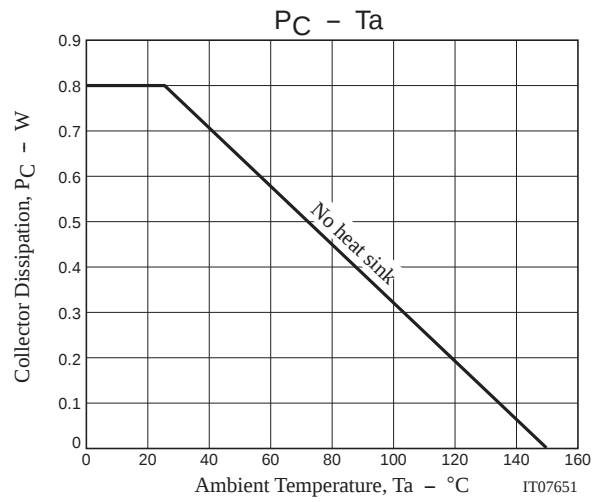
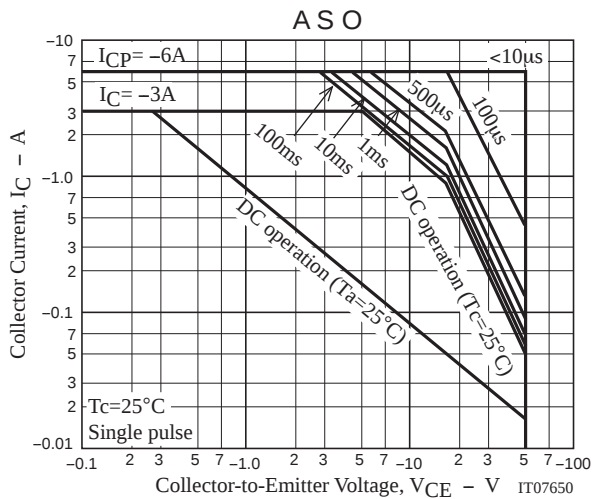
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
2SA2126-E	TP	500pcs./bag	Pb Free
2SA2126-H	TP	500pcs./bag	Pb Free and Halogen Free
2SA2126-TL-E	TP-FA	700pcs./reel	Pb Free
2SA2126-TL-H	TP-FA	700pcs./reel	Pb Free and Halogen Free





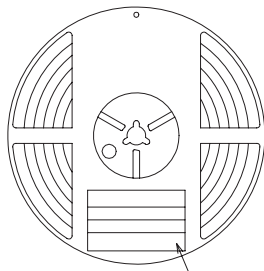
Taping Specification

2SA2126-TL-E, 2SA2126-TL-H

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)
TP-FA	TP	700	2,100	12,600	3 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)

(P) TYPE	000000000
(1) LOT	00
(Q) QTY	0,000 (1) LEAD FREE *
(Z) SPECIAL	*20722005310C*
ASSEMBLY:**** (DIFFUSION:****)	

Outer box label

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

TYPE CODE	
TYPE	○○○○○○○○
QTY	0,000 PCS (1) LEAD FREE *
LOT	○○○○○○○○
PACKAGE	○○○○○○○○
SPECIAL	
ASSEMBLY:**** (DIFFUSION:****)	

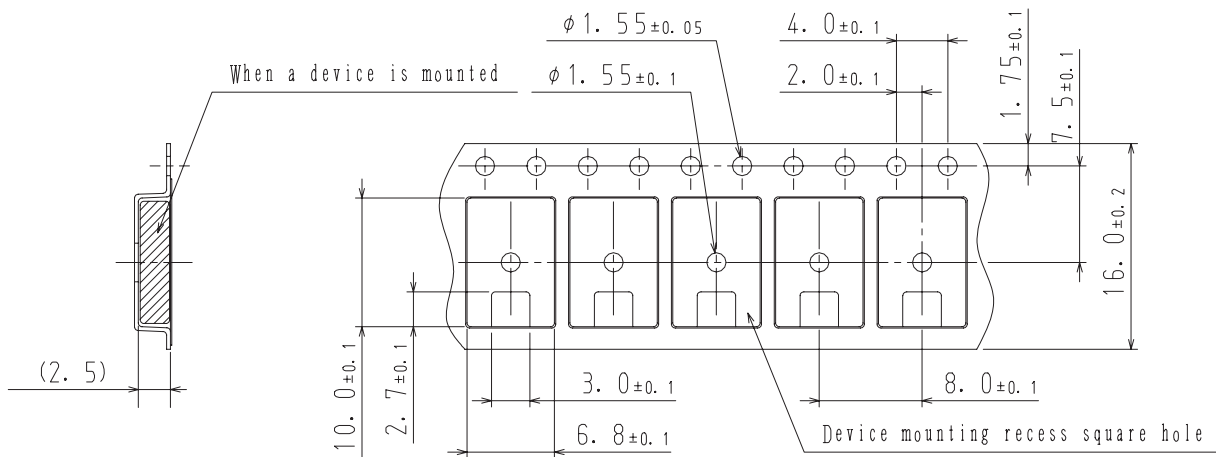
NOTE (1)

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

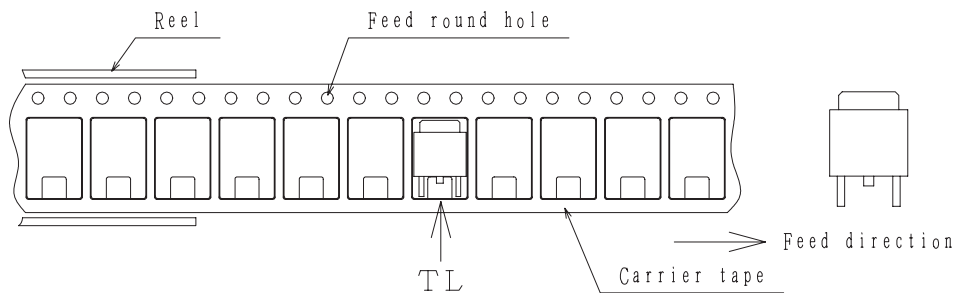
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



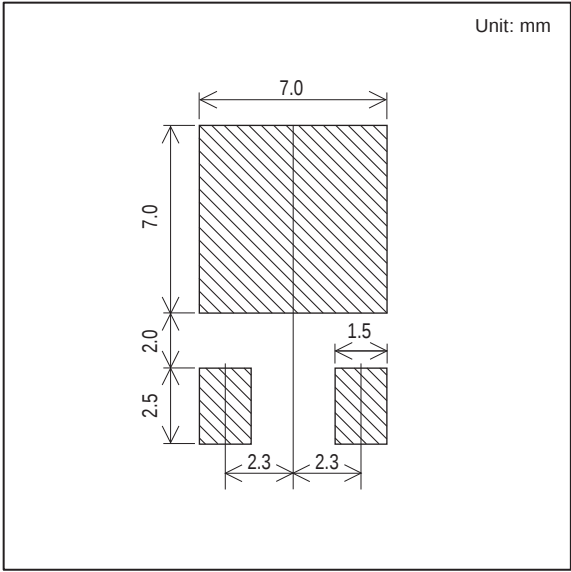
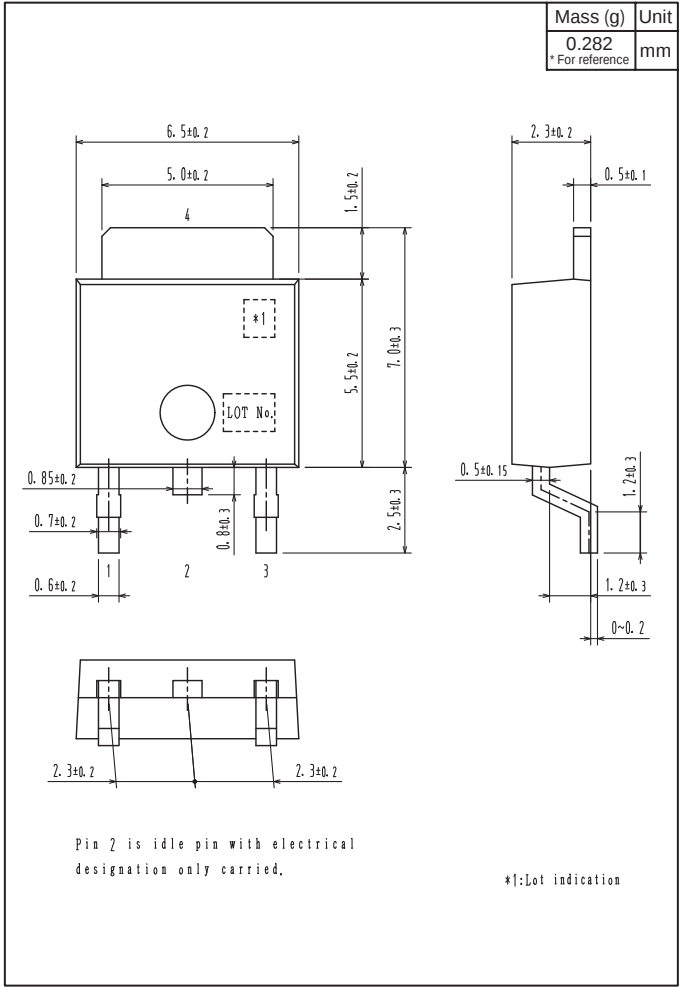
2. Device placement direction



Outline Drawing

2SA2126-TL-E, 2SA2126-TL-H

Land Pattern Example

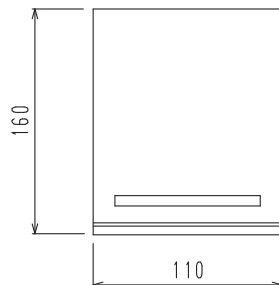


Bag Packing Specification

2SA2126-E, 2SA2126-H

1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			
	Bag	Inner box	Outer box	
TP	500	B-1	A-1	A-2
		10, 000	50, 000	30, 000
		Packing format (Dimensions:mm (external))		
		Inner box	Outer box	
		B-1	A-1	A-2
		445×225×55	470×250×300	470×250×190

2. Bag dimensions
(unit:mm)3. Bag label, Inner box label
(unit:mm)

Type No. →	(P) TYPE 0000000000	43
LOT No. →	(1) LOT 00	
Quantity →	(Q) QTY 0,000 (1) LEAD FREE *	
Origin →	(2) SPECIAL *20722005310C* ASSEMBLY:**** (DIFFUSION:****)	

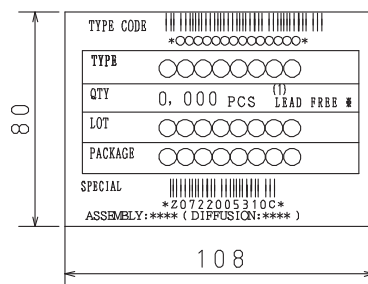
4. Outer box label
(unit:mm)

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

NOTE (1)

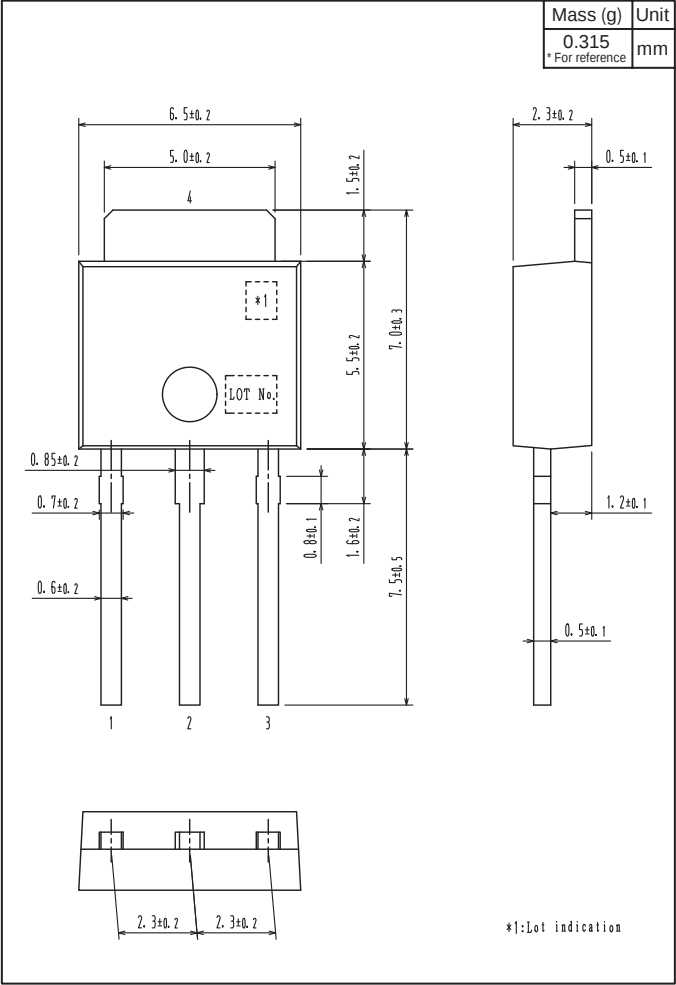
The LEAD FREE * description shows that the
surface treatment of the terminal is lead free.

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



Outline Drawing

2SA2126-E, 2SA2126-H



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