



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SA2126 — PNP Epitaxial Planar Silicon Transistor — DC / DC Converter Applications

Applications

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

Features

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

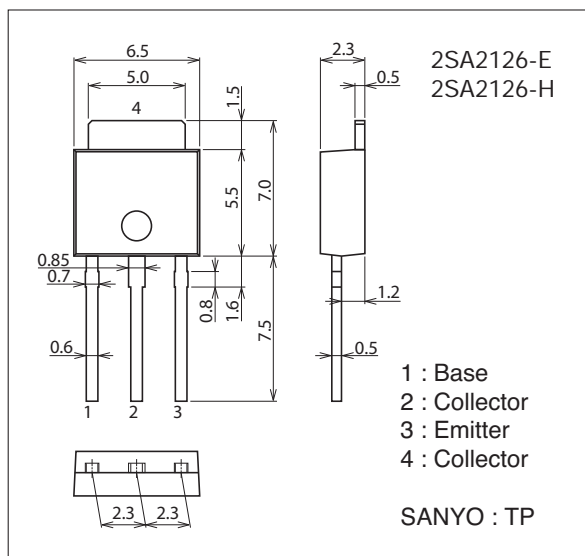
Specifications

Absolute Maximum Ratings at Ta=25°C

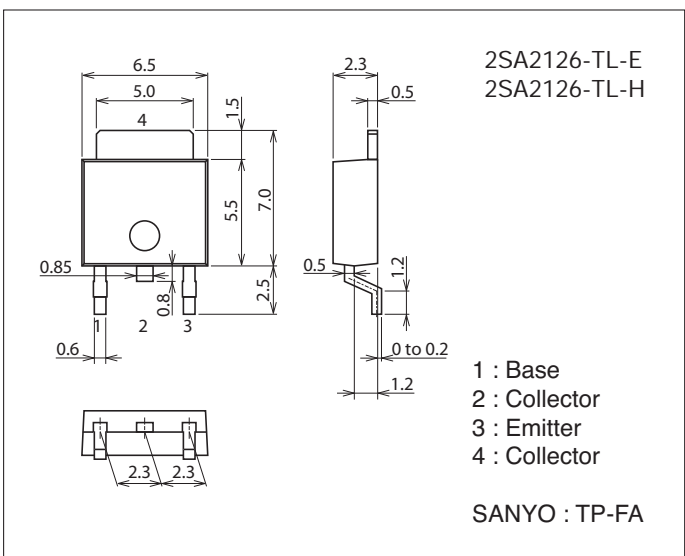
| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|--------|------------|---------|------|
| Collector-to-Base Voltage | VCBO | | -50 | V |
| Collector-to-Emitter Voltage | VCES | | -50 | V |
| Collector-to-Emitter Voltage | VCEO | | -50 | V |
| Emitter-to-Base Voltage | VEBO | | -6 | V |
| Collector Current | IC | | -3 | A |
| Collector Current (Pulse) | ICP | | -6 | A |
| Base Current | IB | | -600 | mA |

Continued on next page.

Package Dimensions unit : mm (typ)



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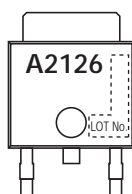


Product & Package Information

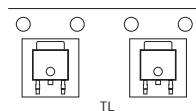
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

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

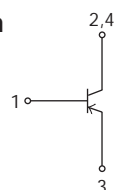
Marking (TP, TP-FA)



Packing Type (TP-FA) : TL



Electrical Connection



2SA2126

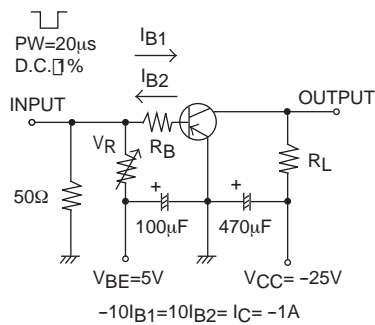
Continued from preceding page.

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------|--------|------------|-------------|------|
| Collector Dissipation | PC | | 0.8 | W |
| | | Tc=25°C | 15 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

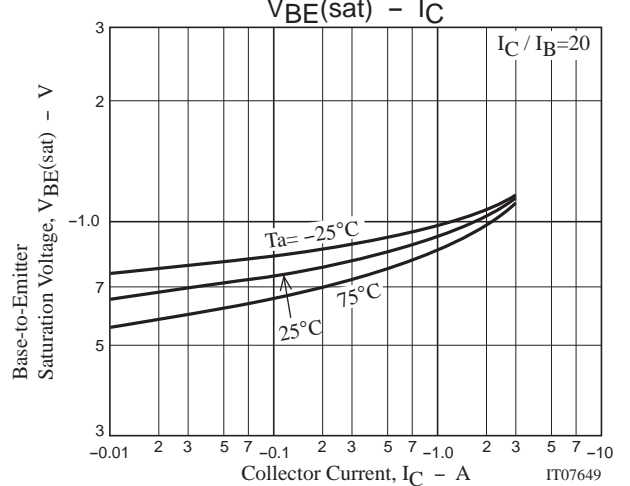
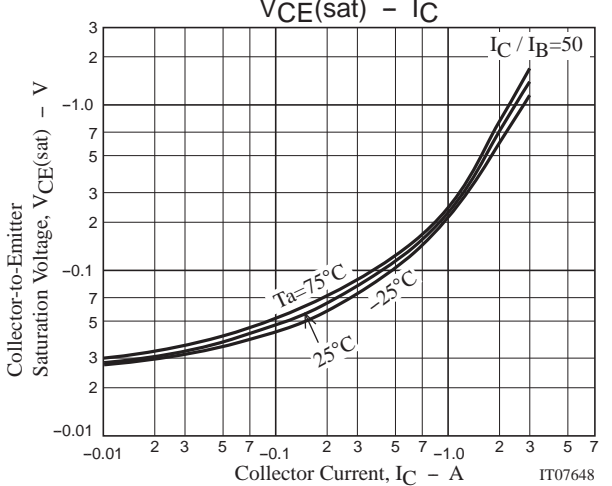
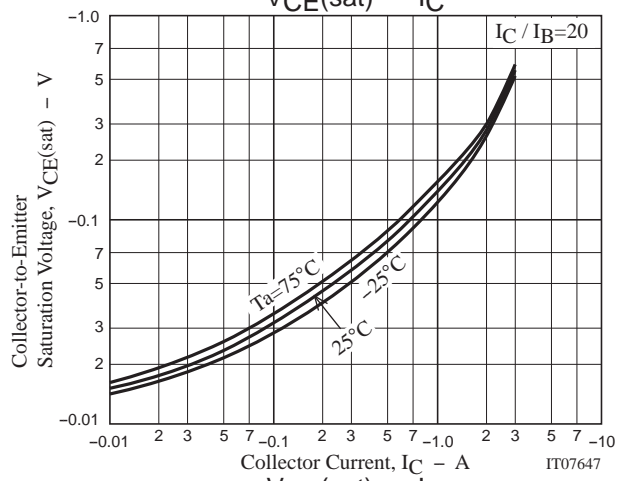
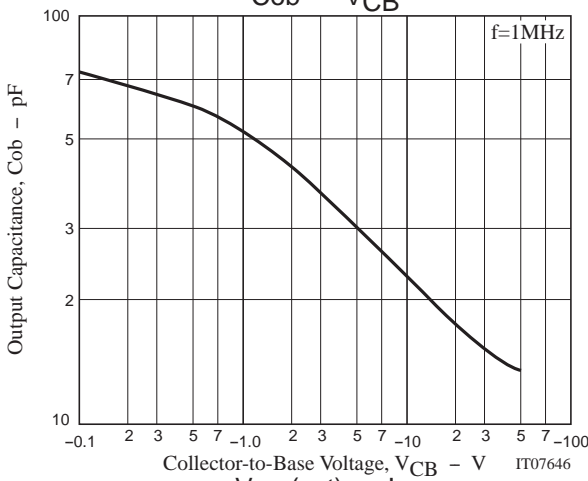
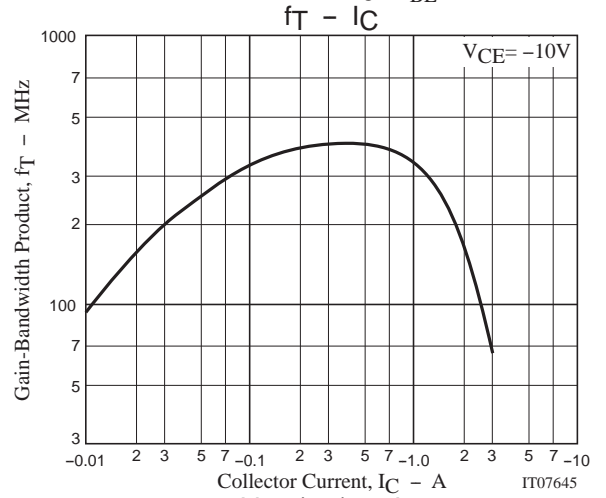
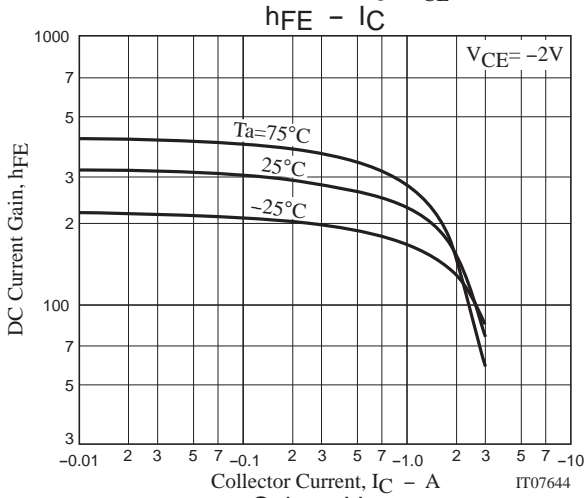
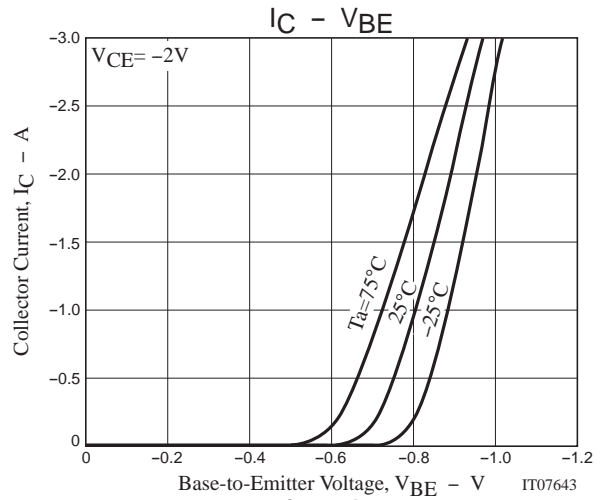
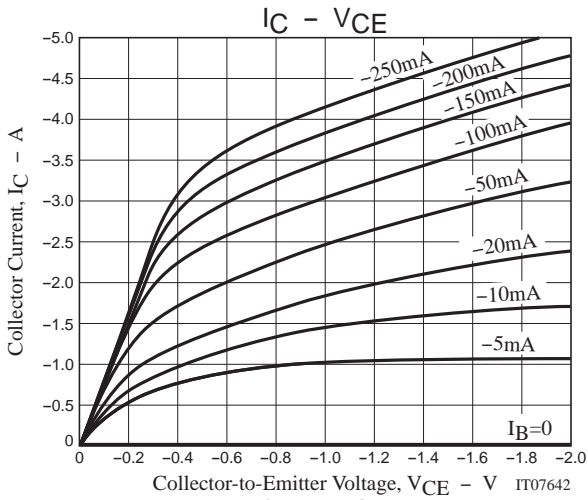
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|-----------------------|---|---------|-------|------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | ICBO | V _{CB} = -40V, I _E = 0A | | | -1 | μA |
| Emitter Cutoff Current | IEBO | V _{EB} = -4V, I _C = 0A | | | -1 | μA |
| 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 | Cob | 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 |

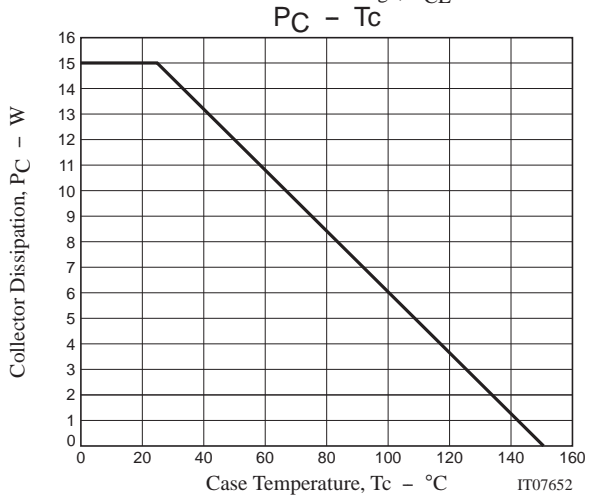
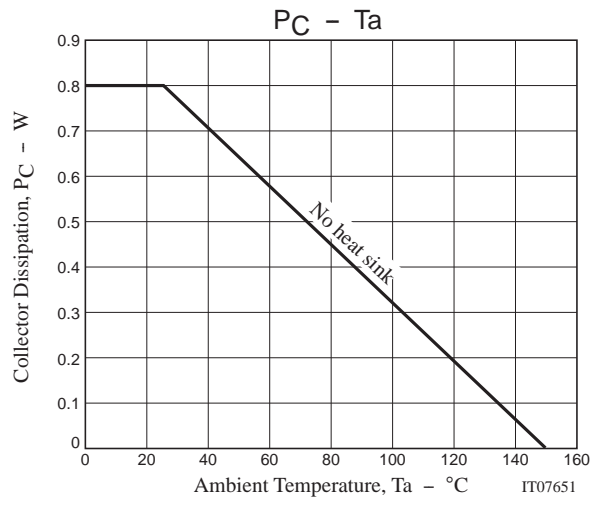
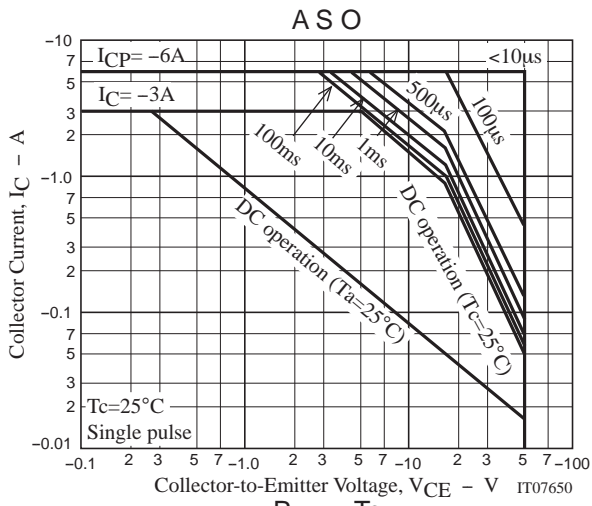
Switching Time Test Circuit



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

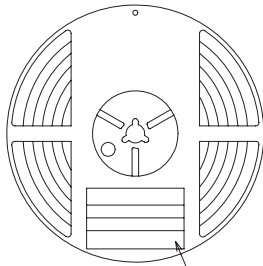
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) | | | Packing format | |
|--------------|-------------------|---|-----------|-----------|---|--|
| | | Reel | Inner box | Outer box | Inner BOX (C-1) | Outer BOX (A-7) |
| TP-FA | TP | 700 | 2,100 | 12,600 | 3 reels contained Dimensions:mm (external) 183×72×185 | 6 inner boxes contained Dimensions:mm (external) 440×195×210 |

Reel label, Inner box label
(unit:mm)

Outer box label

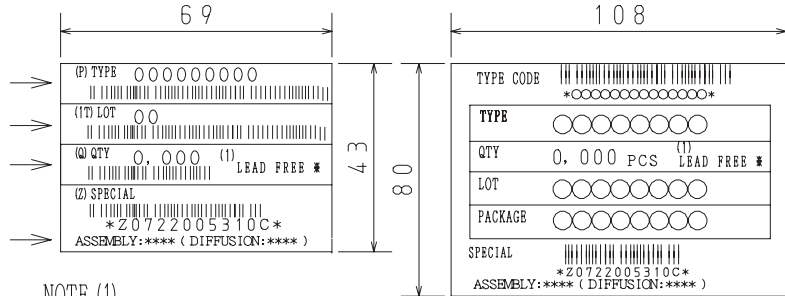
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



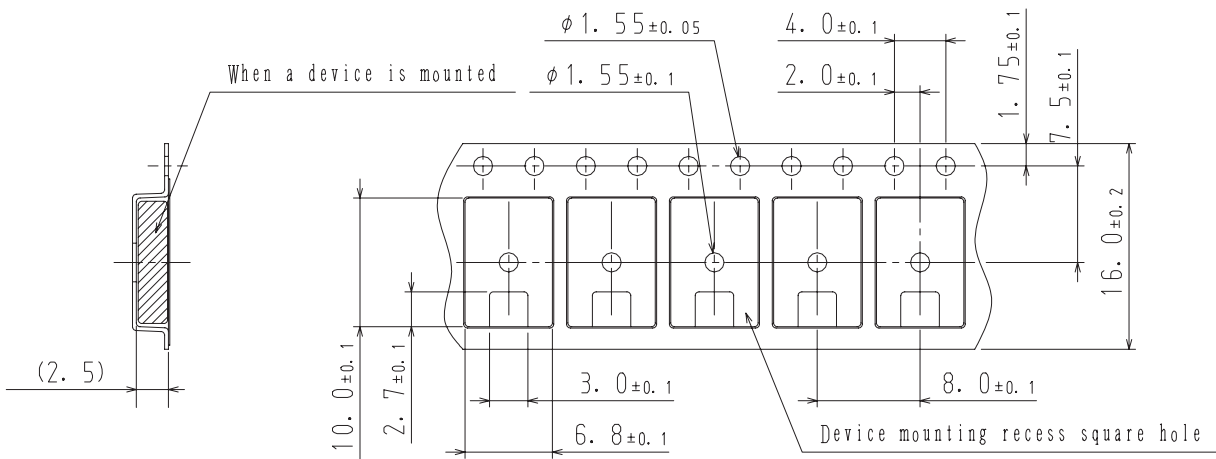
NOTE (1)

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

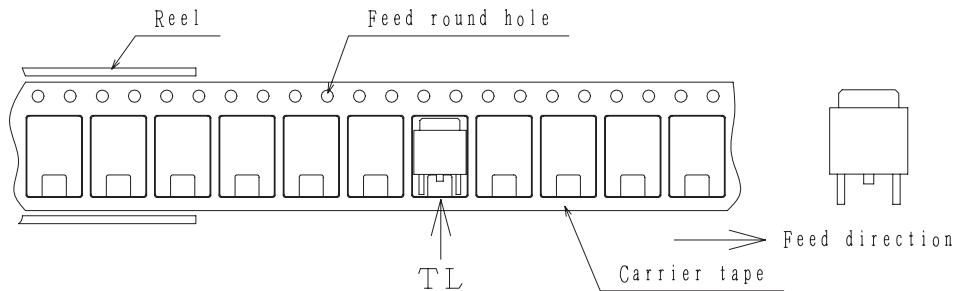
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

Taping configuration

1. Carrier tape size (unit:mm)



2. Device placement direction

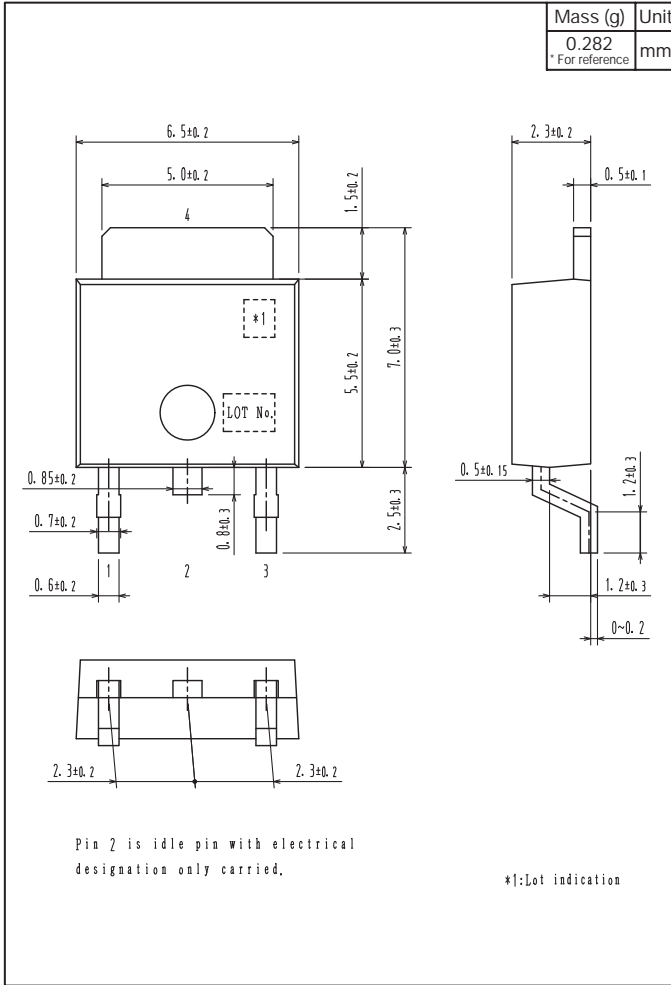


Those with one electrode terminal on the feed hole side.....TL

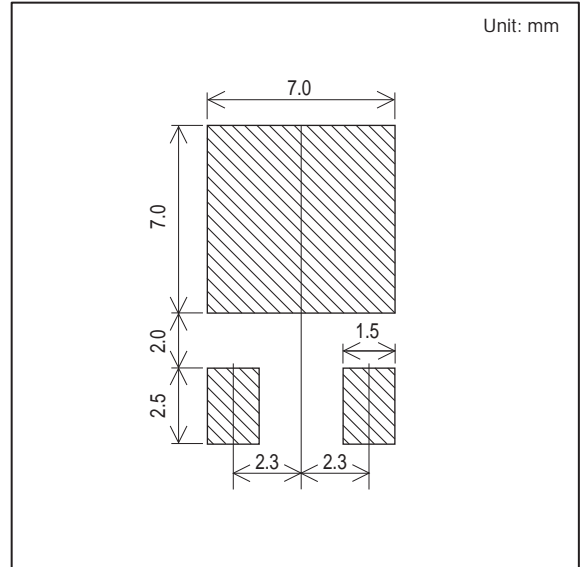
2SA2126

Outline Drawing

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



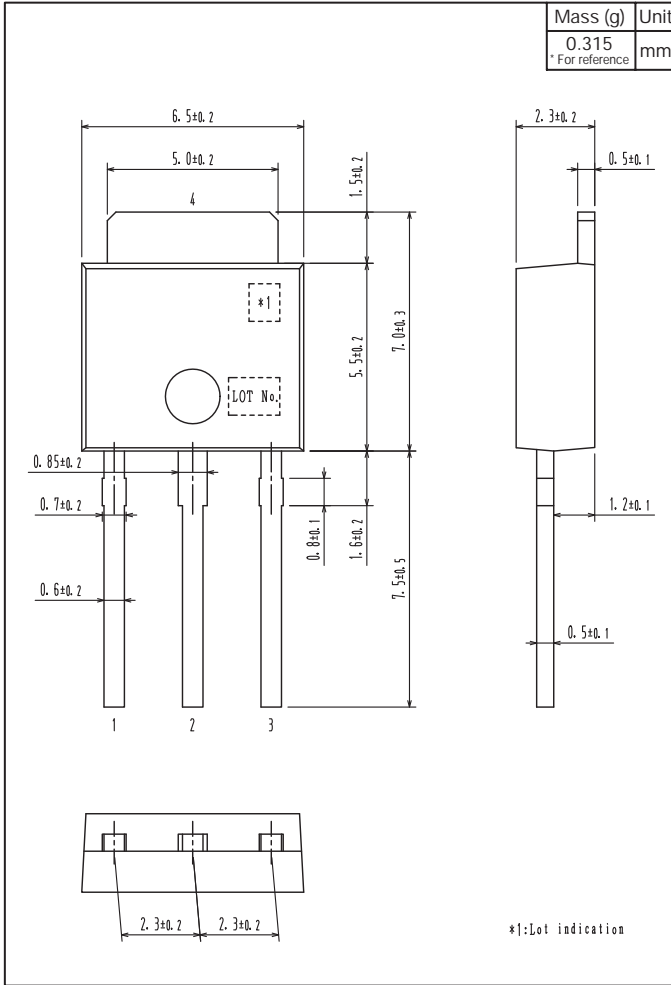
Land Pattern Example



2SA2126

Outline Drawing

2SA2126-E, 2SA2126-H



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