



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

UD0506T — Diffused Junction Silicon Diode Low VF Switching Diode

Features

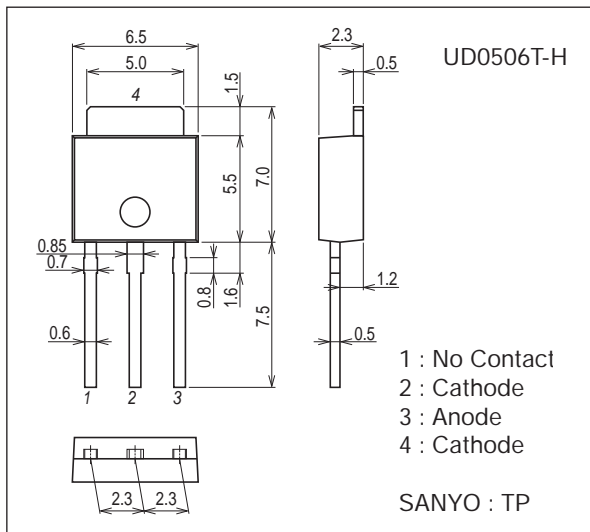
- High breakdown voltage ($V_{RRM}=600V$)
- Low noise at the time of reverse recovery
- Halogen free compliance
- Fast reverse recovery time
- Low forward voltage ($V_F \text{ max}=1.3V$)

Specifications

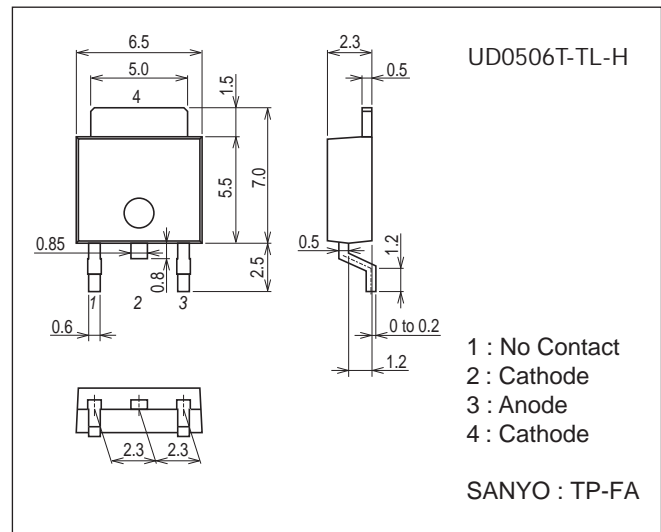
Absolute Maximum Ratings at $T_a=25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|---------------------------------|-----------|----------------|-------------|------------|
| Repetitive Peak Reverse Voltage | V_{RRM} | | 600 | V |
| Average Output Current | I_O | | 5 | A |
| Surge Forward Current | I_{FSM} | Sine wave 10ms | 40 | A |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Package Dimensions unit : mm (typ)
7518-002



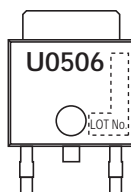
Package Dimensions unit : mm (typ)
7003-001



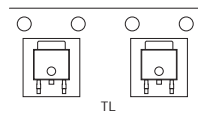
Product & Package Information

- 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

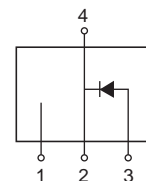
Marking (TP, TP-FA)



Packing Type (TP-FA) : TL



Electrical Connection



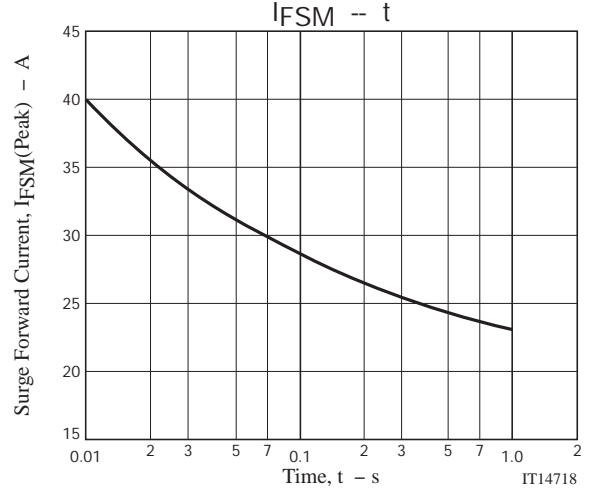
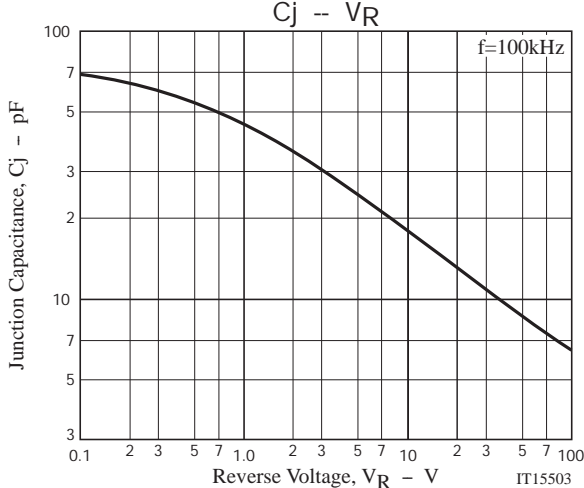
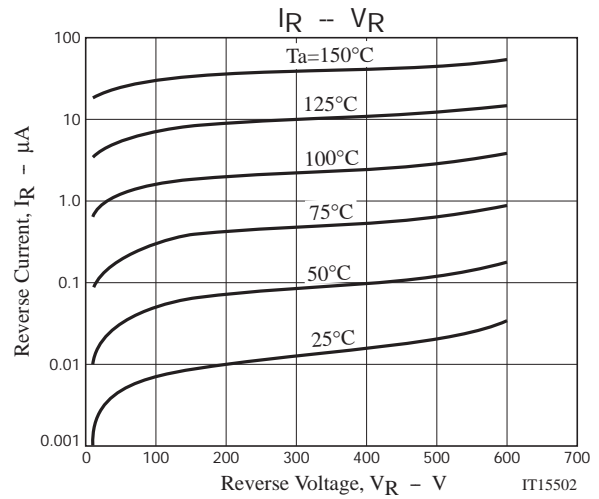
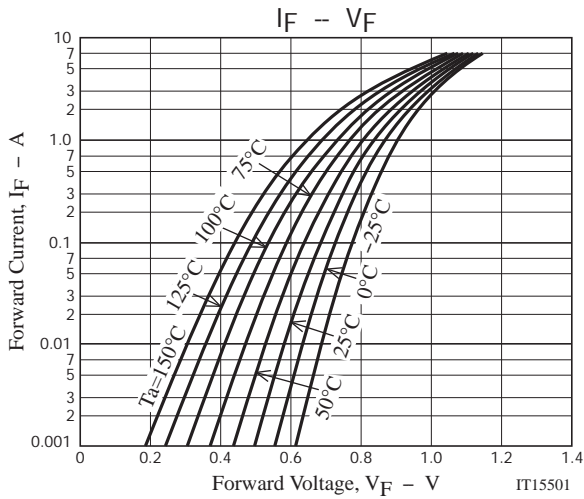
UD0506T

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-----------------------|---------------|----------------------------|---------|-----|-----|---------------|
| | | | min | typ | max | |
| Reverse Voltage | V_R | $I_R=1mA$ | 600 | | | V |
| Forward Voltage | V_F | $I_F=5A$ | | 1.1 | 1.3 | V |
| Reverse Current | I_R | $V_R=600V$ | | | 10 | μA |
| Reverse Recovery Time | t_{rr1} | $I_F=5A, di/dt=100A/\mu s$ | | 120 | 150 | ns |
| | t_{rr2} | $I_F=0.5A, I_R=1A$ | | 53 | | ns |
| Thermal Resistance | $R_{th(j-c)}$ | Junction -Case | | 6 | | $^{\circ}C/W$ |

Ordering Information

| Device | Package | Shipping | memo |
|--------------|---------|--------------|--------------------------|
| UD0506T-H | TP | 500pcs./bag | Pb Free and halogen Free |
| UD0506T-TL-H | TP-FA | 700pcs./reel | |



Taping Specification

UD0506T-TL-H

Packing Format

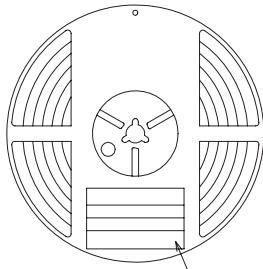
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) | | | Packing format | |
|--------------|-------------------|---|-----------|-----------|---|--|
| | | Reel | Inner box | Outer box | Inner BOX (C-1) | Outer BOX (A-7) |
| TP-FA | TP | 700 | 2,100 | 12,600 | 3 reels contained 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

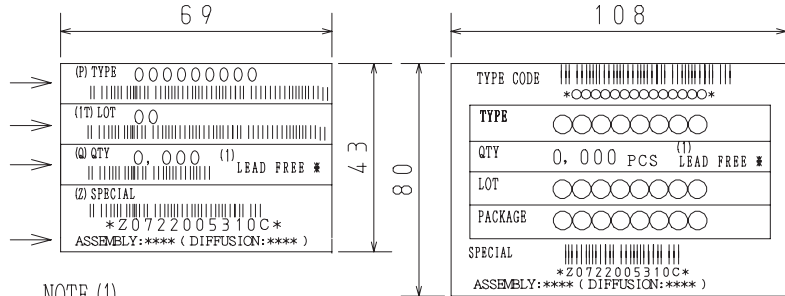
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



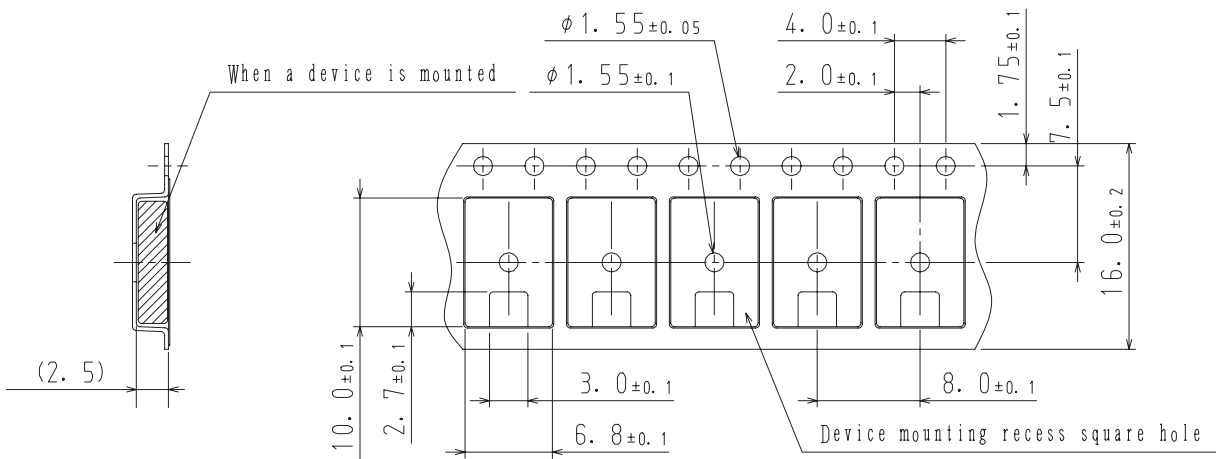
NOTE (1)

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

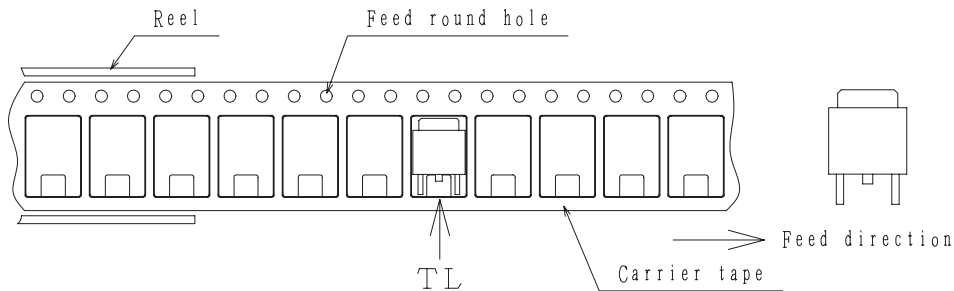
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

Taping configuration

1. Carrier tape size (unit:mm)



2. Device placement direction

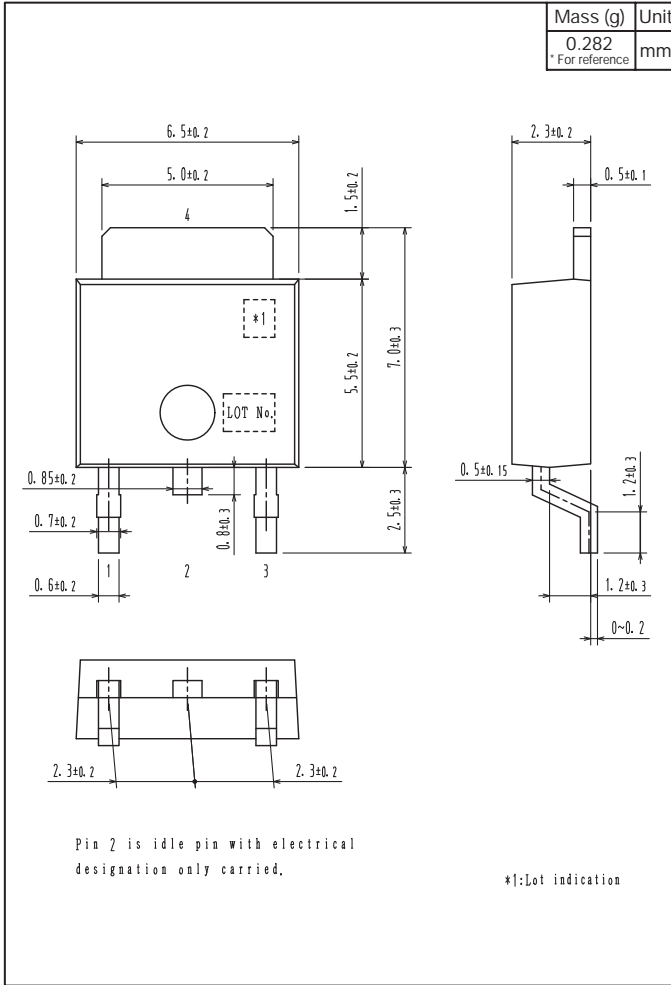


Those with one electrode terminal on the feed hole side.....TL

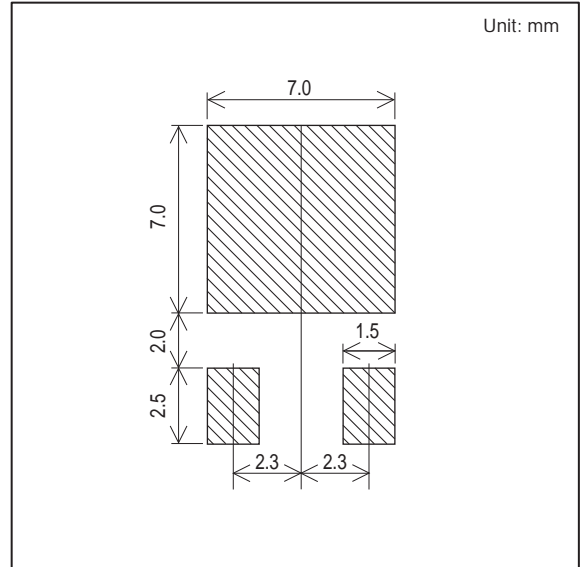
UD0506T

Outline Drawing

UD0506T-TL-H



Land Pattern Example



UD0506T

Bag Packing Specification

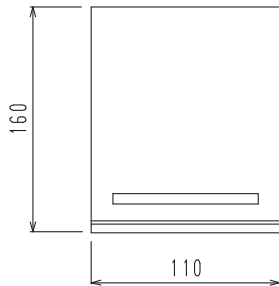
UD0506T-H

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 |

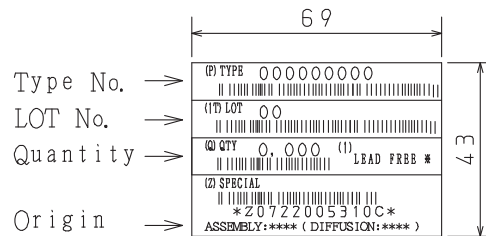
2. Bag dimensions

(unit:mm)



3. Bag label, Inner box label

(unit:mm)



4. Outer box label

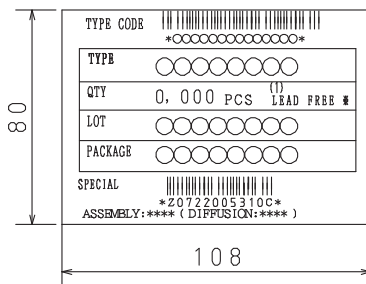
(unit:mm)

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.

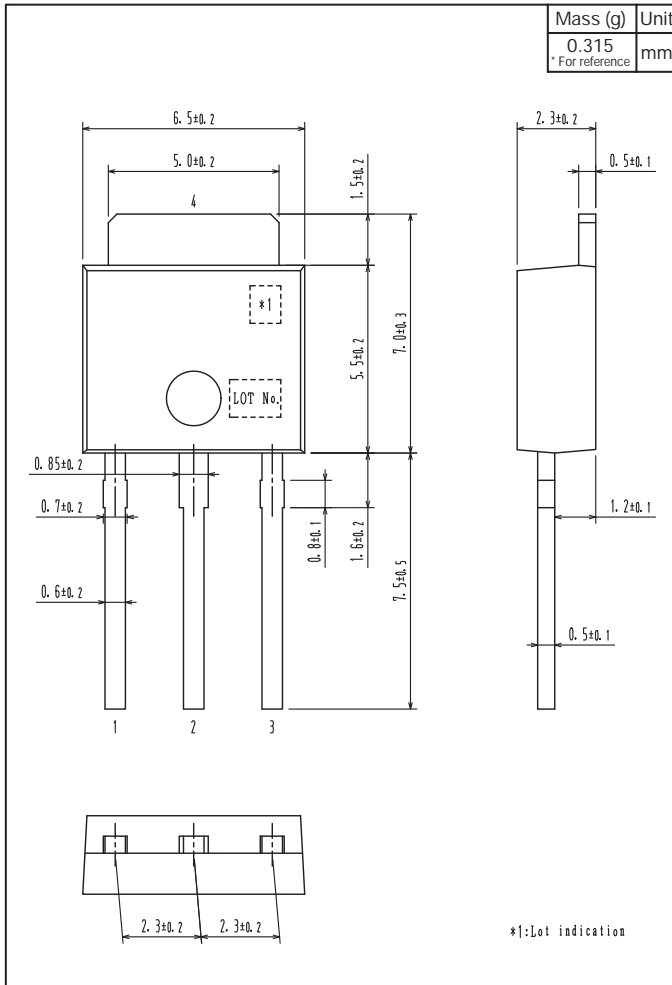
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |



UD0506T

Outline Drawing

UD0506T-H



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