Ordering number : ENA1574B

# RD0506T

## Planar Ultrafast Rectifier
### Fast trr type, 5A, 600V, 50ns, TP/TP-FA

ON Semiconductor®
http://onsemi.com

## 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 ($V_F$ max=1.6V)

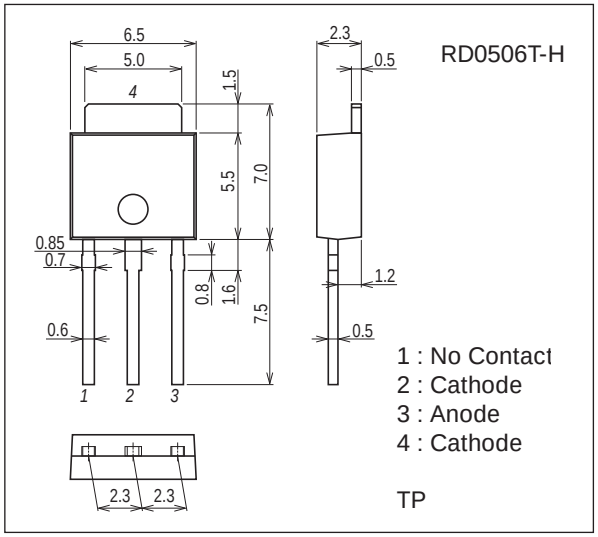
## Specifications

### Absolute Maximum Ratings at Ta=25°C

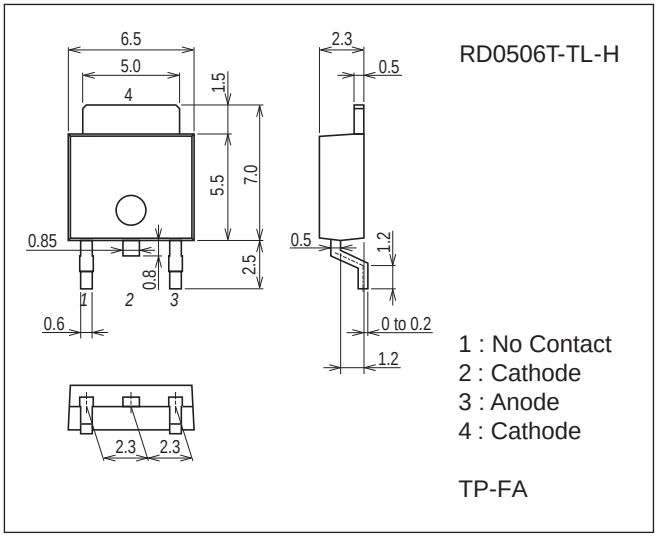
| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | | 600 | V |
| Average Output Current | $I_O$ | | 5 | A |
| Surge Forward Current | $I_{FSM}$ | Sine wave 10ms, 1 cycle | 80 | A |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | −55 to +150 | °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.

### Package Dimensions unit : mm (typ)
7518-002




### Package Dimensions unit : mm (typ)
7003-001

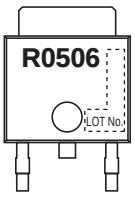



### Product & Package Information

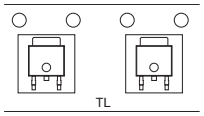
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

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

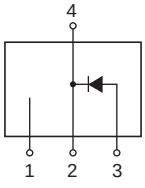
### Marking (TP, TP-FA)




### Packing Type (TP-FA) : TL




### Electrical Connection

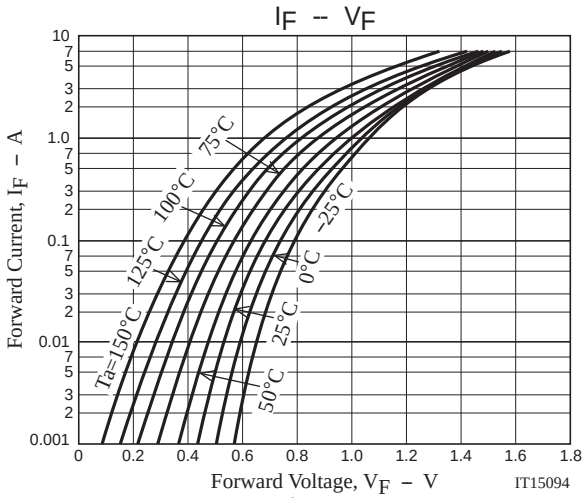


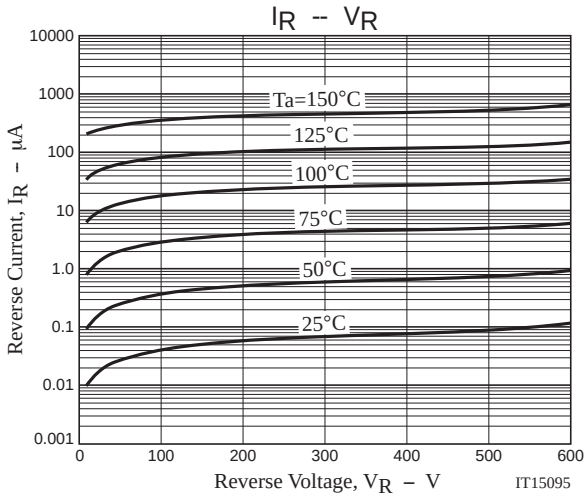
## Electrical Characteristics at Ta=25°C

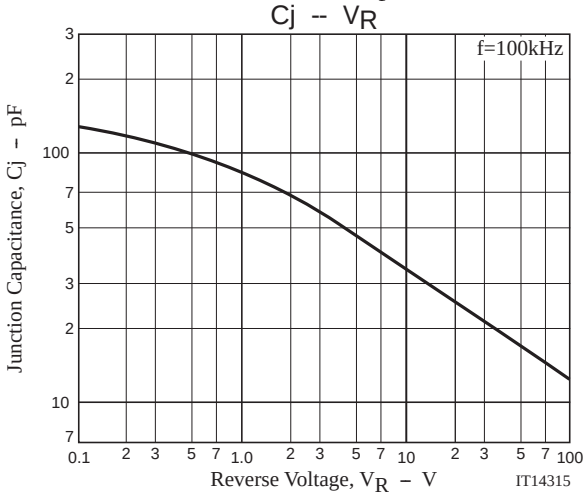
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Reverse Voltage | $V_R$ | $I_R$=1mA | 600 | | | V |
| Forward Voltage | $V_F$ | $I_F$=5A | | 1.3 | 1.6 | V |
| Reverse Current | $I_R$ | $V_R$=600V | | | 50 | μA |
| Reverse Recovery Time | $t_{rr}1$ | $I_F$=5A, di / dt=100A/μs | | 40 | 50 | ns |
| | $t_{rr}2$ | $I_F$=0.5A, $I_R$=1A | | 16 | | ns |
| Thermal Resistance | Rth(j-c) | Junction -Case | | 6 | | °C / W |

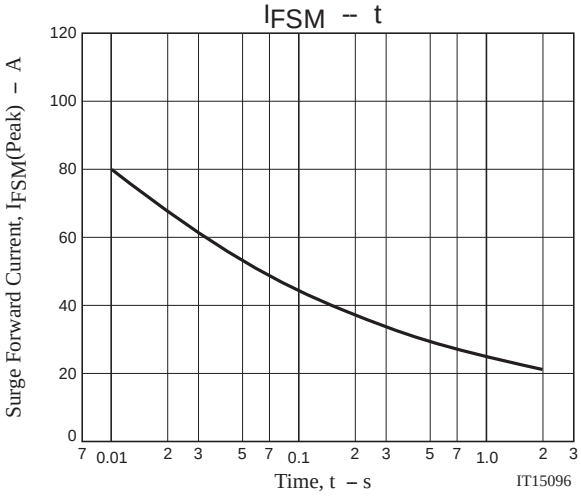
## Ordering Information

| Device | Package | Shipping | memo |
|---|---|---|---|
| RD0506T-H | TP | 500pcs./bag | Pb Free and halogen Free |
| RD0506T-TL-H | TP-FA | 700pcs./reel | |



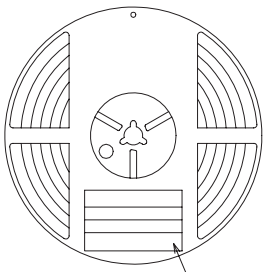
## Taping Specification

RD0506T-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<br>Dimensions:mm (external)<br>183×72×185 | 6 inner boxes contained<br>Dimensions:mm (external)<br>440×195×210 |

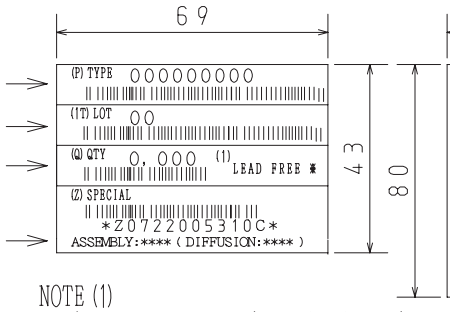
### Packing method



Reel label

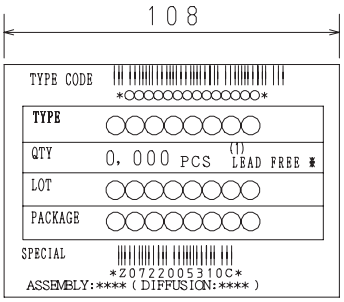
Reel label, Inner box label

(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.

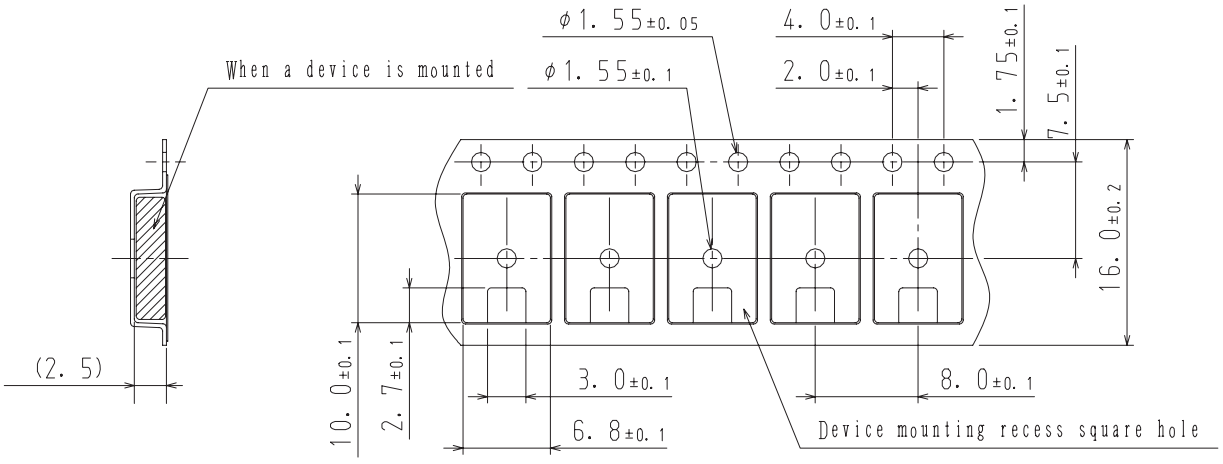



NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

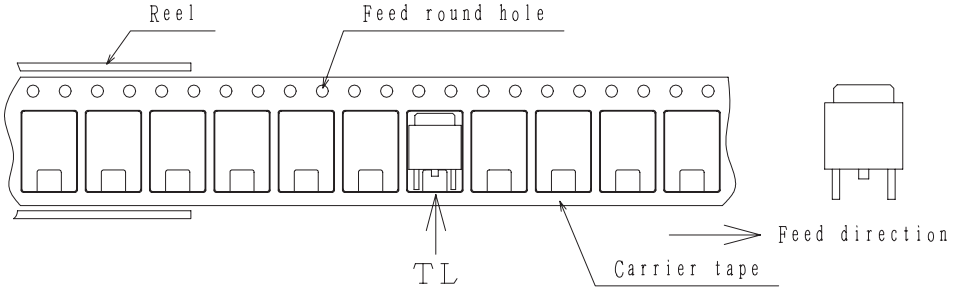
| Label | JEITA Phase |
|---|---|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

### Taping configuration

1. Carrier tape size (unit:mm)



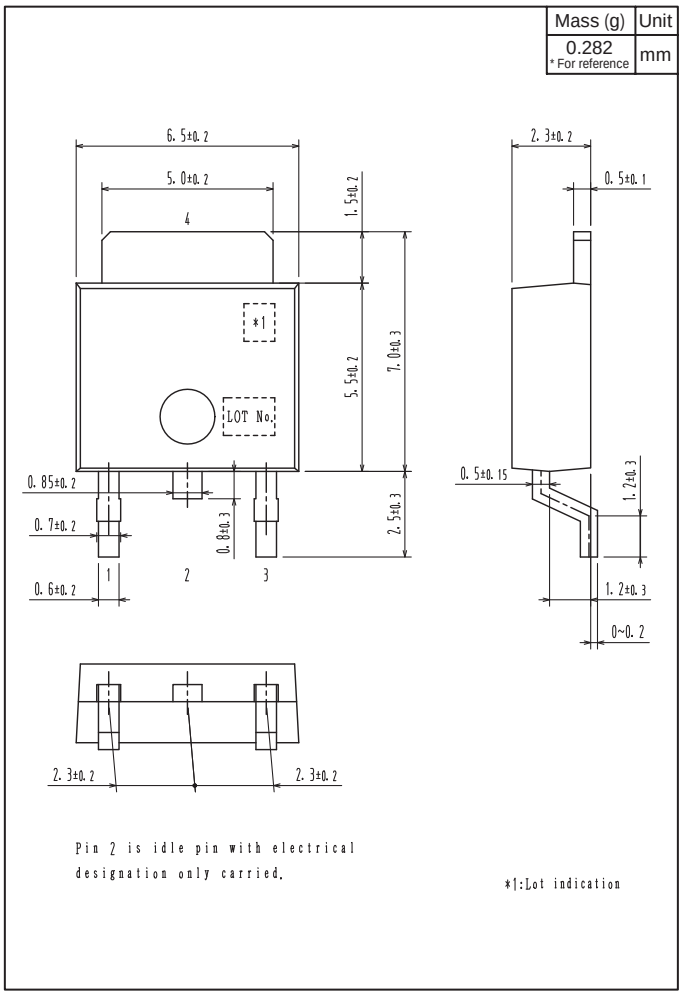

2. Device placement direction



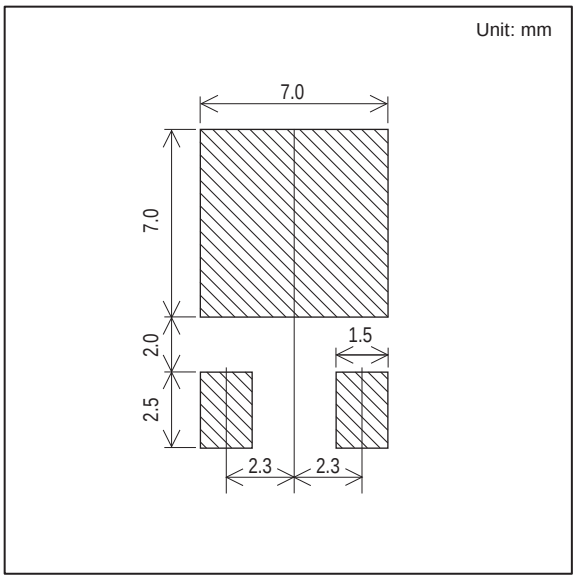

Those with one electrode terminal on the feed hole side·····TL

## Outline Drawing

RD0506T-TL-H




## Land Pattern Example



## Bag Packing Specification

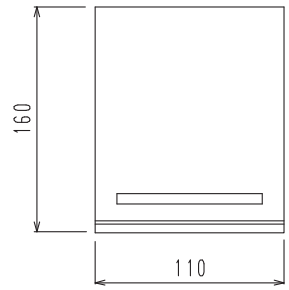
RD0506T-H

### 1. Packing Format

| Package Name | Maximum Number of devices contained (pcs) | | | |
|---|---|---|---|---|
| | Bag | Inner box | Outer box | |
| TP | | B-1 | A-1 | A-2 |
| | 500 | 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 |

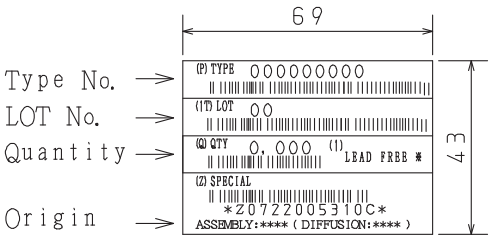
### 2. Bag dimensions

(unit: mm)




### 3. Bag label, Inner box label

(unit: mm)




### 4. Outer box label

(unit: mm)

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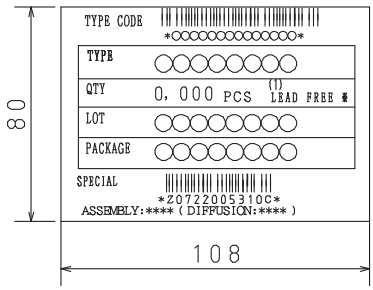


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## Outline Drawing

RD0506T-H