



# UD0506T

## Planar Ultrafast Rectifier Low VF type, 5A, 600V, 1.3V, 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 ( $V_F \text{ max}=1.3V$ )

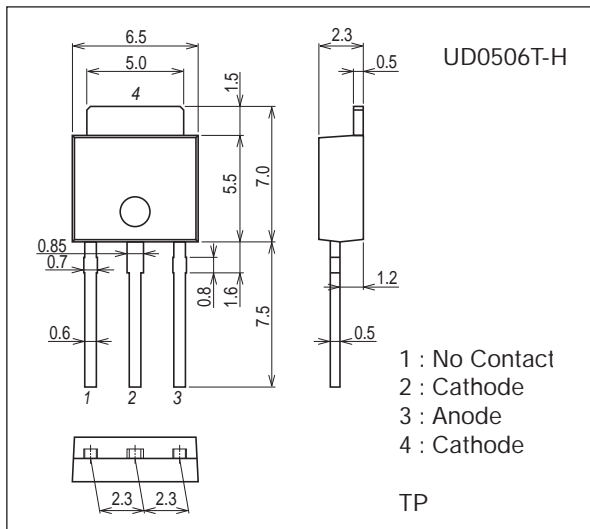
### Specifications

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

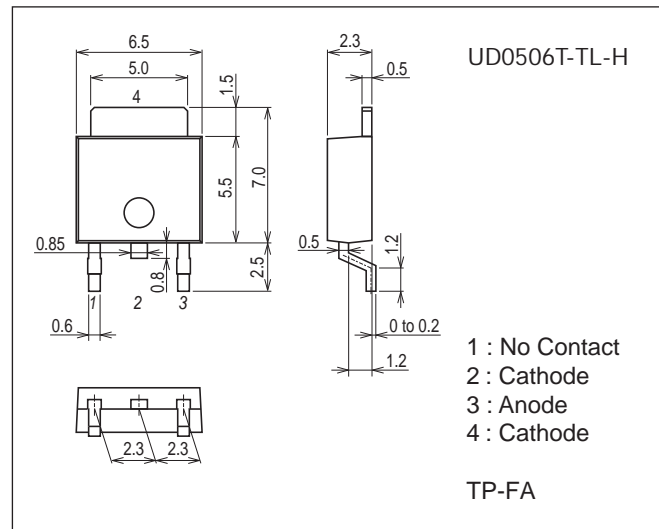
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$		600	V
Average Output Current	$I_O$		5	A
Surge Forward Current	$I_{FSM}$	Sine wave 10ms	40	A
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

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



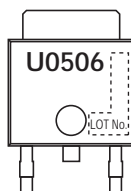
Package Dimensions unit : mm (typ)  
7003-001



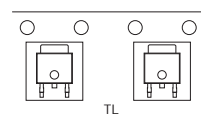
### Product & Package Information

- 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

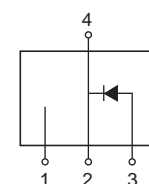
### Marking (TP, TP-FA)



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



### Electrical Connection



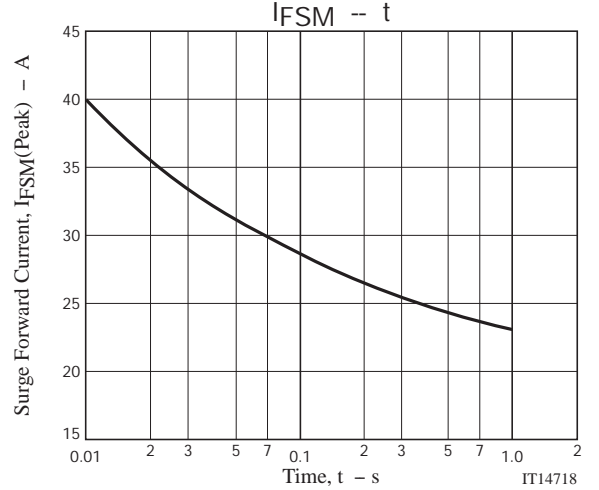
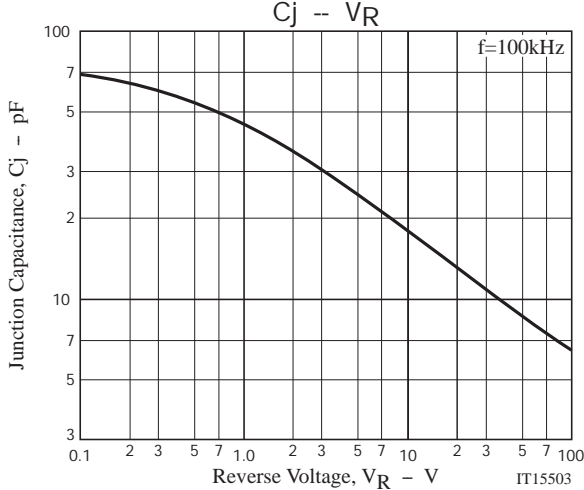
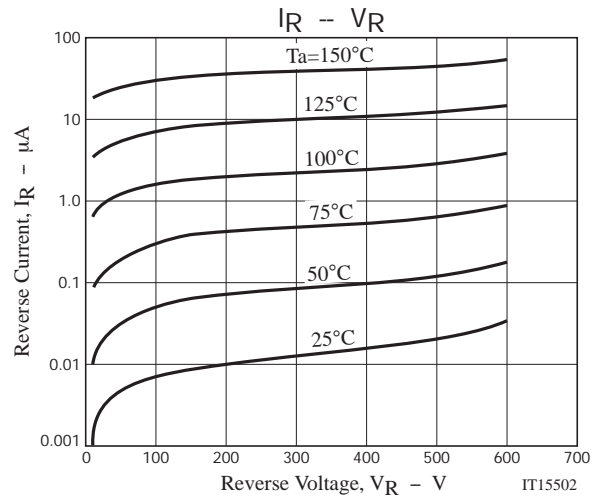
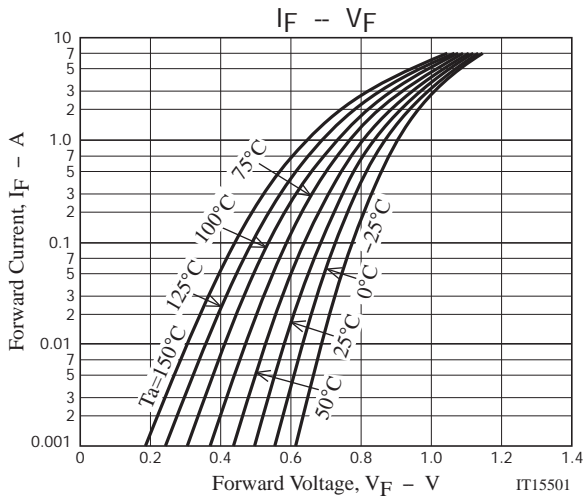
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## Electrical Characteristics at Ta=25°C

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	$\mu A$
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

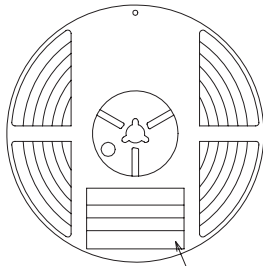
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
TP-FA	TP	700	2,100	12,600	3 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label  
(unit:mm)

Outer box label

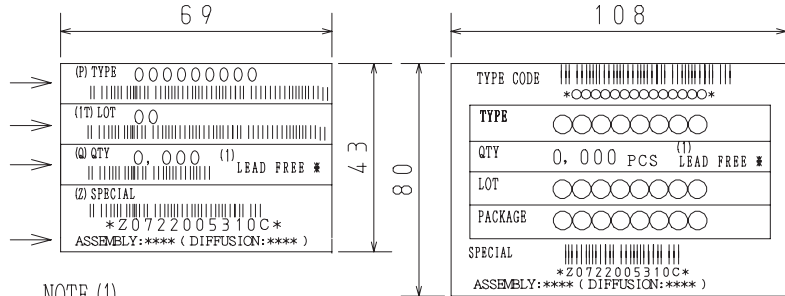
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

Packing method



Type No.  
LOT No.  
Quantity  
Origin

Reel label



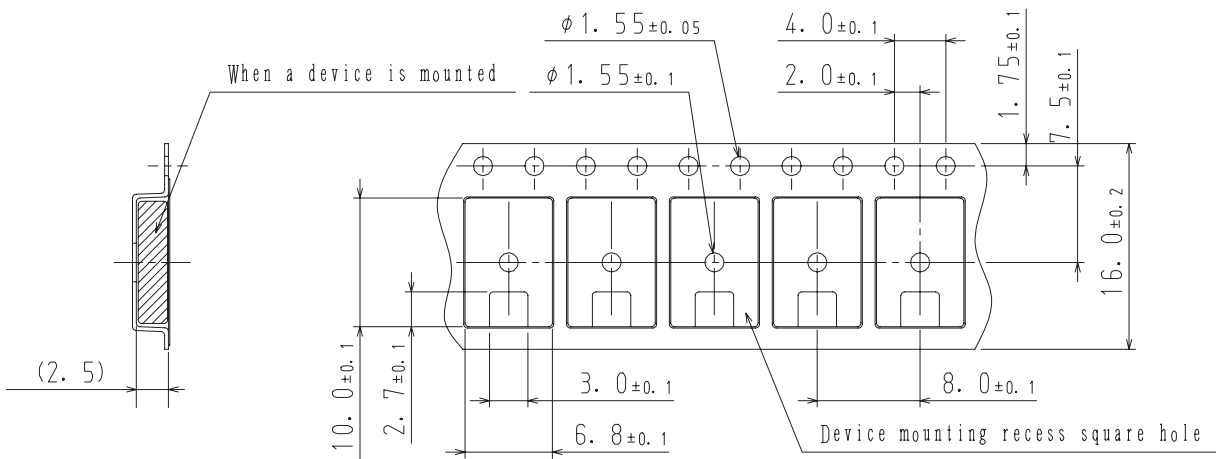
NOTE (1)

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

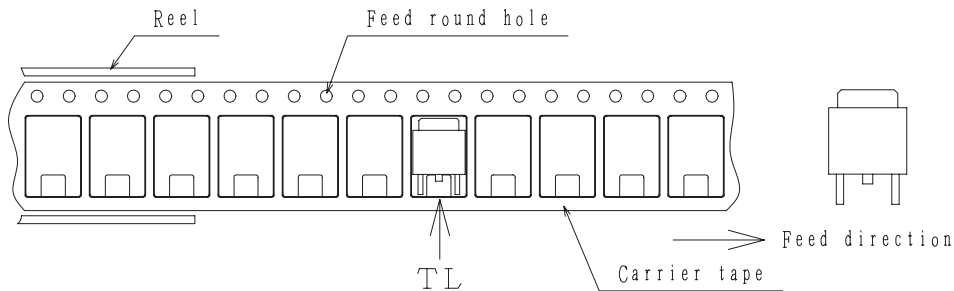
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



2. Device placement direction

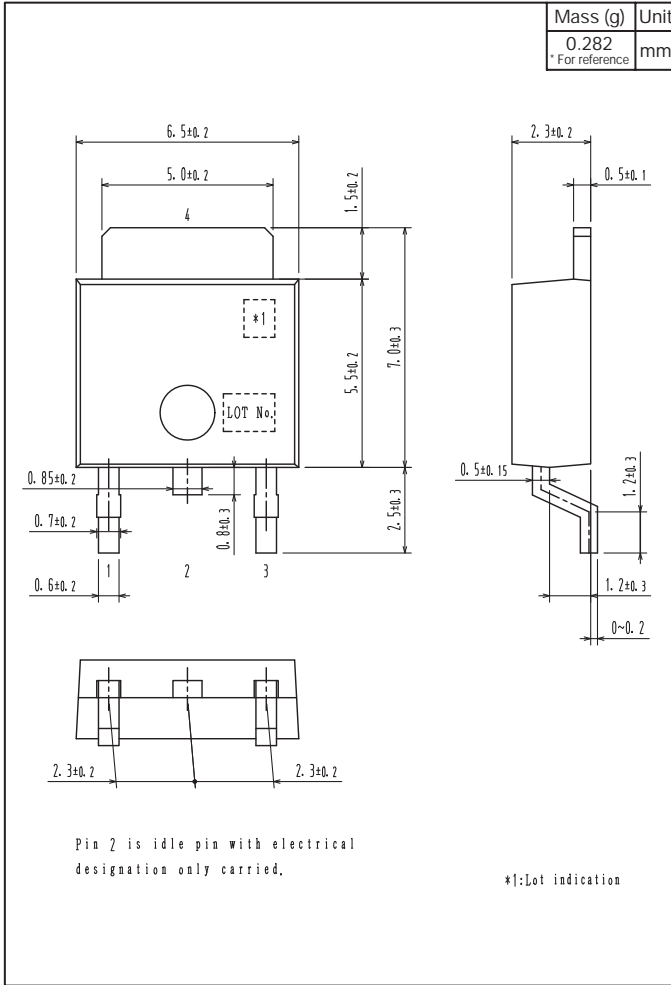


Those with one electrode terminal on the feed hole side.....TL

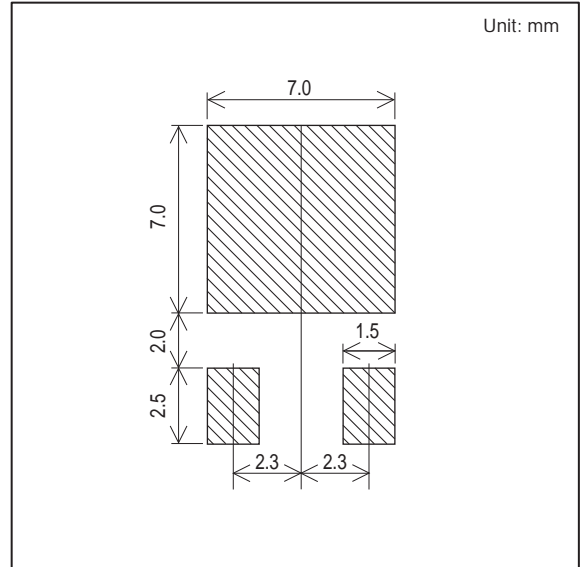
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## Outline Drawing

UD0506T-TL-H



## Land Pattern Example



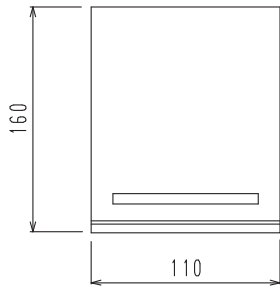
Bag Packing Specification

UD0506T-H

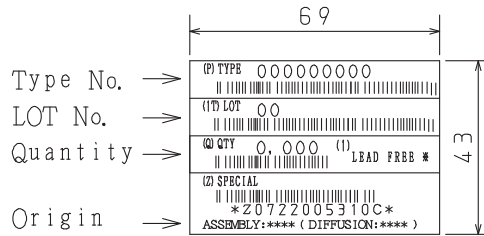
1. Packing Format

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)



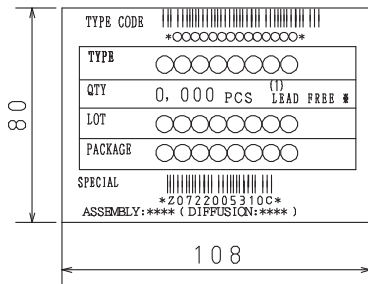
4. Outer box label  
(unit:mm)

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



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## Outline Drawing

UD0506T-H



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