



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

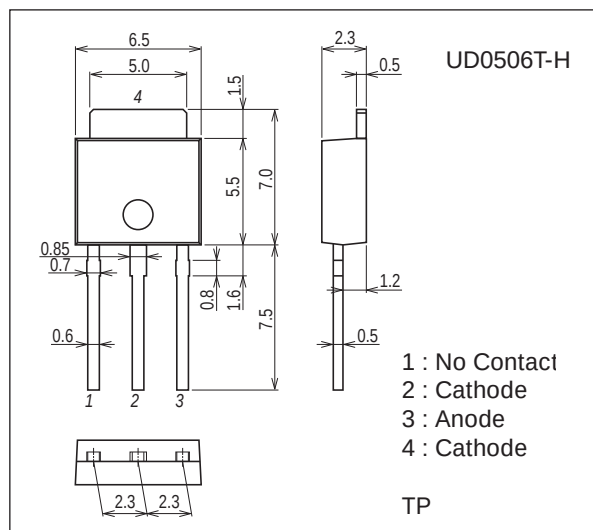
Absolute Maximum Ratings at $T_a=25^\circ C$

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.

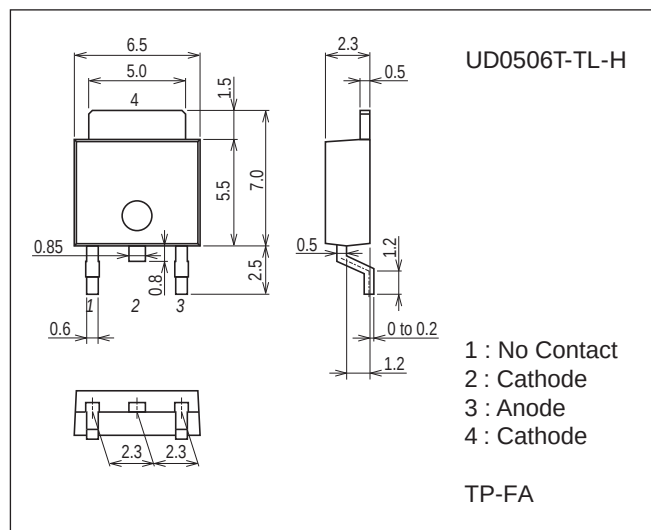
Package Dimensions unit : mm (typ)

7518-002



Package Dimensions unit : mm (typ)

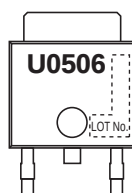
7003-001



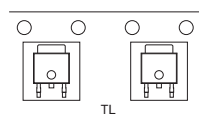
Product & Package Information

- 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

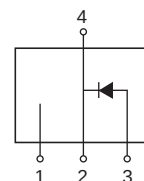
Marking (TP, TP-FA)



Packing Type (TP-FA) : TL



Electrical Connection



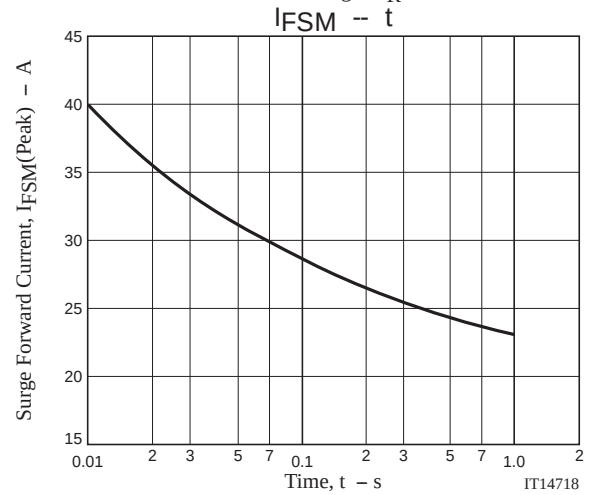
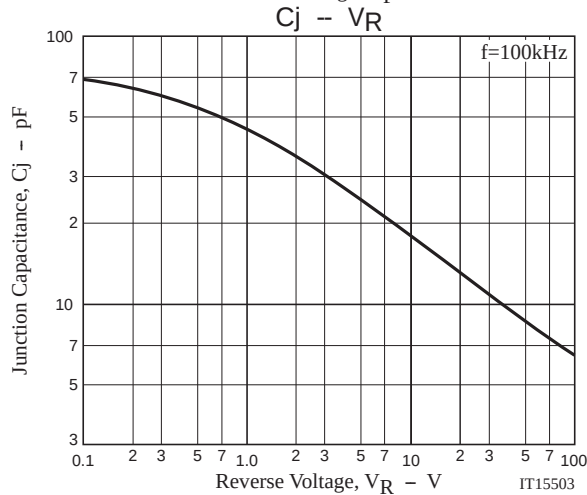
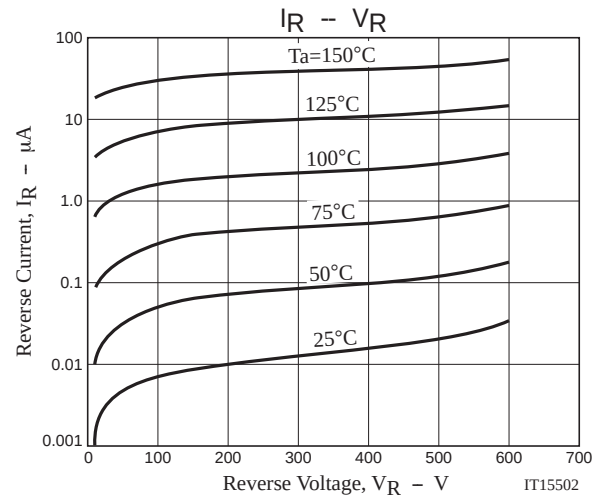
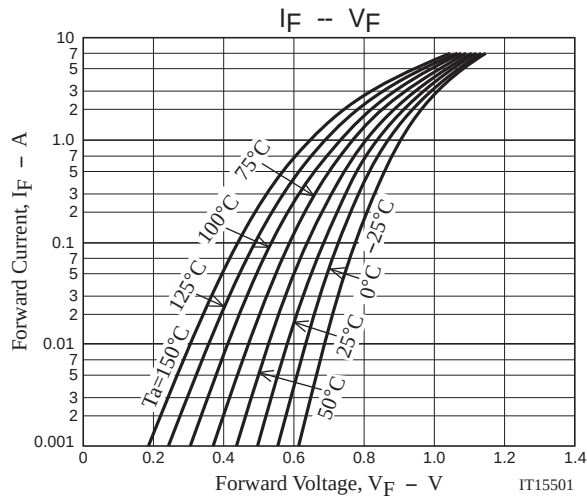
UD0506T

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	



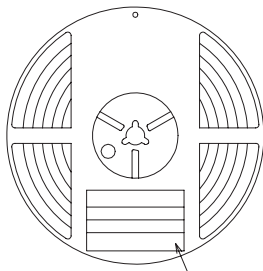
Taping Specification

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

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:****)

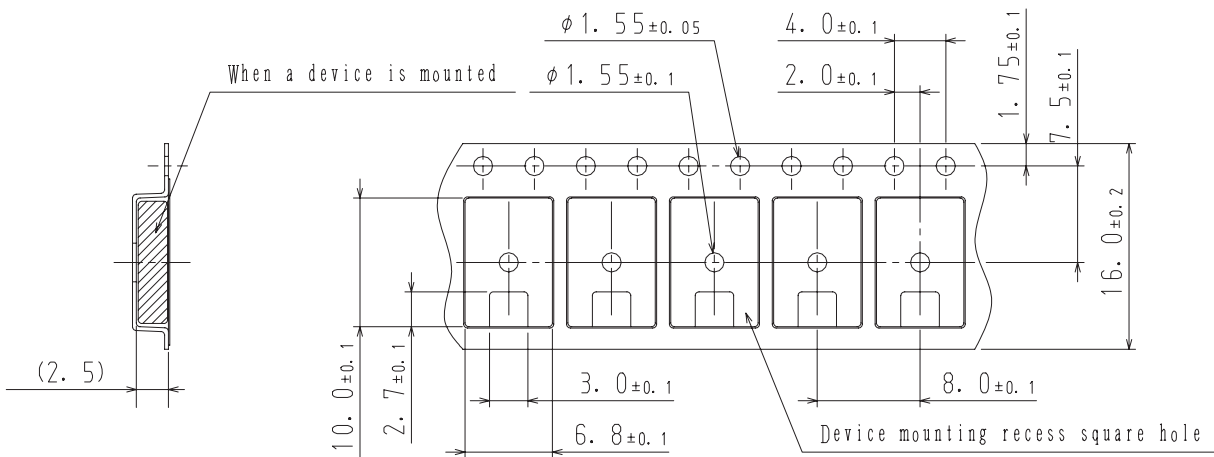
NOTE (1)

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

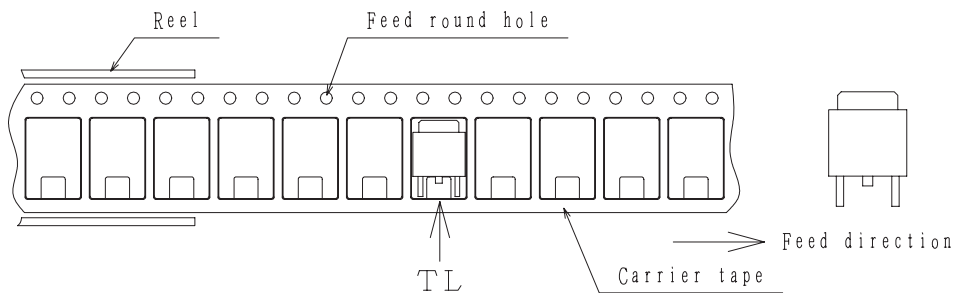
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

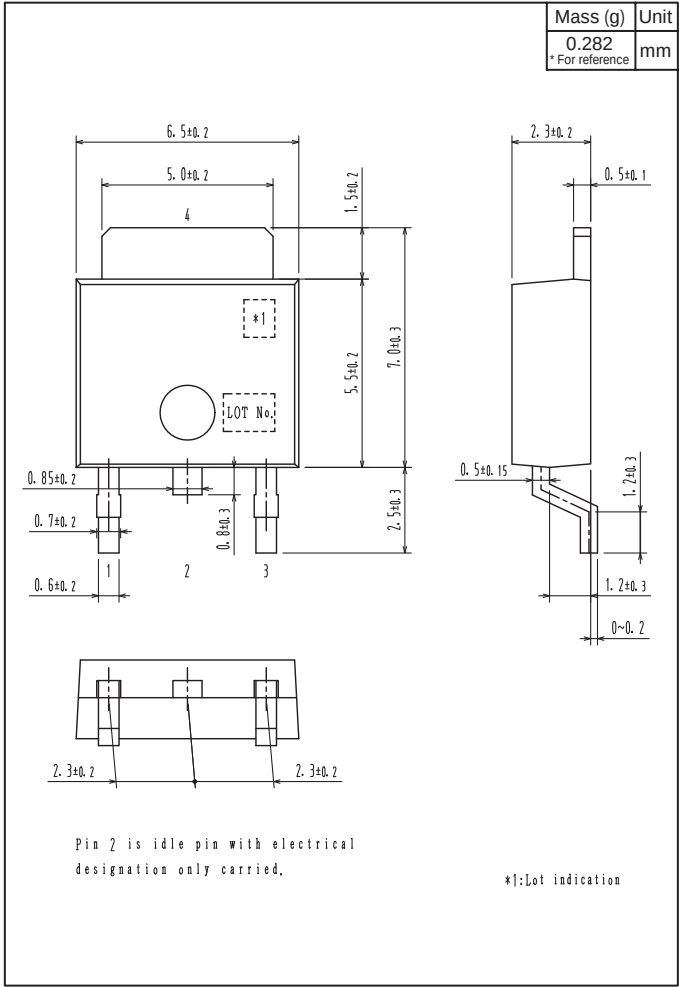
1. Carrier tape size (unit:mm)



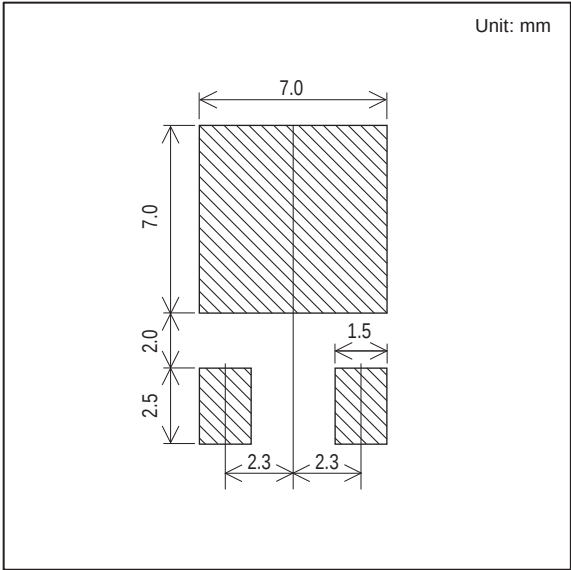
2. Device placement direction



Outline Drawing
UD0506T-TL-H



Land Pattern Example

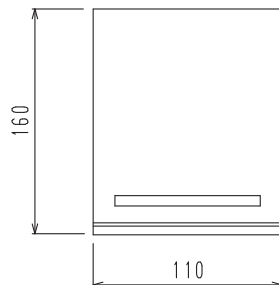
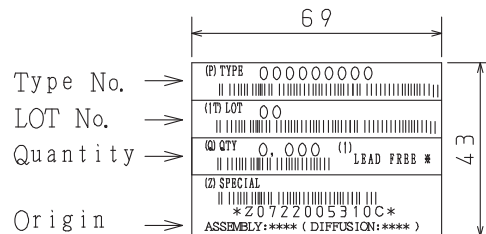


Bag Packing Specification

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

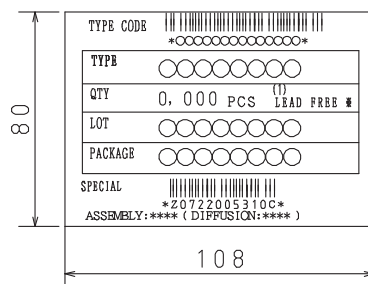
2. Bag dimensions
(unit:mm)3. Bag label, Inner box label
(unit:mm)4. Outer box label
(unit:mm)

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

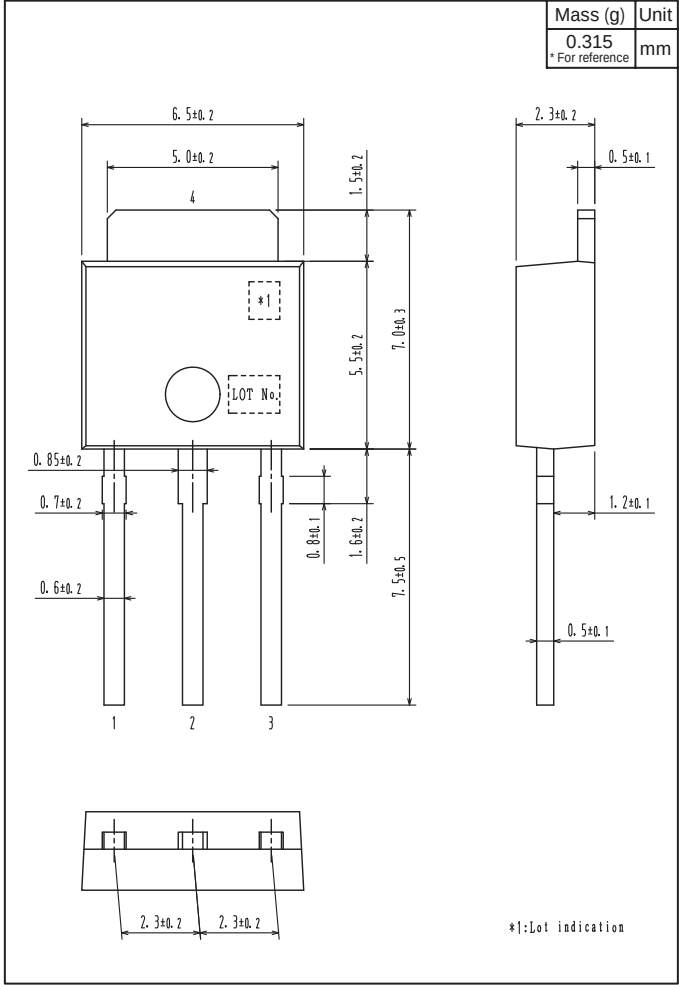
NOTE (1)

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



Outline Drawing
UD0506T-H



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