



TND315S

Excellent Power Device

Dual buffer driver for general purpose, Dual SOIC8

ON Semiconductor®

<http://onsemi.com>

Features

- Dual buffer
- Withstand voltage of 25V is assured
- Peak output current : 1A
- Fully compatible input to TTL / CMOS (V_{IH} =up to 2.6V, at V_{DD} =4.5 to 25V)
- Monolithic structure (High voltage CMOS process adopted)
- Wide range of operating voltage : 4.5V to 25V
- Fast switching time (30ns typical at 1000pF load)
- Built-in input pull-down resistance

Specifications

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

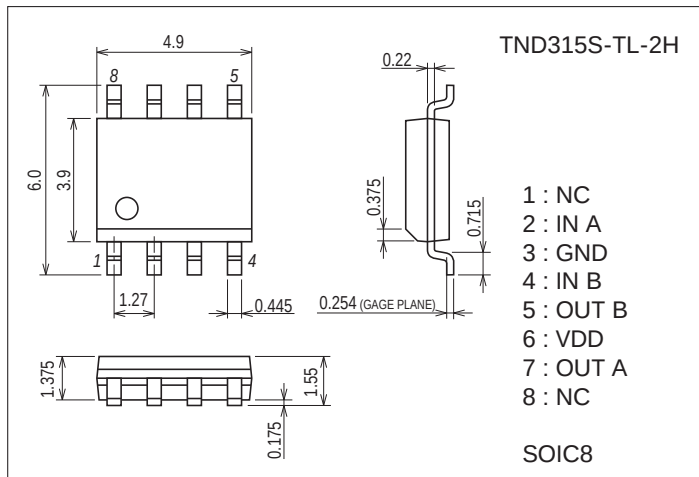
Parameter	Symbol	Conditions	Ratings	Unit
Supply Voltage	V_{DD}		0 to 25	V
Input Voltage	V_{IN}		GND -0.3 to $V_{DD}+0.3$	V
Allowable Power Dissipation	P_D max		0.3	W
Junction Temperature	T_j		-55 to 150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to 150	$^\circ\text{C}$

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)

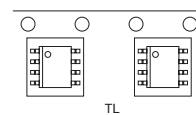
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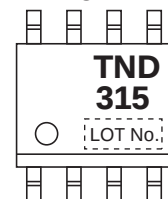
Product & Package Information

- Package : SOIC8
- JEITA, JEDEC : SC-87, SOT-96
- Minimum Packing Quantity : 2,500 pcs./reel

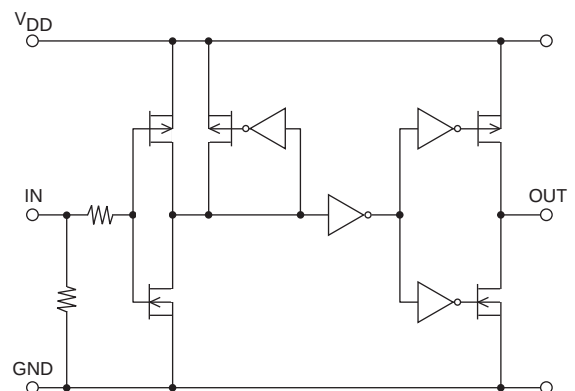
Packing Type: TL



Marking



Block Diagram



TND315

Recommend Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Operating Supply Voltage	V _{DD}		4.5 to 25	V
Operating Temperature	Topr		-40 to +125	°C

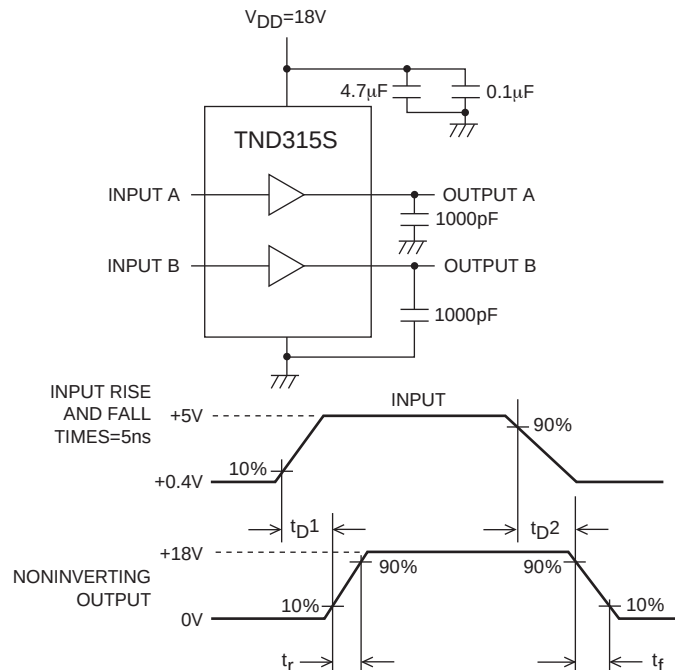
Electrical Characteristics (AC Characteristics) at Ta=25°C, V_{DD}=18V, V_{IN}=5V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Rise Time	t _r	C _L =1000pF		30	45	ns
Turn-OFF Fall Time	t _f	C _L =1000pF		30	45	ns
Delay Time	t _{D1}	C _L =1000pF		30	45	ns
	t _{D2}	C _L =1000pF		45	60	ns

Electrical Characteristics (DC Characteristics) at Ta=25°C, V_{DD}=4.5 to 25V

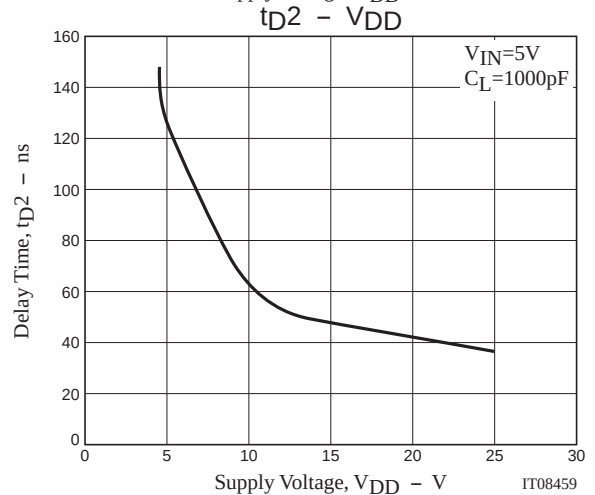
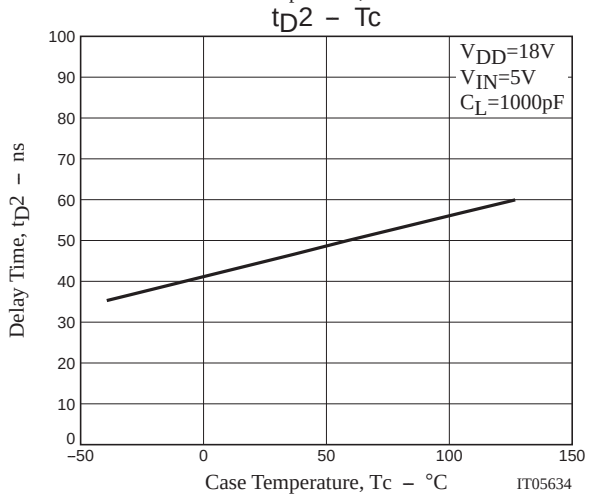
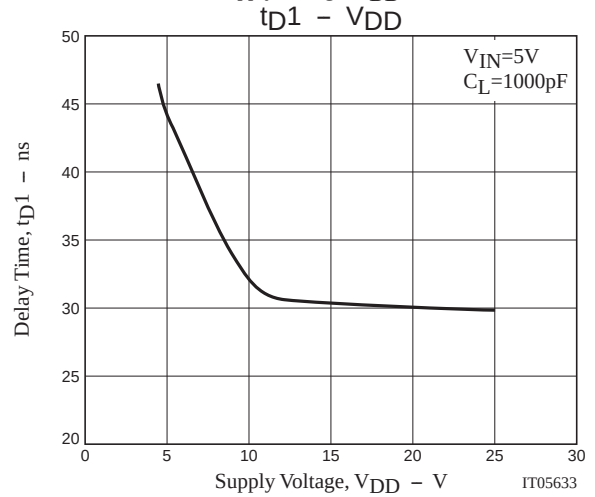
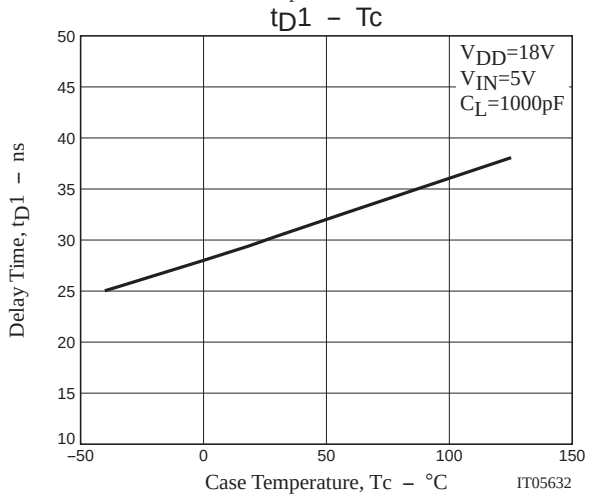
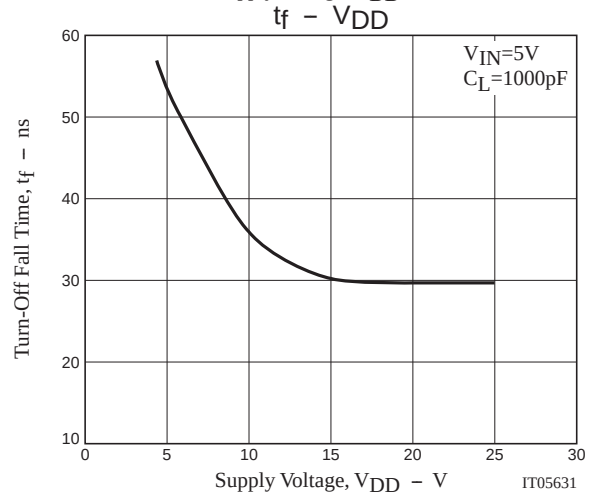
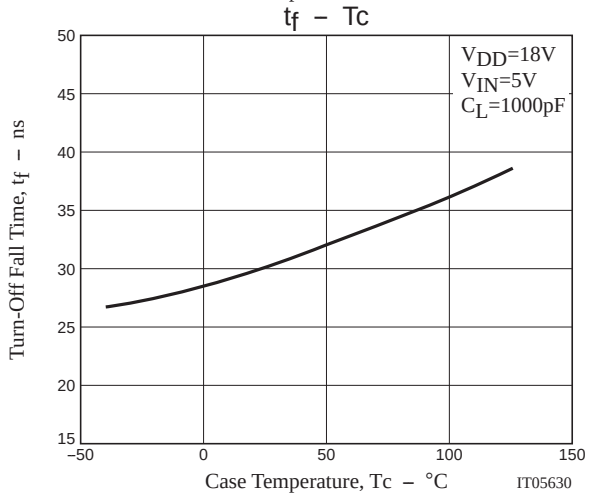
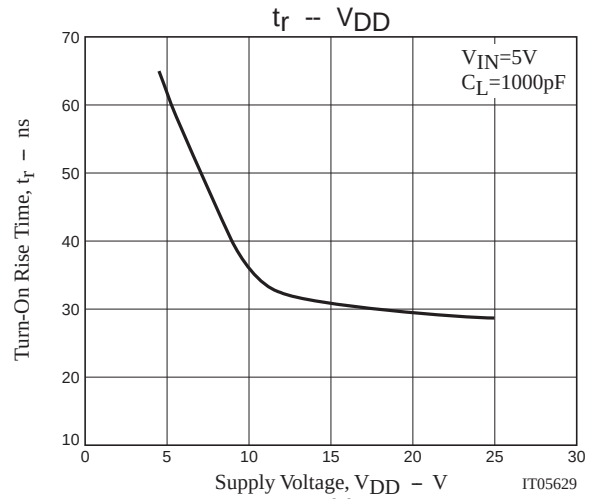
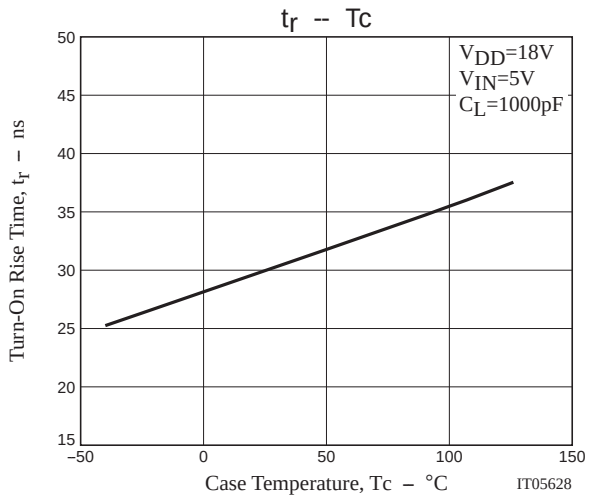
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic "1" Input Voltage	V _{IH}		2.6			V
Logic "0" Input Voltage	V _{IL}				0.8	V
Logic "1" Input Bias Current	I _{IN+}	V _{IN} =V _{DD} =25V		40	100	μA
Logic "0" Input Bias Current	I _{IN-}	V _{IN} =0V or V _{DD}	-1		1	μA
High Level Output Voltage	V _{OH}	I _O =0A	V _{DD} -0.1			V
Low Level Output Voltage	V _{OL}	I _O =0A			0.1	V
V _{DD} Supply Current	I _{supp}	V _{DD} =10V, V _{IN} =3V, (both inputs)		1.0	4.5	mA
		V _{DD} =10V, V _{IN} =0V, (both inputs)			0.2	mA
Output High Short Circuit Pulse Current	I _{O+}	V _{DD} =18V, PW≤10μs, V _{OUT} =0V		1.0		A
Output Low Short Circuit Pulse Current	I _{O-}	V _{DD} =18V, PW≤10μs, V _{OUT} =18V		1.0		A
Output On Resistance	R _{OUT}	V _{DD} =18V, I _{load} =10mA, V _{OUT} ="H"		8	12	Ω
		V _{DD} =18V, I _{load} =10mA, V _{OUT} ="L"		6	10	Ω

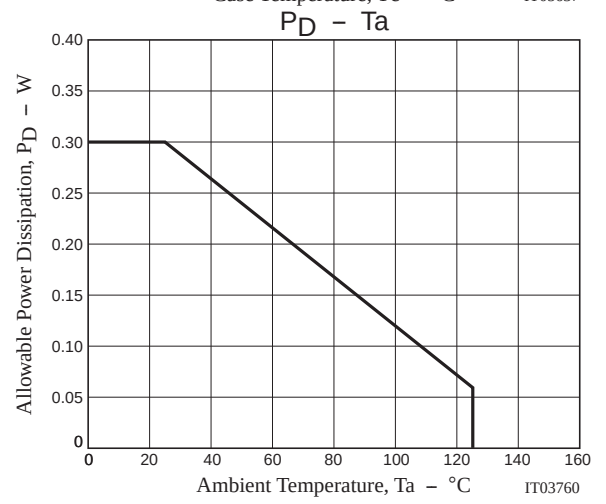
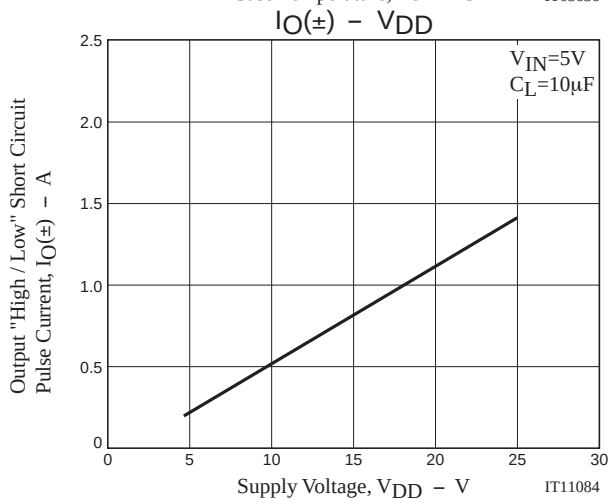
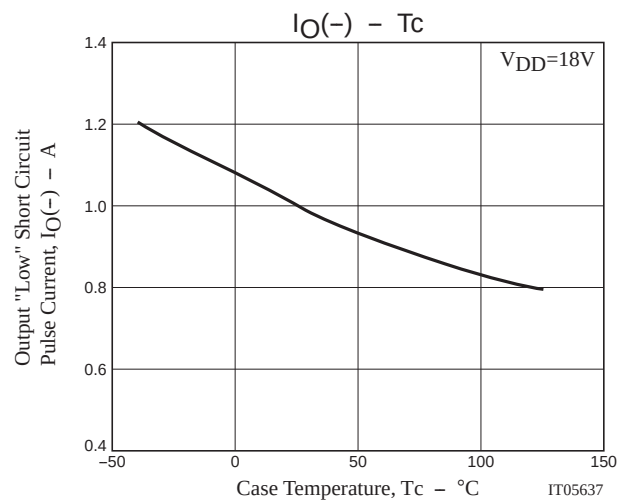
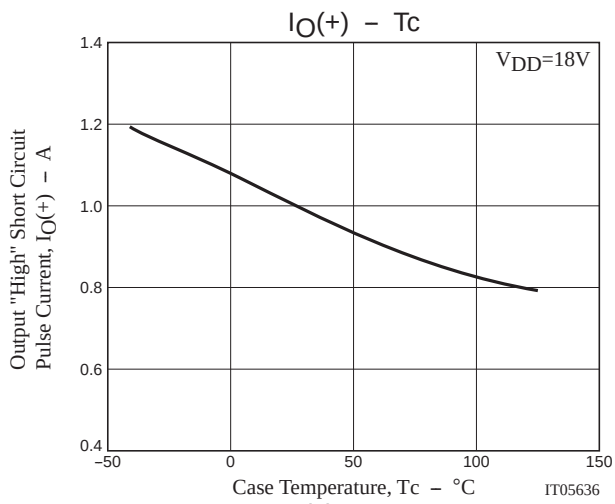
Switching Time Test Circuit



Ordering Information

Devices	Package	Shipping	memo
TND315S-TL-2H	SOIC8	2,500pcs./reel	Pb Free and Halogen Free





Taping Specification

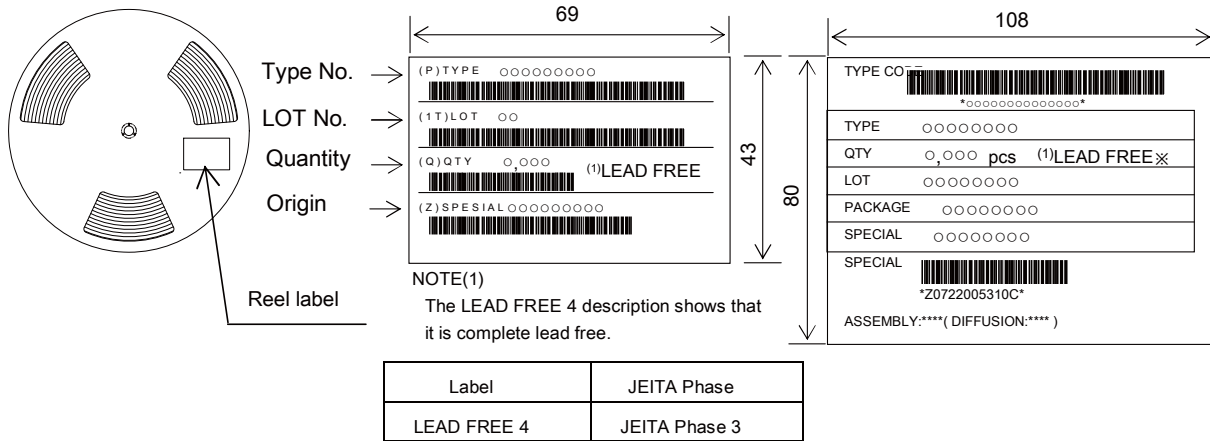
TND315S-TL-2H

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX W206-112	Outer BOX W207-124
SOIC8	B202-101	2,500	12,500	25,000	5 reels contained Dimensions :mm(external) 340×95×340	2 inner boxes contained Dimensions :mm(external) 360×210×375

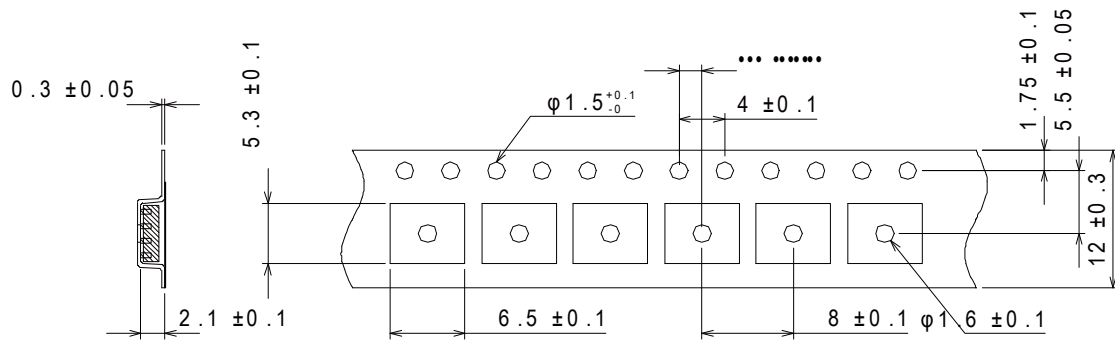
Packing methodReel label, Inner box label
(unit: mm)Outer box label

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

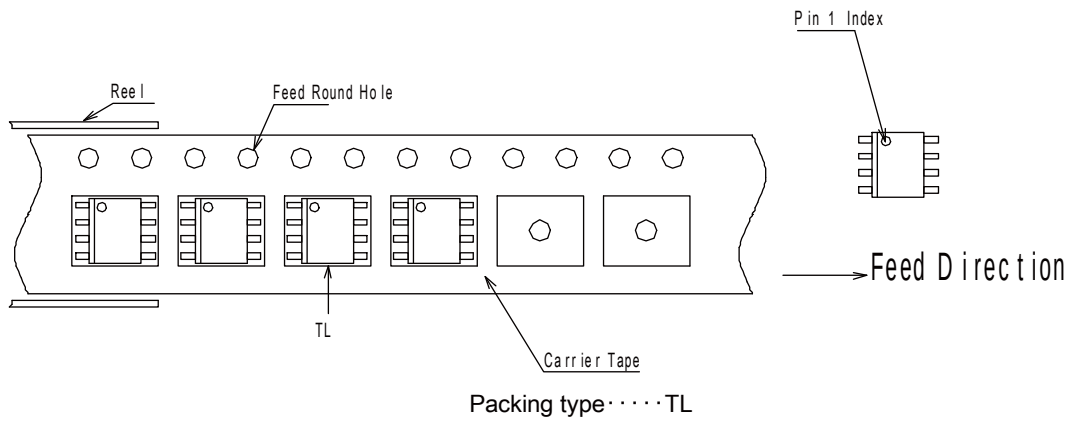


2. Taping configuration

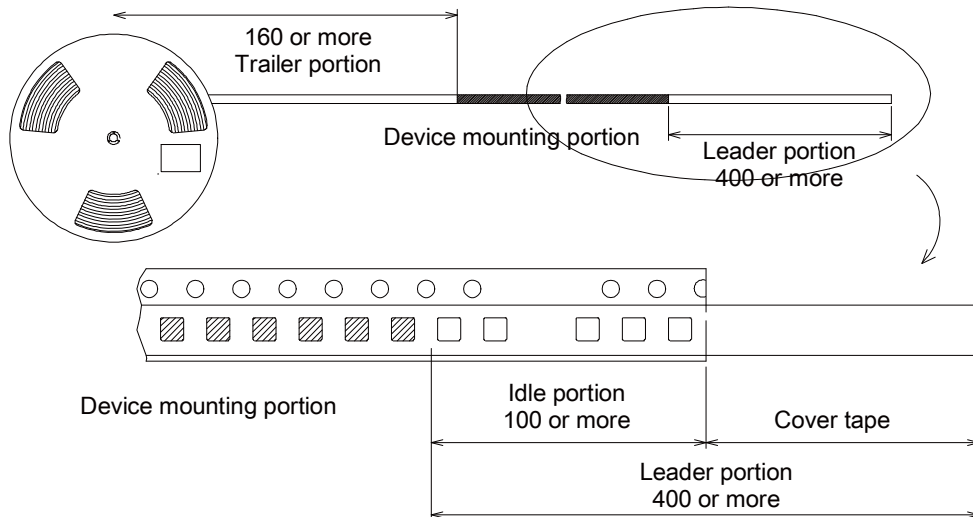
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction



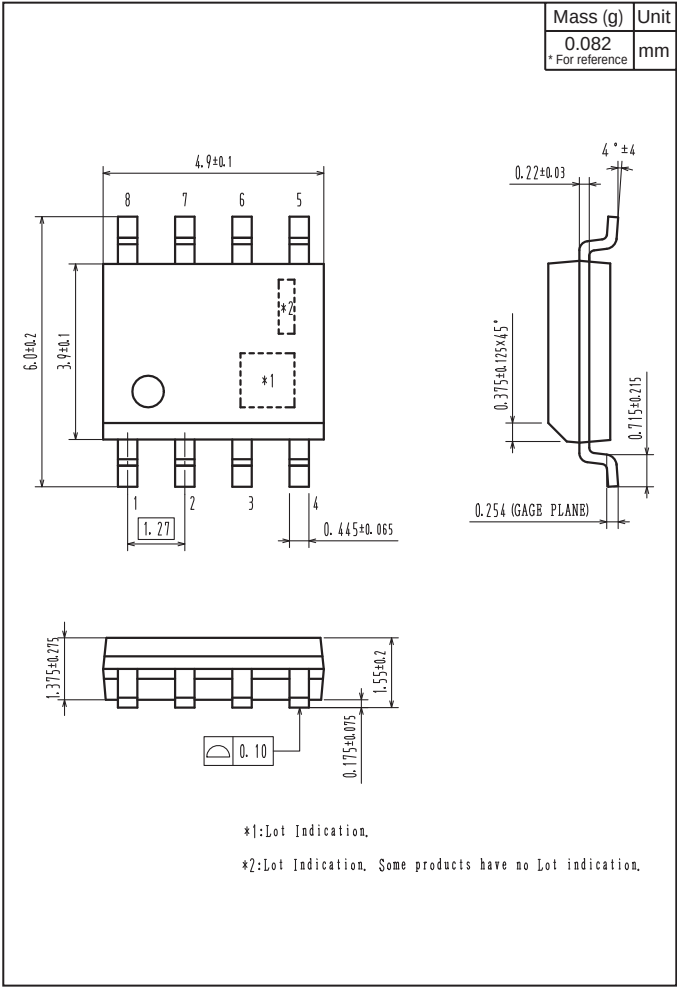
2-3. Leader portion and trailer portion (unit: mm)



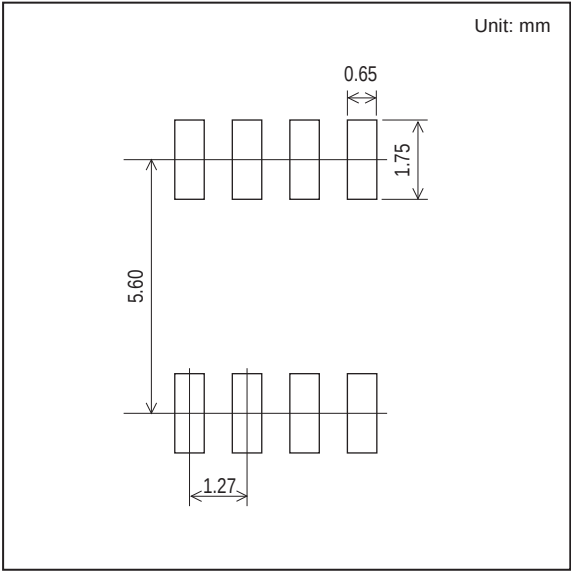
TND315

Outline Drawing

TND315S-TL-2H



Land Pattern Example



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