



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

TND316S — ExPD (Excellent Power Device) General Purpose Driver for PDP Sustain Pulse Drive, Motor Drive, Switching Power Supply, and DC / DC Converter Applications

Features

- Inverter 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)
- Built-in input pull-down resistance
- Monolithic structure (High voltage CMOS process adopted)
- Wide range of operating voltage : 4.5V to 25V
- Fast switching time (30ns typical at 1000pF load)

Specifications

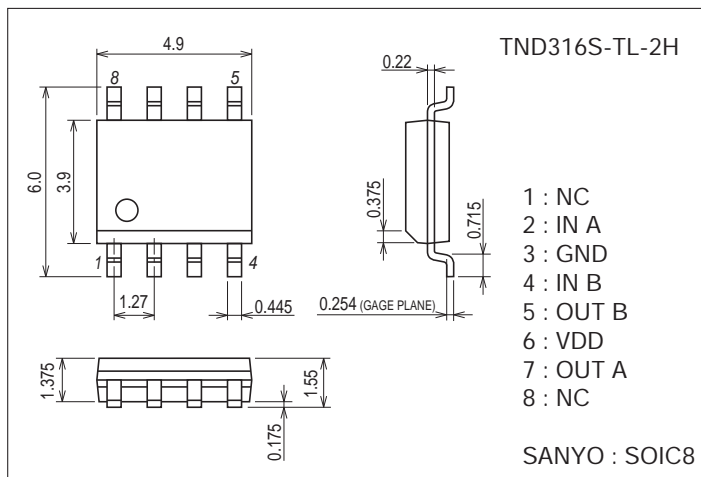
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

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	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

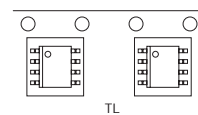
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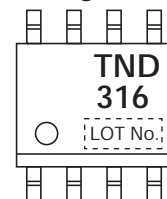
Product & Package Information

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

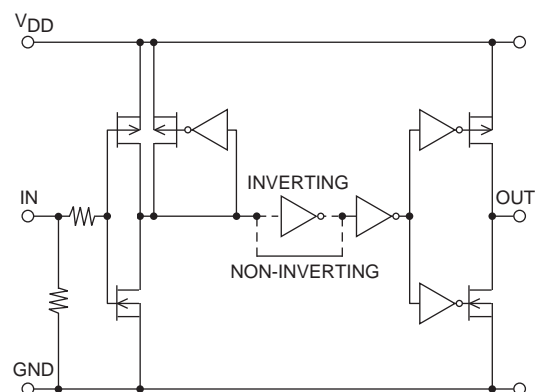
Packing Type: TL



Marking



Block Diagram



TND316S

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

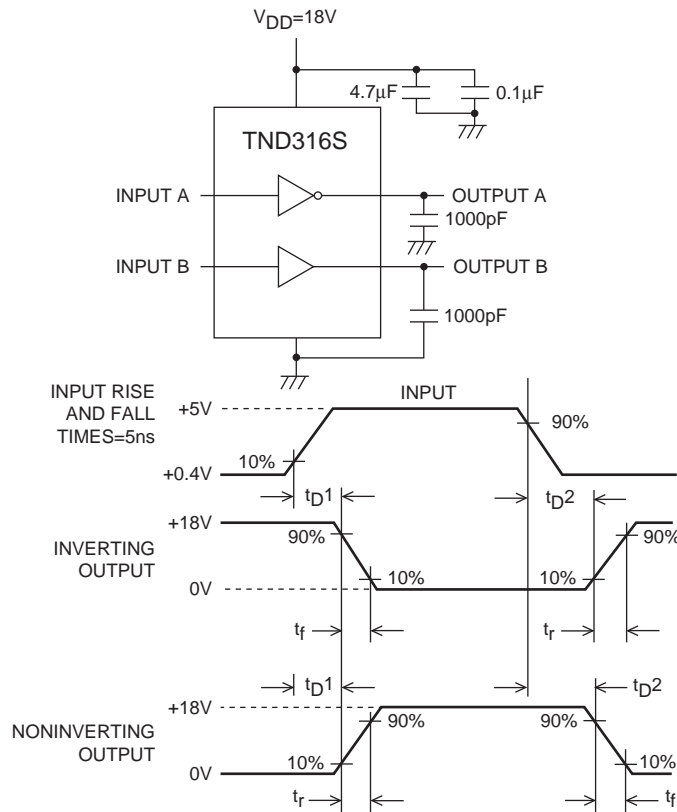
Electrical Characteristics (AC Characteristics) at Ta=25°C, V_{DD}=18V, V_{IN}=5V

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

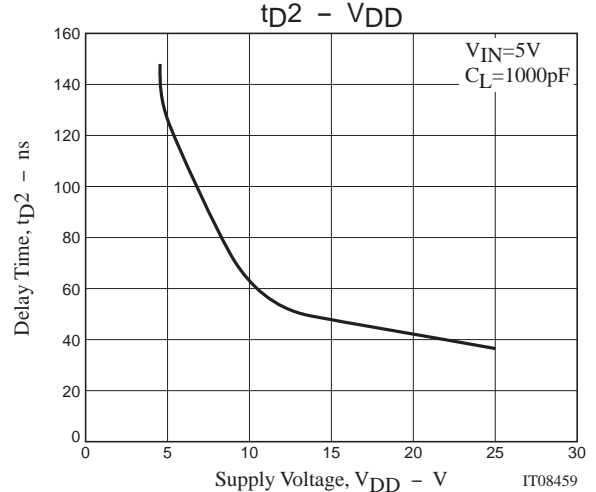
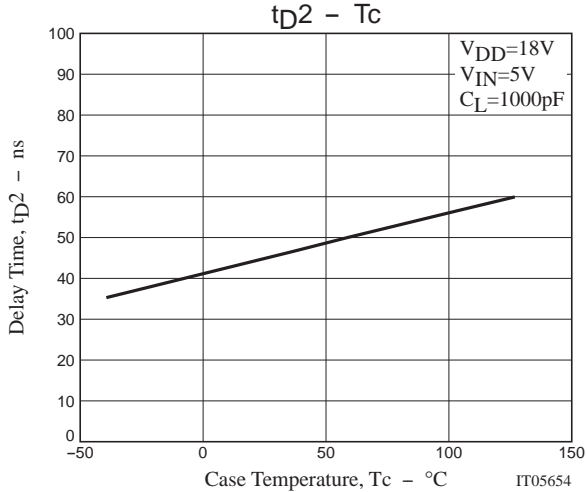
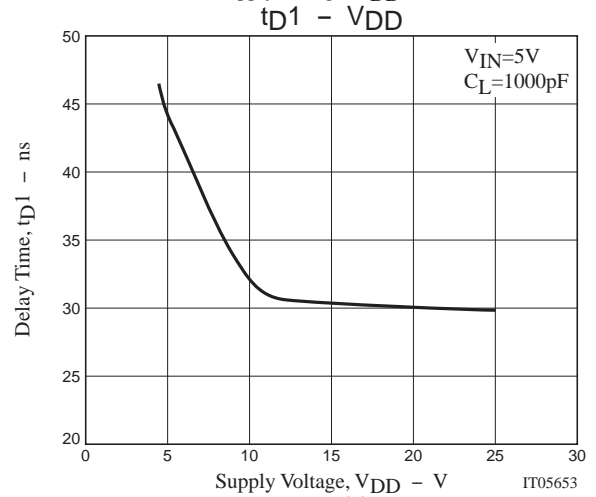
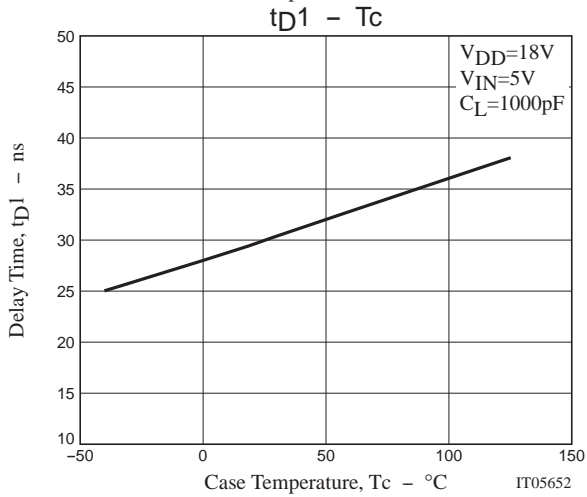
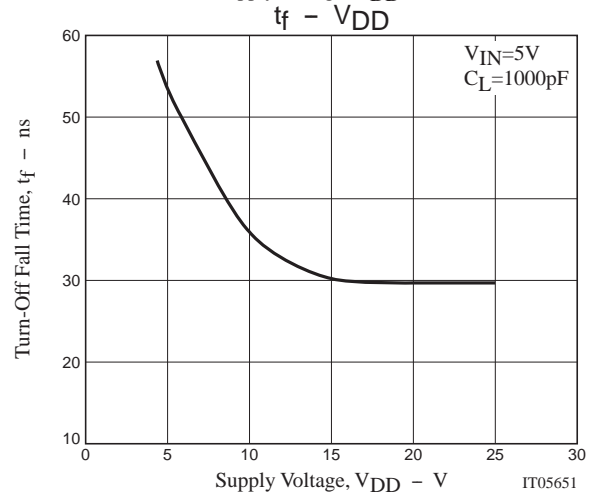
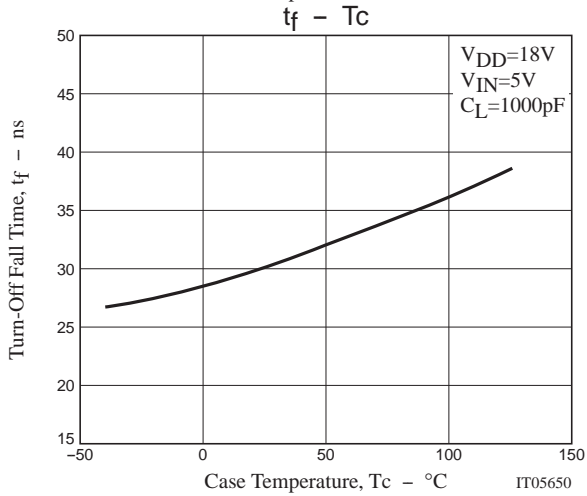
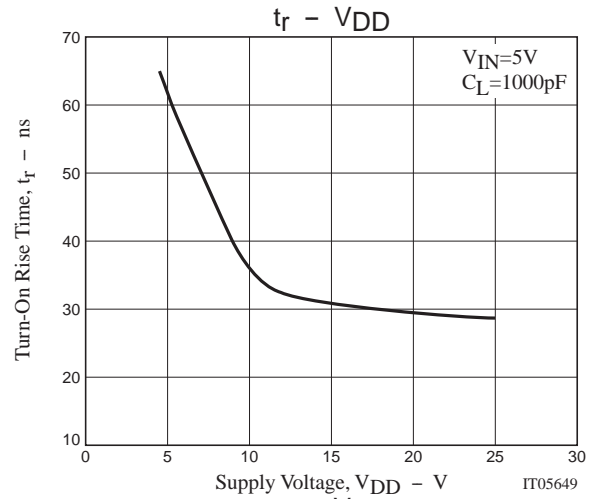
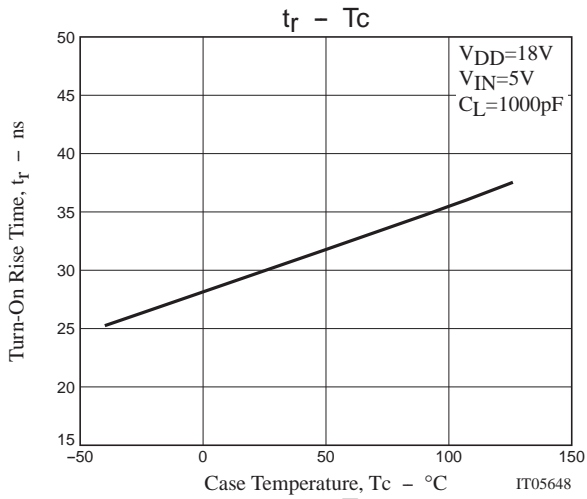
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic "1" Input Voltage	V _{IH}		2.6			V
Logic "0" Input Voltage	V _{IL}				0.8	V
Logic "1" Input Bias Current	I _{IN+}	V _{IN} =V _{DD} =25V		40	100	μA
Logic "0" Input Bias Current	I _{IN-}	V _{IN} =0V or V _{DD}	-1		1	μA
High-level Output Voltage	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 Pulsed Current	I _{O+}	V _{DD} =18V, PW≤10μs, V _{OUT} =0V		1.0		A
Output Low Short Circuit Pulsed 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

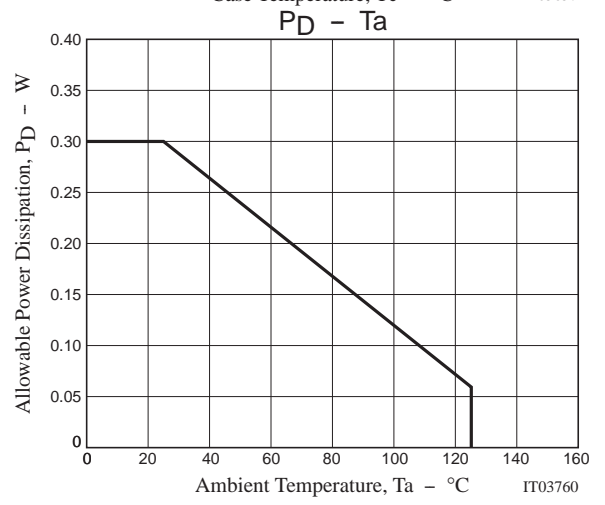
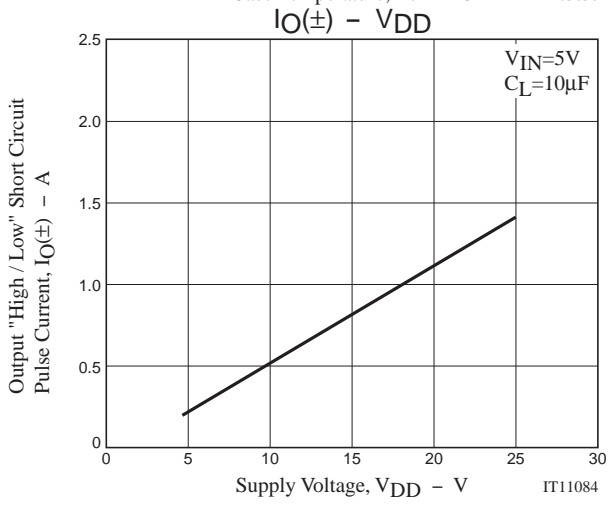
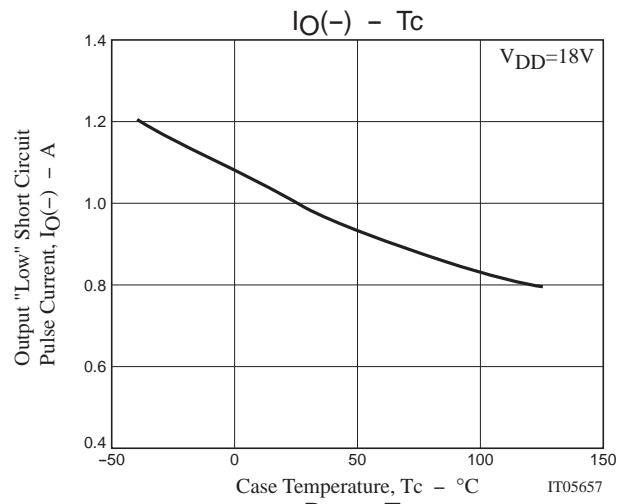
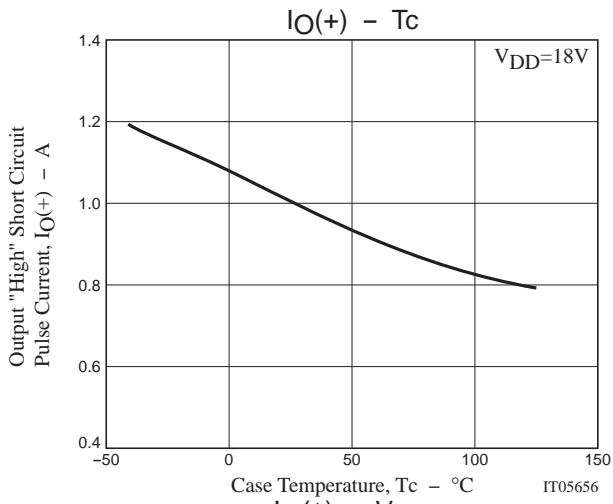


Ordering Information

Devices	Package	Shipping	memo
TND316S-TL-2H	SOIC8	2,500pcs./reel	Pb Free and Halogen Free



TND316S



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Taping Specification

TND316S-TL-2H

1. Packing Format

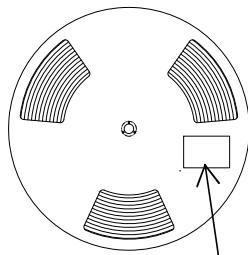
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX W206-112	Outer BOX W207-124
SOIC8	B202-101	2,500	12,500	25,000	5 reels contained Dimensions :mm(external) 340×95×340	2 inner boxes contained Dimensions :mm(external) 360×210×375

Packing method

Reel label, Inner box label (unit: mm)

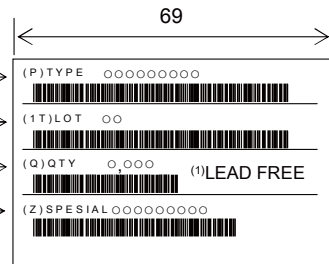
Outer box label

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



Type No. →
LOT No. →
Quantity →
Origin →

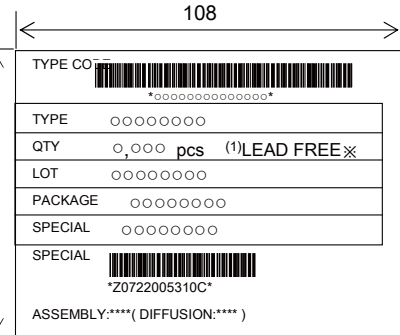
Reel label



NOTE(1)

The LEAD FREE 4 description shows that it is complete lead free.

43
80

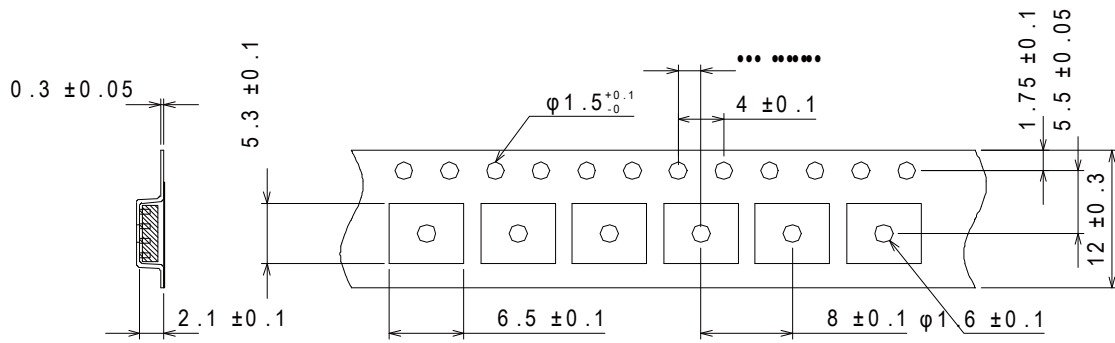


Label	JEITA Phase
LEAD FREE 4	JEITA Phase 3

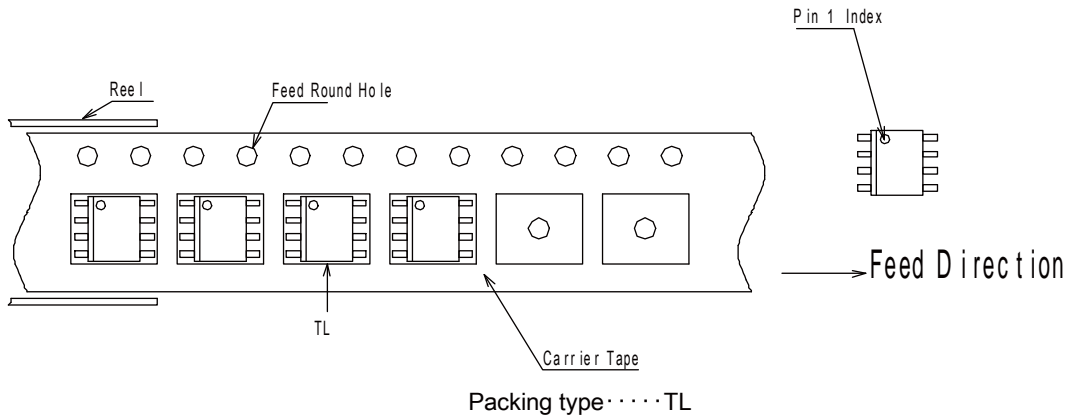
TND316S

2. Taping configuration

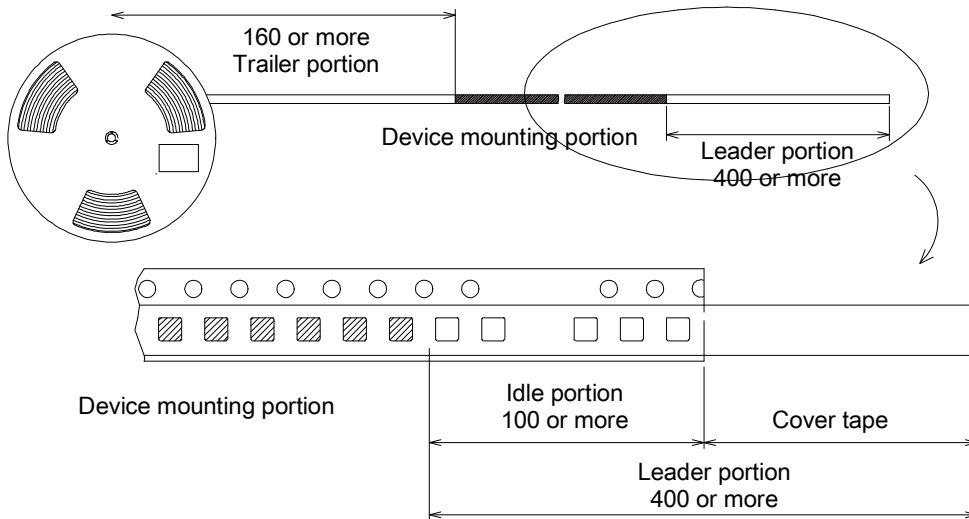
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction

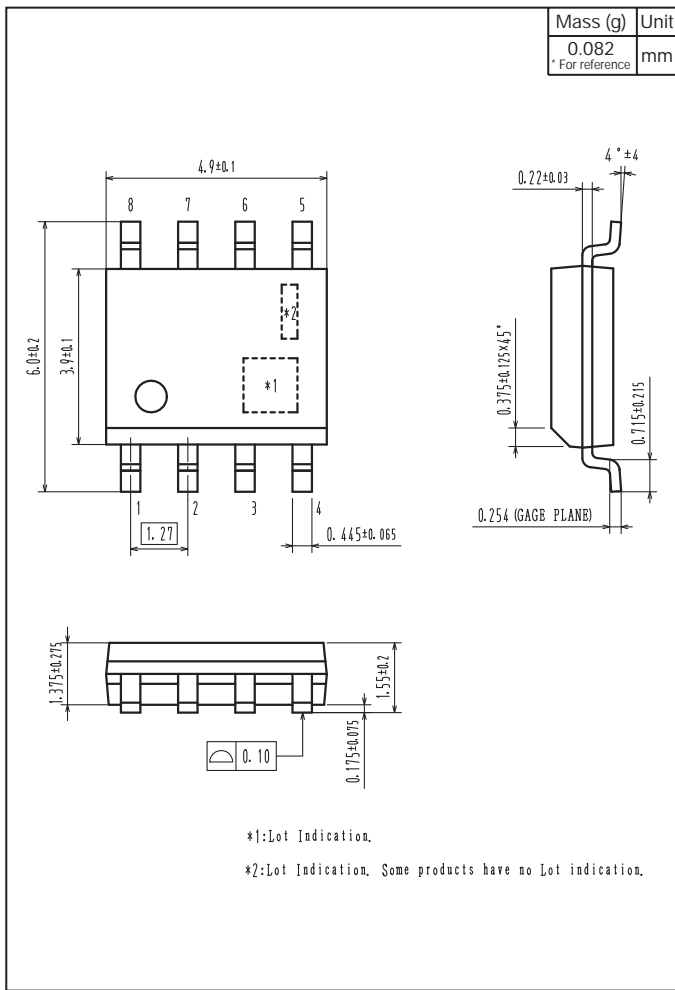


2-3. Leader portion and trailer portion (unit: mm)

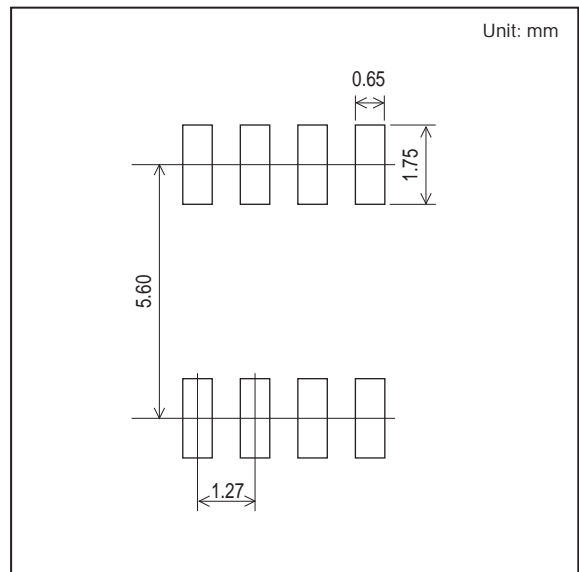


TND316S

Outline Drawing TND316S-TL-2H



Land Pattern Example



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