



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





TND524VS

Excellent Power Device Single-phase High Side Drive, Single VEC8

ON Semiconductor®

<http://onsemi.com>

Features

- Single-phase high side drive
- Allows simplified configuration of driver circuit
- Fully compatible input to LSTTL/CMOS
- Output current: 170mA Source, 340mA Sink
- Monolithic structure
- Withstand voltage of 600V is assured
- High-speed switching
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta=25°C (All voltage parameters are absolute voltage referenced to GND)

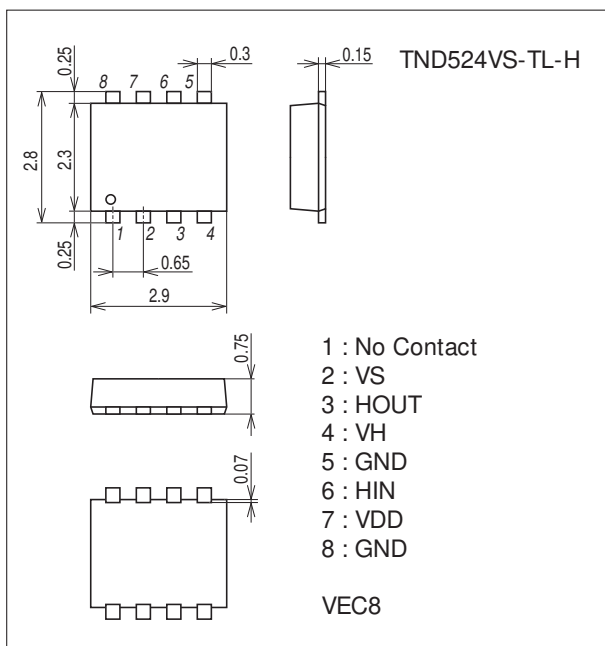
| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---------------------|--|--|------|
| High Side Floating Supply Voltage | V _H | | -0.3 to 625 | V |
| High Side Floating Supply Offset Voltage | V _S | | V _H -25 to V _H +0.3 | V |
| High Side Output Voltage | V _{HOUT} | | V _S -0.3 to V _H +0.3 | V |
| Logic Supply Voltage | V _{DD} | | -0.3 to 25 | V |
| Logic Input Voltage | V _{HIN} | | -0.3 to V _{DD} +0.3 | V |
| The Maximum Allowable Offset Voltage Supply | dV _S /dt | | 50 | V/ns |
| Allowable Power Dissipation | PD | When mounted on ceramic substrate (1000mm ² ×0.8mm) | 1.1 | W |
| Junction Temperature | T _J | | -55 to +150 | °C |
| Storage Temperature | T _{stg} | | -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)

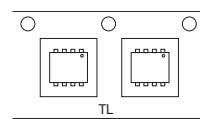
7012-013



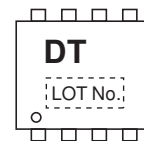
Product & Package Information

- Package : VEC8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

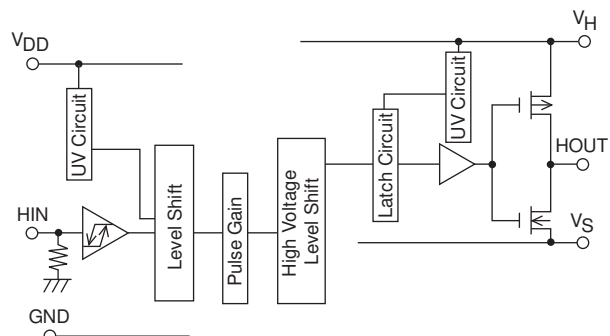
Packing Type: TL



Marking



Block Diagram



TND524VS

Recommend Operating Conditions at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|--|-------------------|---------------------------------------|--|------|
| High Side Floating Supply Voltage | V _H | | V _S +10 to V _S +20 | V |
| High Side Floating Supply Offset Voltage | V _S | V _{DD} =V _{HS} =15V | -5 to 600 | V |
| High Side Output Voltage | V _{HOUT} | | V _S to V _H | V |
| Logic Supply Voltage | V _{DD} | | +10 to +20 | V |
| Logic Input Voltage | V _{HIN} | | 0 to V _{DD} | V |
| Ambient Temperature | T _{opr} | | -40 to +125 | °C |

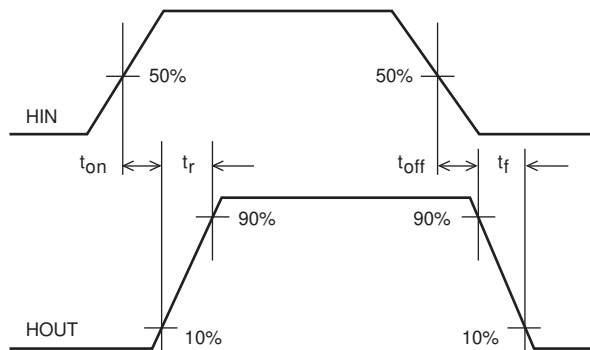
AC Characteristics at Ta=25°C (V_{DD}=V_{HS}=15V, C_L=1000pF)

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------|------------------|--------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Turn-ON Delay Time | t _{on} | V _S =0V | 60 | 90 | 120 | ns |
| Turn-OFF Delay Time | t _{off} | V _S =0V | 55 | 85 | 115 | ns |
| Turn-ON Rise Time | t _r | | 50 | 80 | 110 | ns |
| Turn-OFF Fall Time | t _f | | 20 | 35 | 55 | ns |

DC Characteristics at Ta=25°C (V_{DD}=V_{HS}=15V)

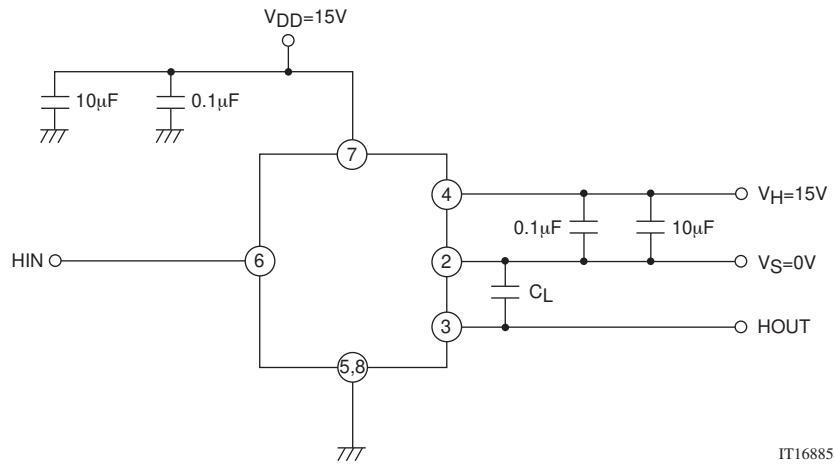
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|--------------------|--|---------|-----|-----|------|
| | | | min | typ | max | |
| Logic "1" Input Voltage | V _{IH} | V _{DD} =10 to 20V | 3.0 | | | V |
| Logic "0" Input Voltage | V _{IL} | V _{DD} =10 to 20V | | | 0.8 | V |
| High-level Output Voltage, V _{BIAS-V_O} | V _{OH} | V _{HIN} =V _{IH} , I _O =0A | | | 0.1 | V |
| Low-level Output Voltage, V _O | V _{OL} | V _{HIN} =V _{IL} , I _O =0A | | | 0.1 | V |
| Offset Supply Leakage Current | I _{LK} | V _H =V _S =600V | | | 10 | μA |
| Quiescent V _H Supply Current | I _{QH} | V _{HIN} =0V or V _{DD} | | 70 | 120 | μA |
| Quiescent V _{DD} Supply Current | I _{QDD} | V _{HIN} =0V or V _{DD} | | 140 | 230 | μA |
| Logic "1" Input Bias Current | I _{IN+} | V _{HIN} =V _{DD} | | 20 | 55 | μA |
| Logic "0" Input Bias Current | I _{IN-} | V _{HIN} =0V | | | 1 | μA |
| V _H Supply Undervoltage Positive Going Threshold | V _{HUV+} | | 7.6 | 8.9 | 9.9 | V |
| V _H Supply Undervoltage Negative Going Threshold | V _{HUV-} | | 6.7 | 8.1 | 9.5 | V |
| V _{DD} Supply Undervoltage Positive Going Threshold | V _{DDUV+} | | 7.6 | 8.9 | 9.9 | V |
| V _{DD} Supply Undervoltage Negative Going Threshold | V _{DDUV-} | | 6.7 | 8.1 | 9.5 | V |
| Output High Short Circuit Pulsed Current | I _{O+} | V _{HOUT} =0V, V _{HIN} =15V, PW≤10μs | 170 | 200 | | mA |
| Output Low Short Circuit Pulsed Current | I _{O-} | V _{HOUT} =15V, V _{HIN} =0V, PW≤10μs | 340 | 400 | | mA |

Switching Time Waveform Definition



TND524VS

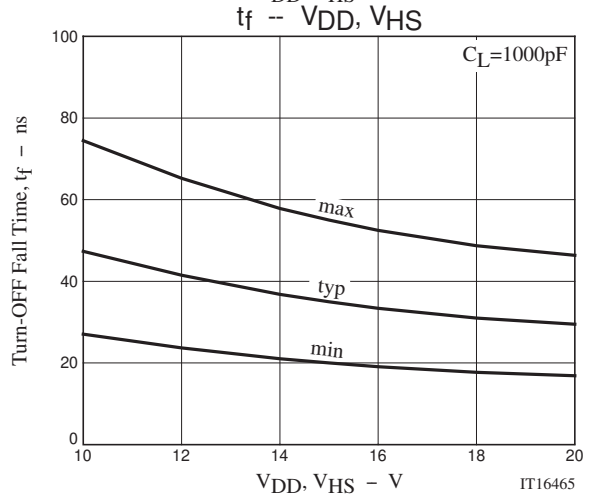
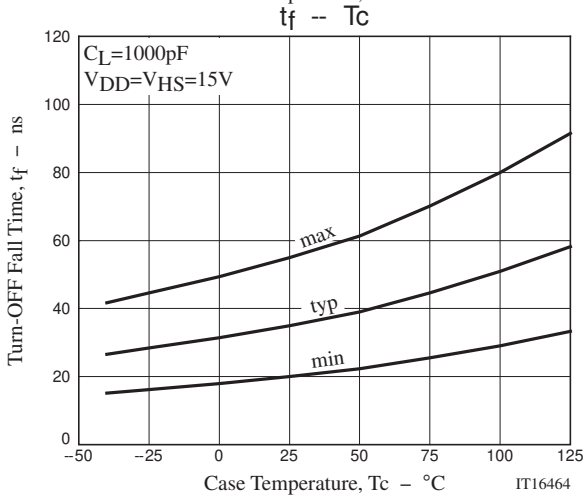
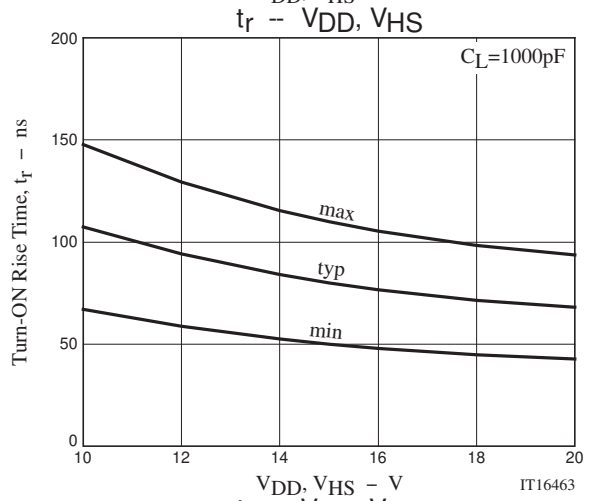
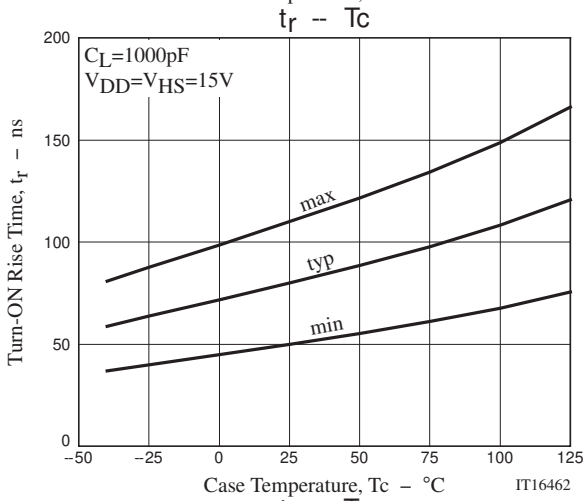
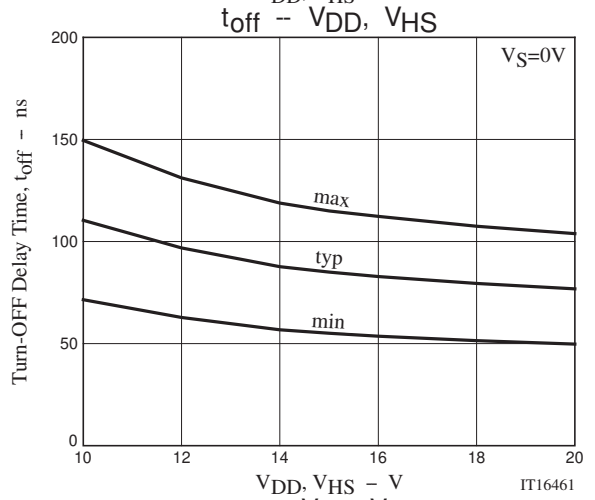
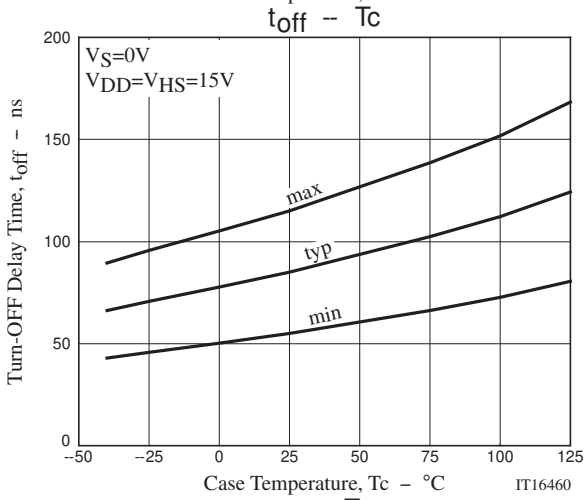
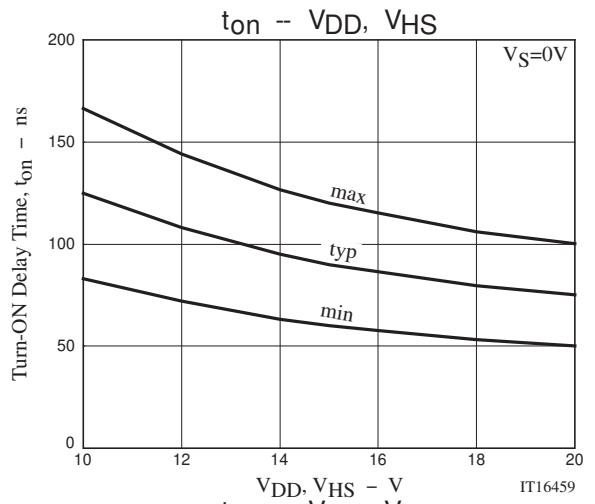
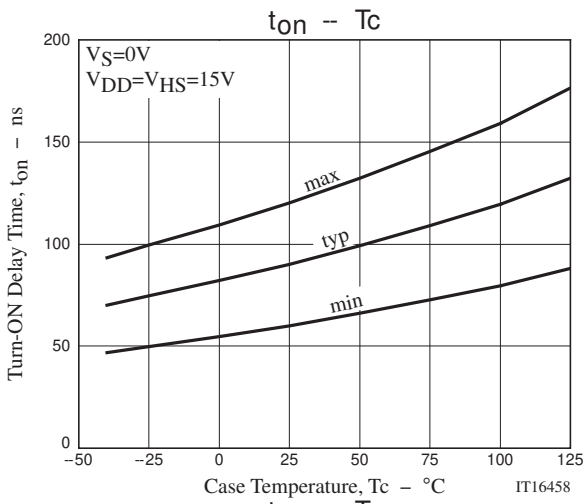
Switching Time Test Circuit



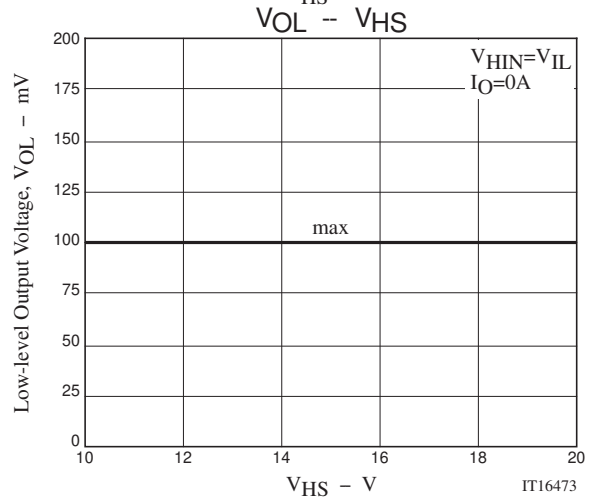
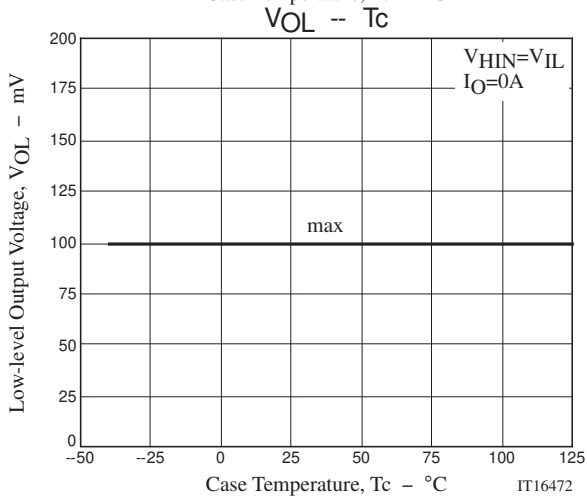
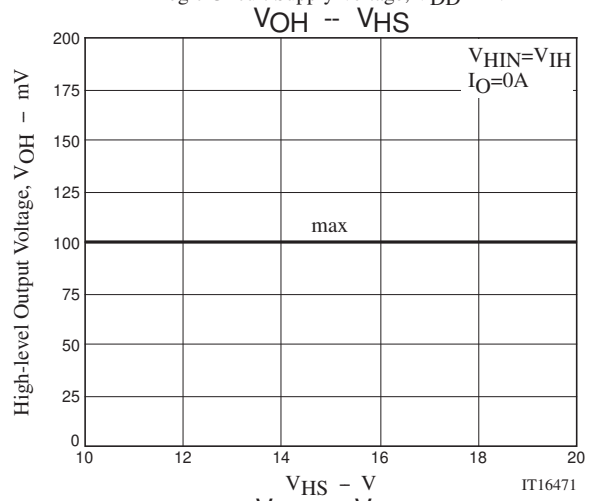
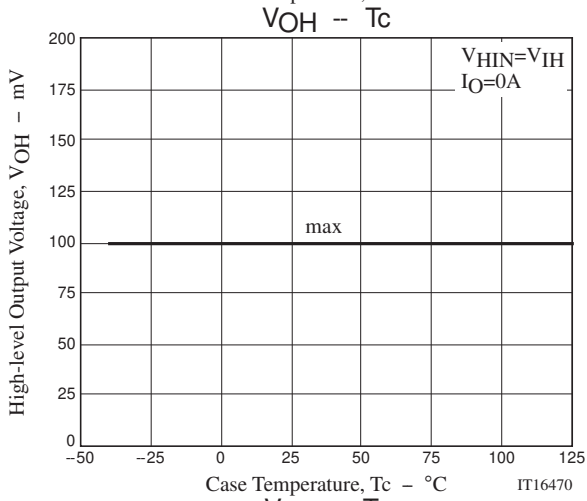
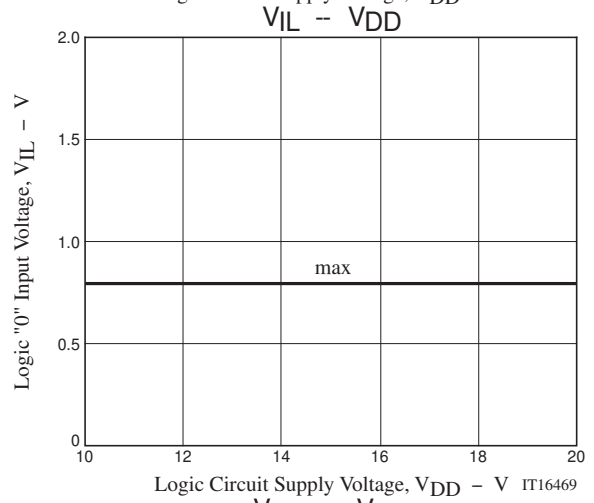
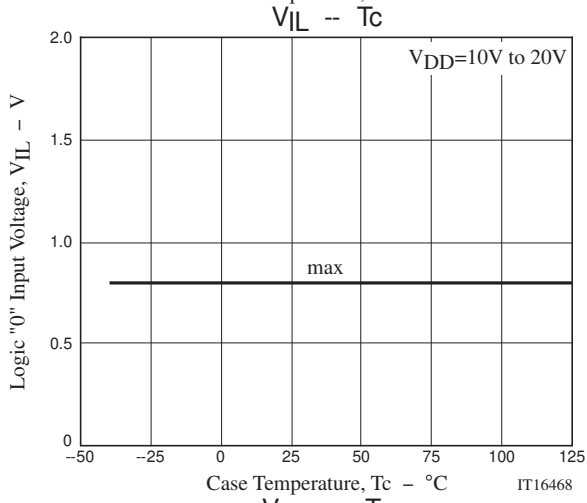
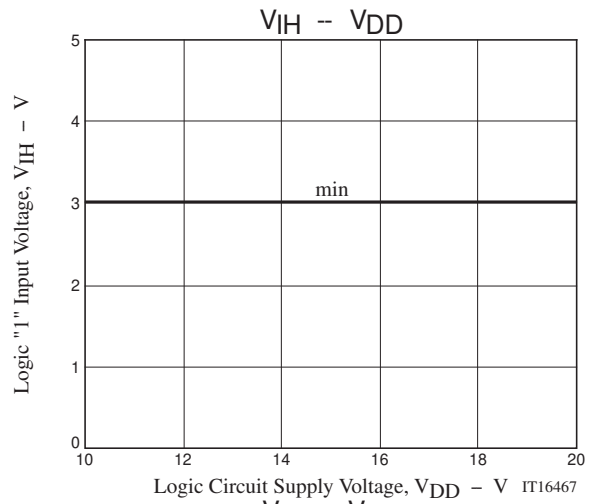
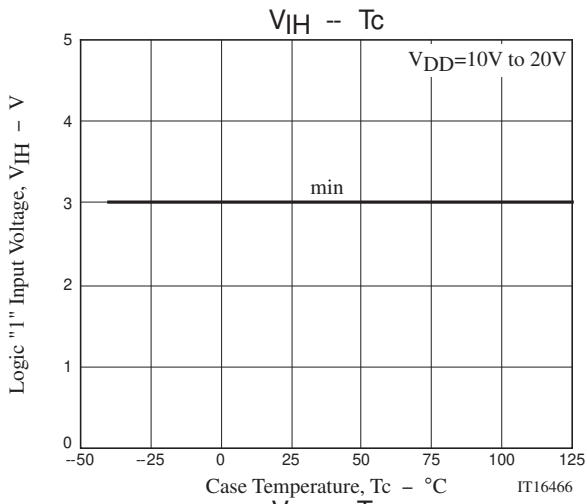
Ordering Information

| Device | Package | Shipping | memo |
|---------------|---------|----------------|--------------------------|
| TND524VS-TL-H | VEC8 | 3,000pcs./reel | Pb Free and Halogen Free |

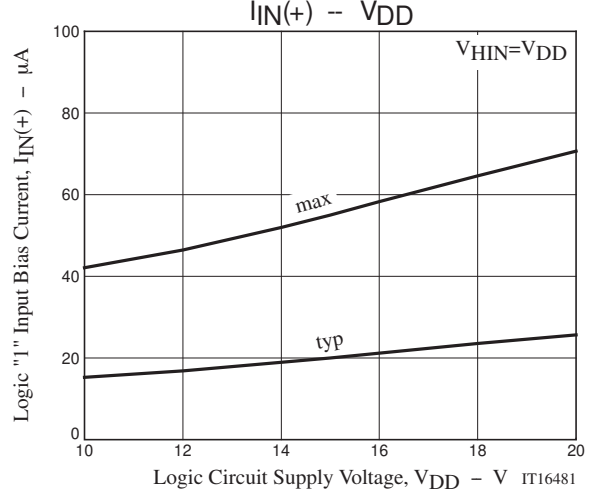
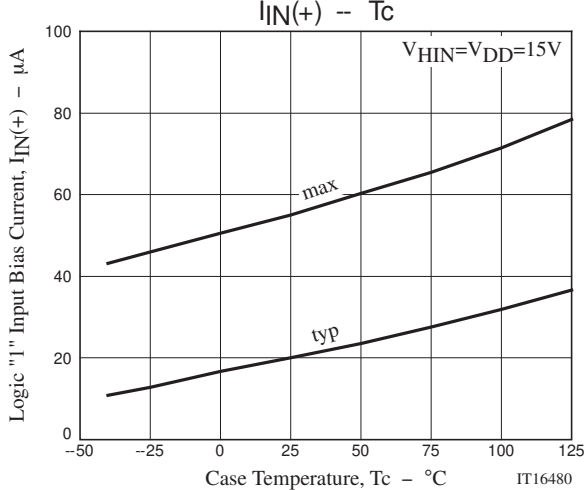
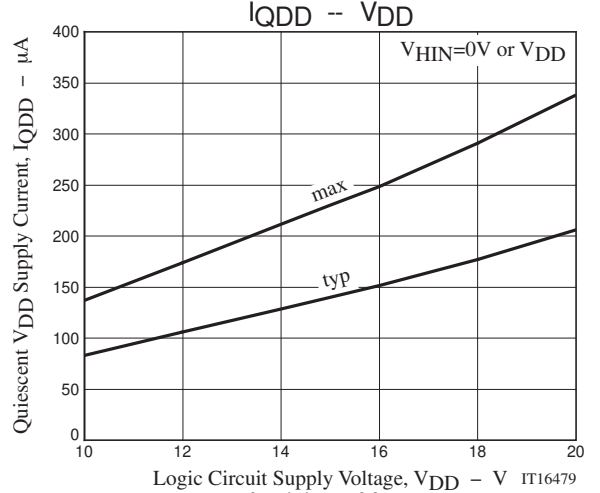
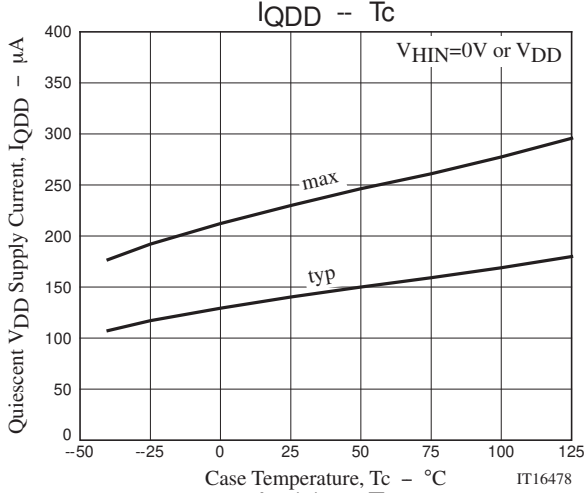
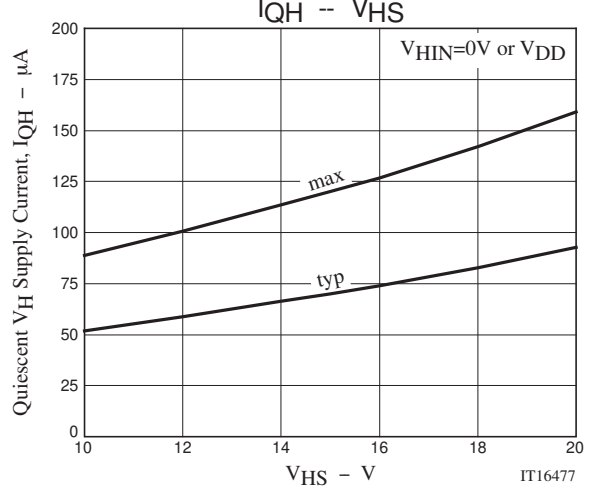
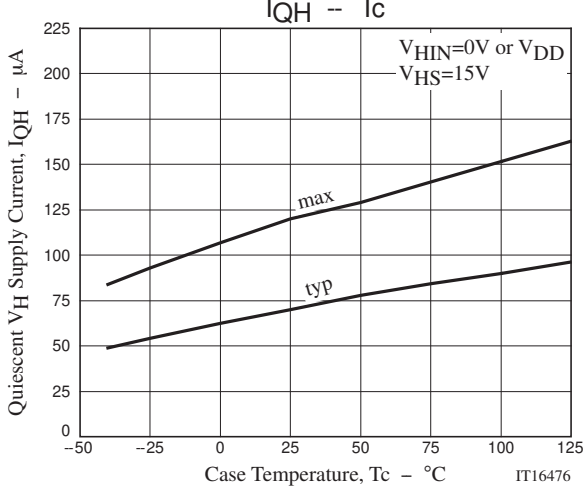
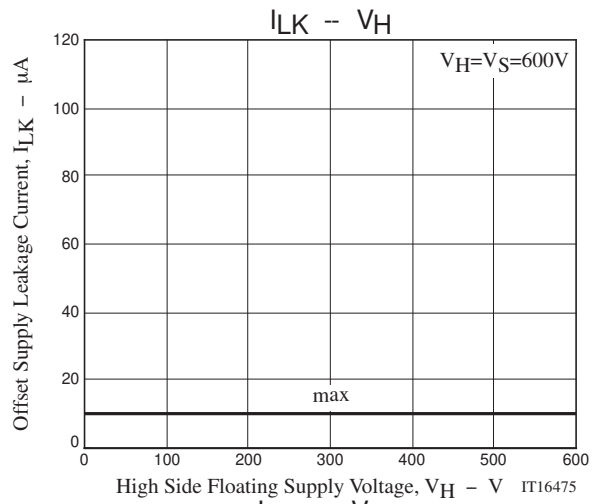
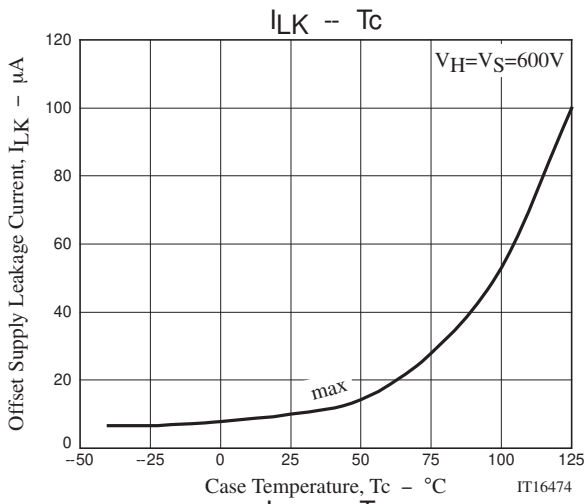
TND524VS



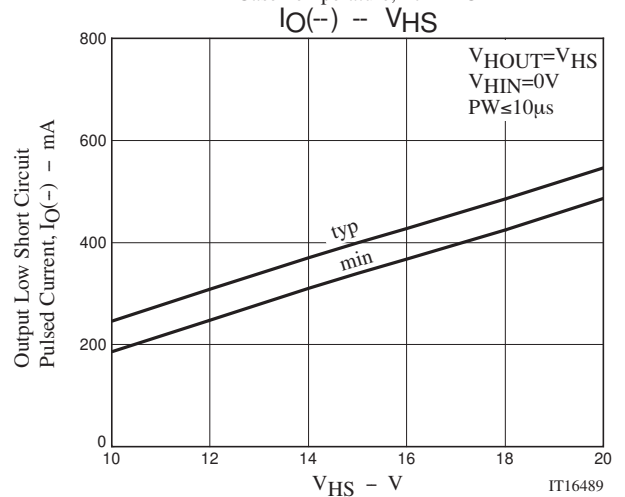
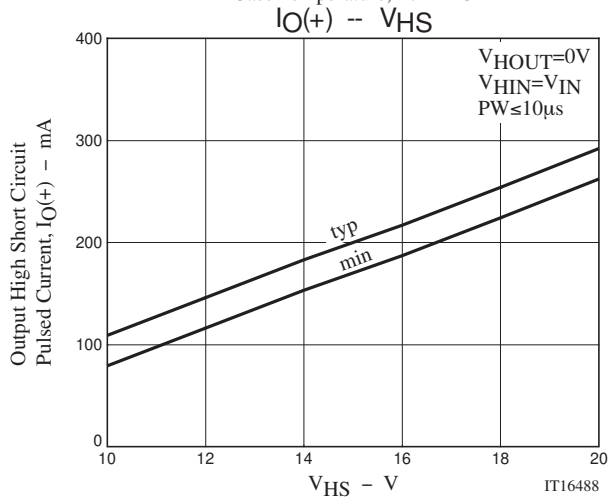
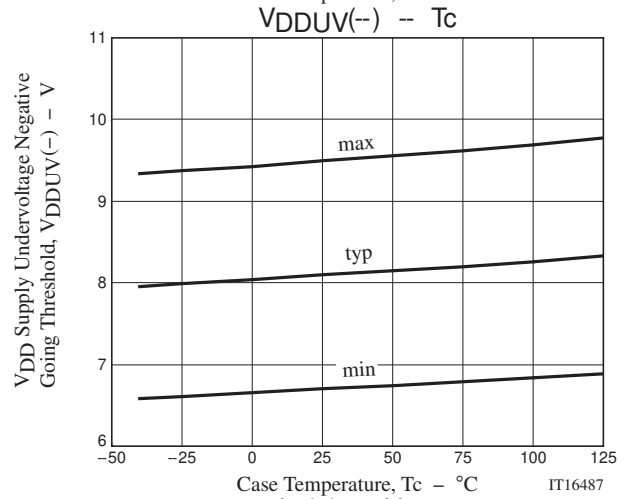
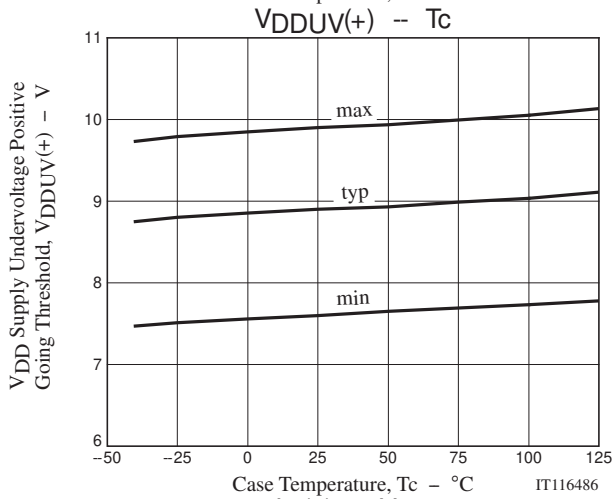
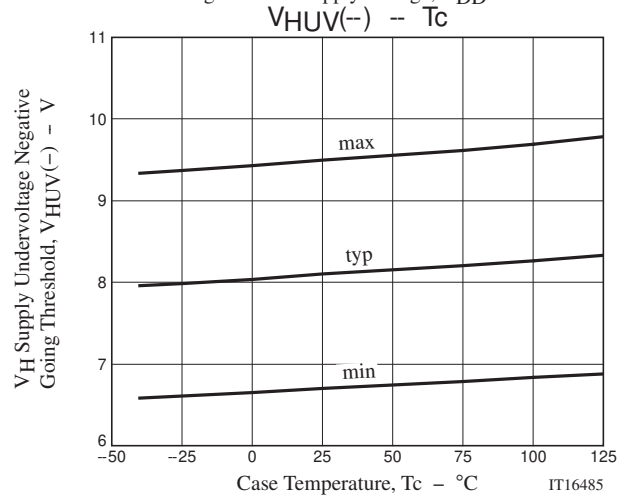
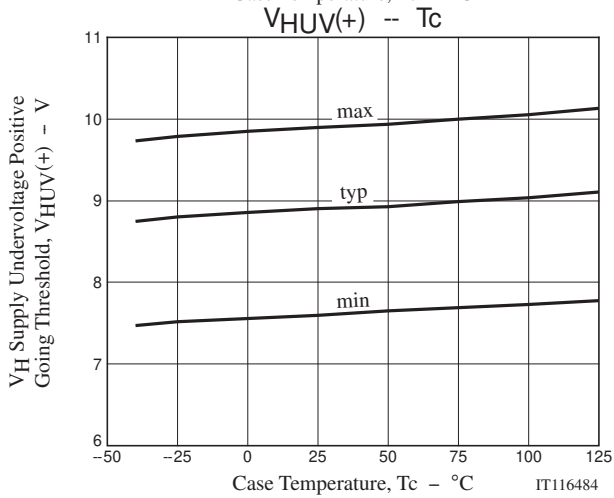
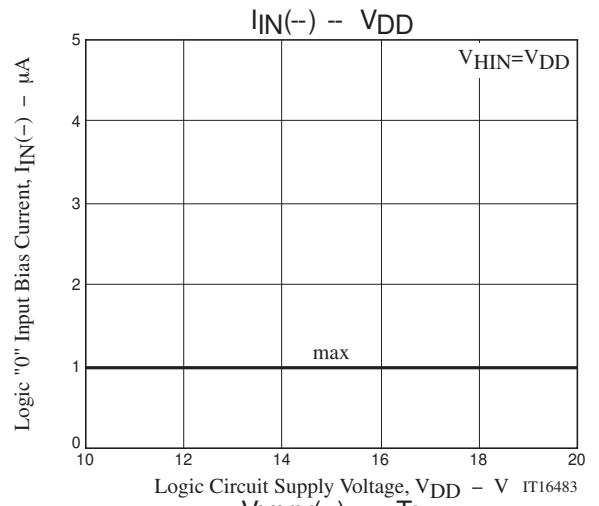
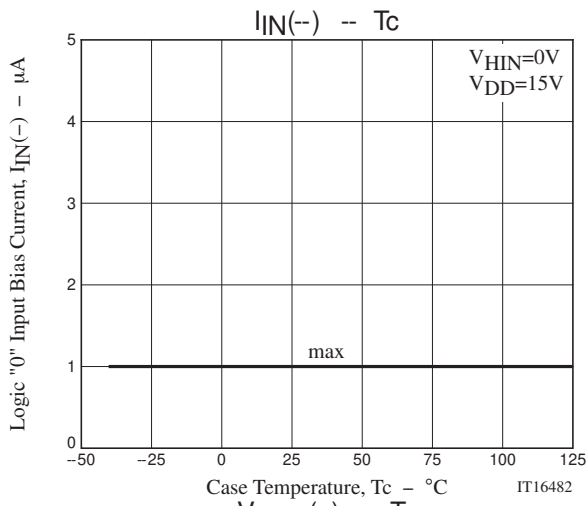
TND524VS



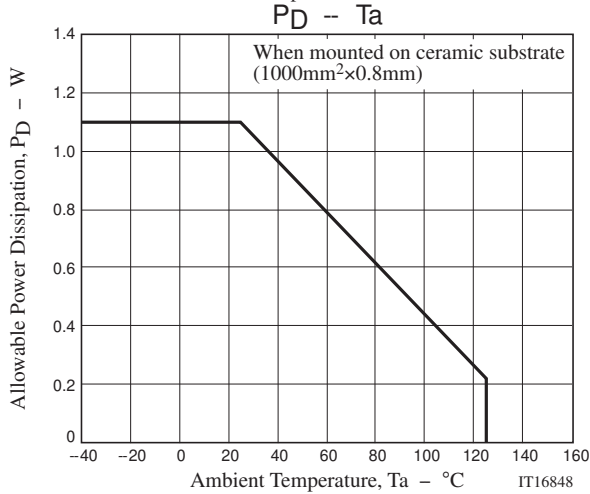
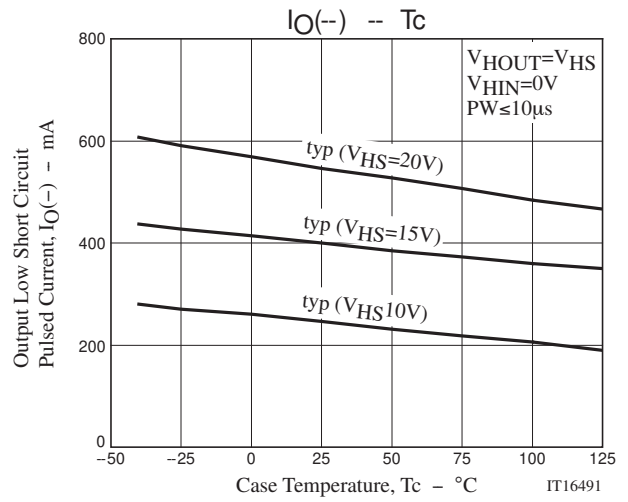
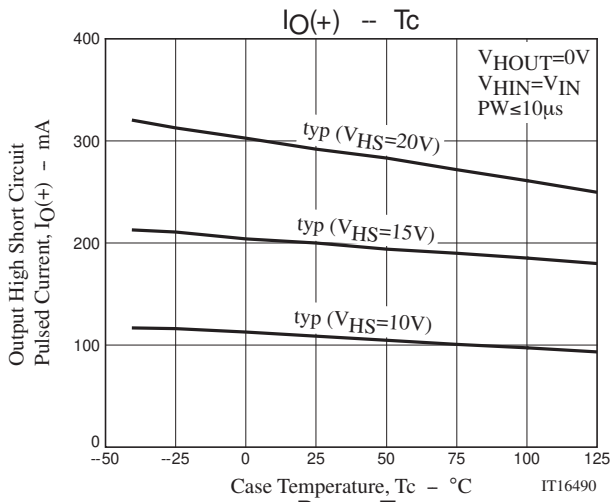
TND524VS



TND524VS



TND524VS



Taping Specification

TND524VS-TL-H

1. Packing Format

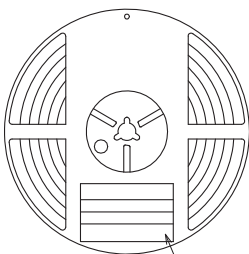
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) | | | Packing format | |
|--------------|-------------------|---|-----------|-----------|---|--|
| | | Reel | Inner box | Outer box | Inner BOX (C-1) | Outer BOX (A-7) |
| VEC8 | CPH6 | 3,000 | 15,000 | 90,000 | 5 reels contained 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

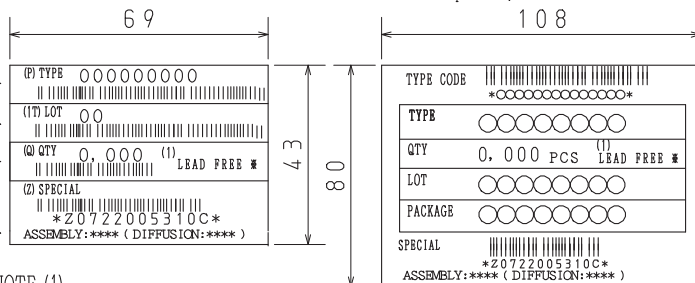
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No.
LOT No.
Quantity
Origin



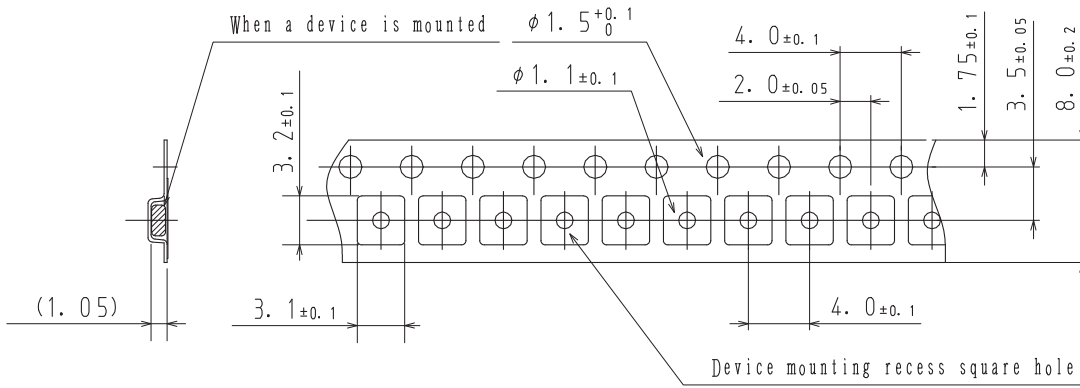
NOTE (1)

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

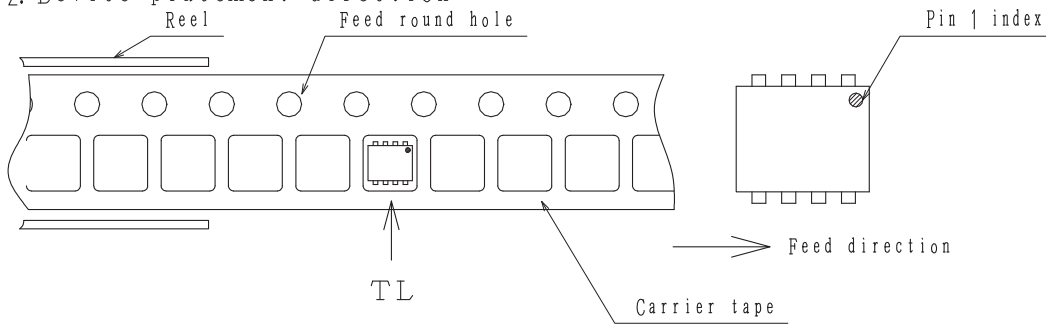
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

2. Taping configuration

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

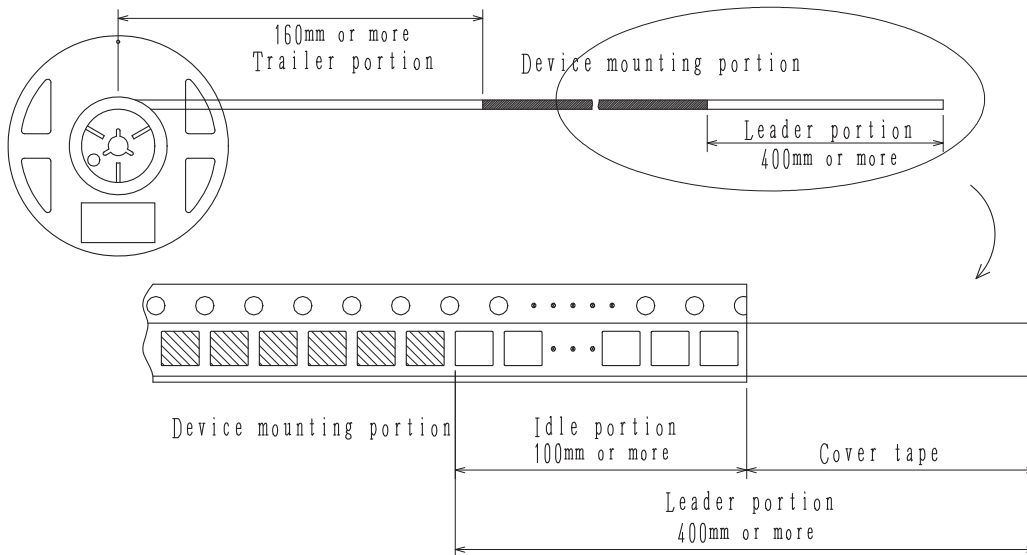


2-2. Device placement direction



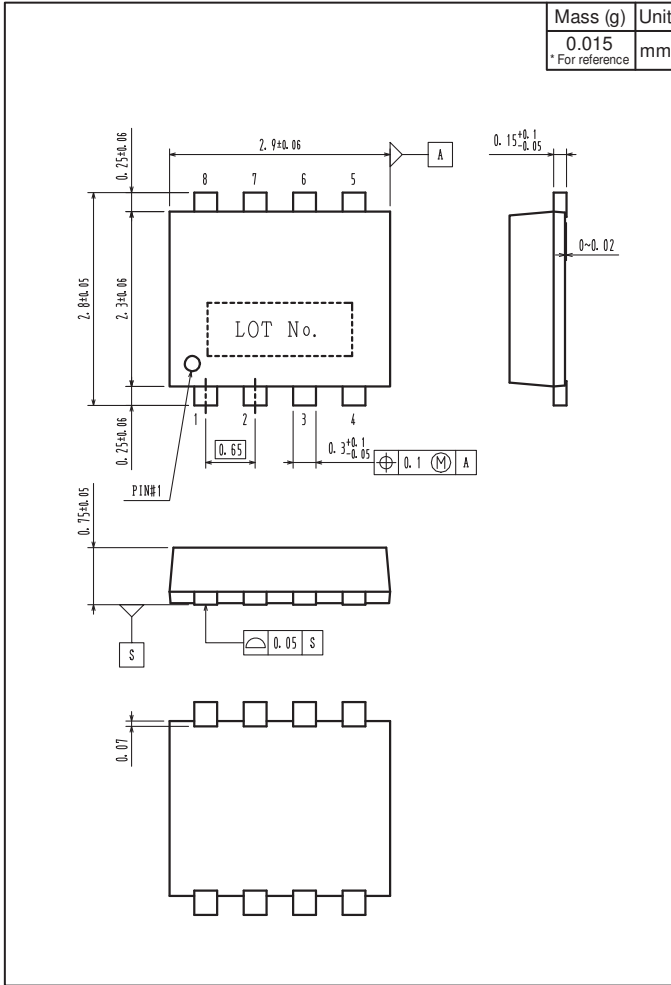
Those with one electrode terminal on the feed hole side.....TL

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

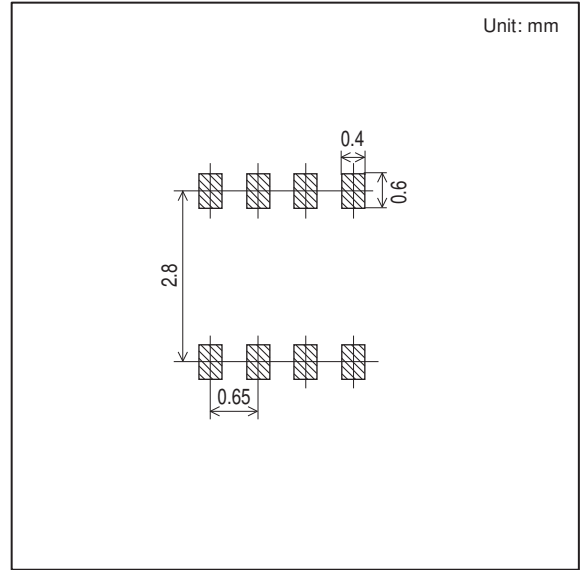


TND524VS

Outline Drawing TND524VS-TL-H



Land Pattern Example



ON Semiconductor and the ON logo are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of SCILLC's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.