



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!



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TND523SS

Excellent Power Device Single-phase High Side Drive, Single SOIC8

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)

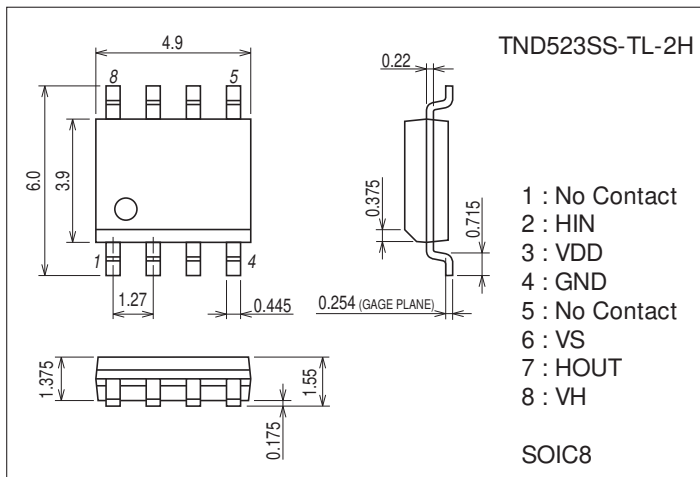
Parameter	Symbol	Conditions	Ratings	Unit
High Side Floating Supply Voltage	V _H		-0.3 to 625	V
High Side Floating Supply Offset Voltage	V _S		V _H -25 to V _H +0.3	V
High Side Output Voltage	V _{HOUT}		V _S -0.3 to V _H +0.3	V
Logic Supply Voltage	V _{DD}		-0.3 to 25	V
Logic Input Voltage	V _{HIN}		-0.3 to V _{DD} +0.3	V
The Maximum Allowable Offset Voltage Supply	dV _S /dt		50	V/ns
Allowable Power Dissipation	P _D		0.3	W
		When mounted on ceramic substrate (1200mm 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)

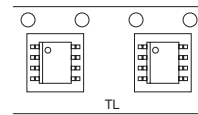
7072-004



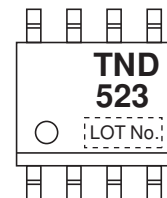
Product & Package Information

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

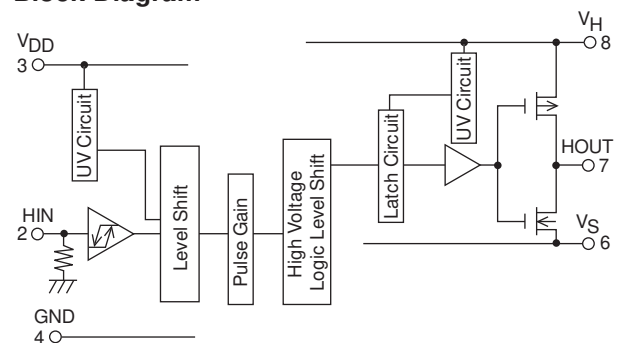
Packing Type: TL



Marking



Block Diagram



TND523SS

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		0 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

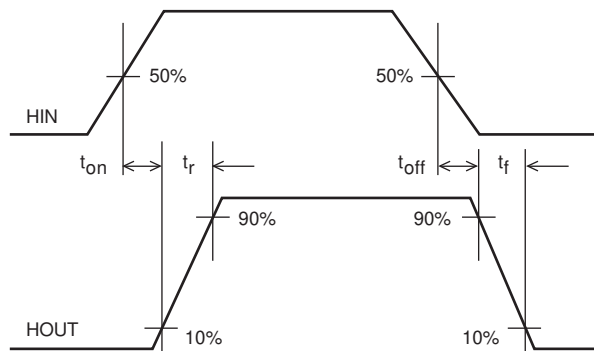
AC Characteristics at Ta=25°C (V_{DD}=V_{HS}=15V, C_L=1000pF)

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)

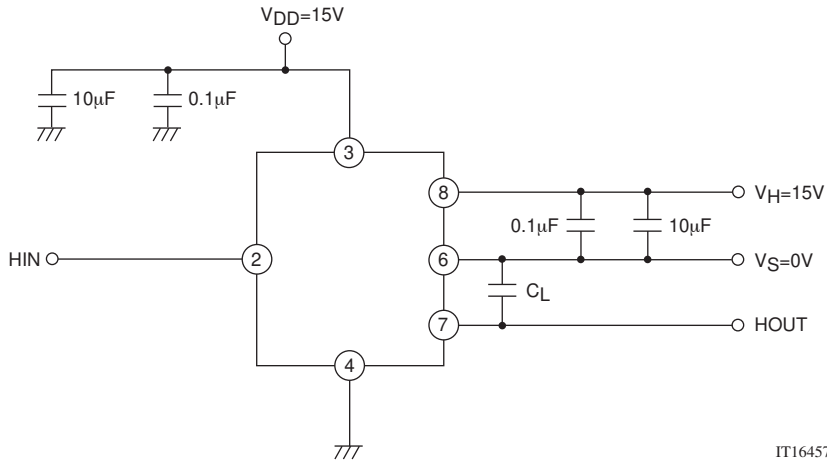
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic "1" Input Voltage	V _{IH}	V _{DD} =10 to 20V	3.0			V
Logic "0" Input Voltage	V _{IL}	V _{DD} =10 to 20V			0.8	V
High-level Output Voltage, V _{BIAS} -V _O	V _{OH}	V _{HIN} =V _{IH} , I _O =0A			0.1	V
Low-level Output Voltage, V _O	V _{OL}	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, P _W ≤10μs	170	200		mA
Output Low Short Circuit Pulsed Current	I _{O-}	V _{HOUT} =15V, V _{HIN} =0V, P _W ≤10μs	340	400		mA

Switching Time Waveform Definition



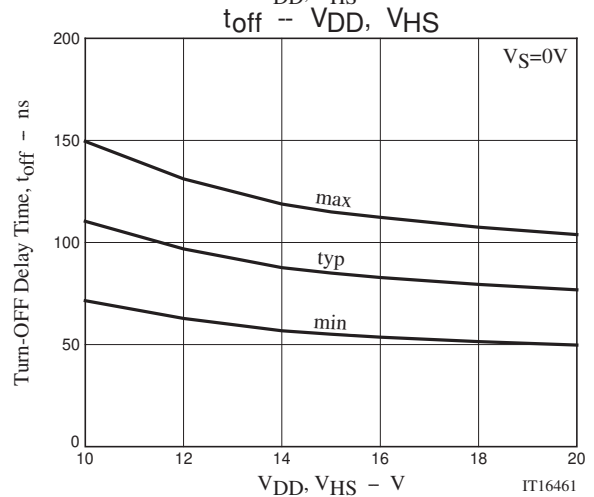
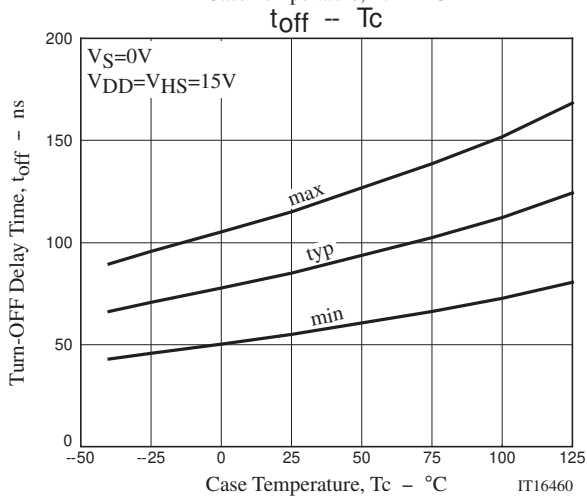
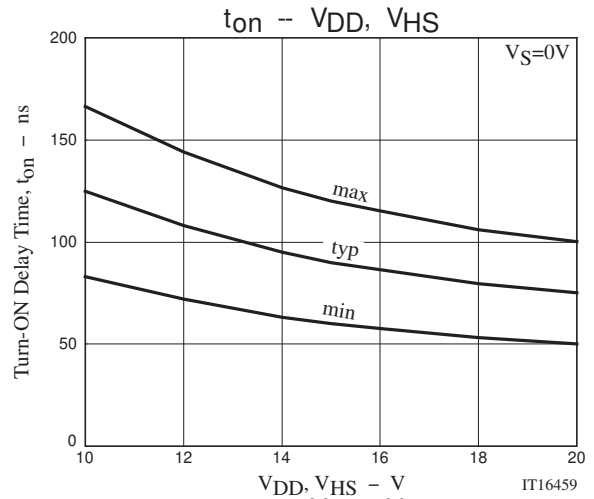
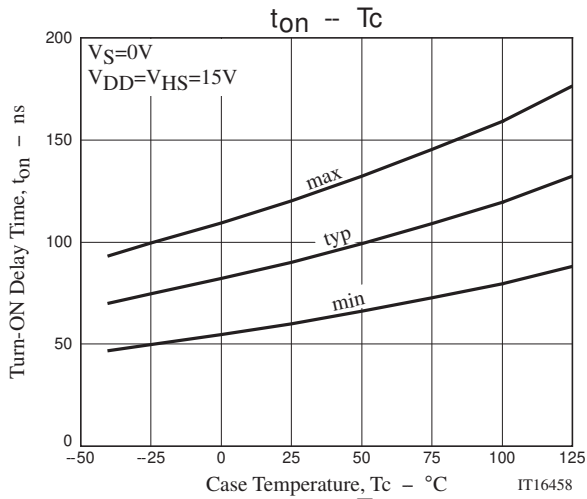
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Switching Time Test Circuit

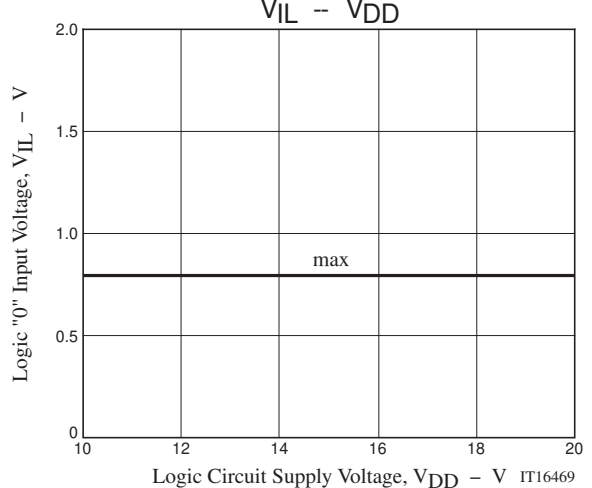
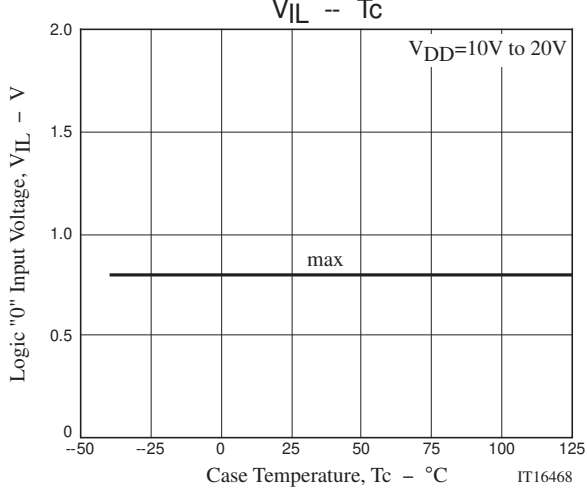
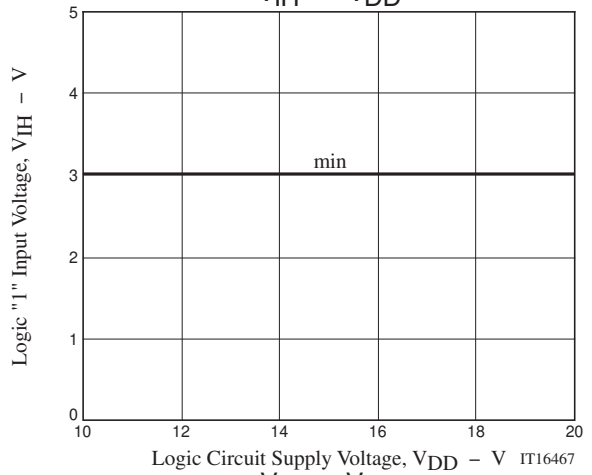
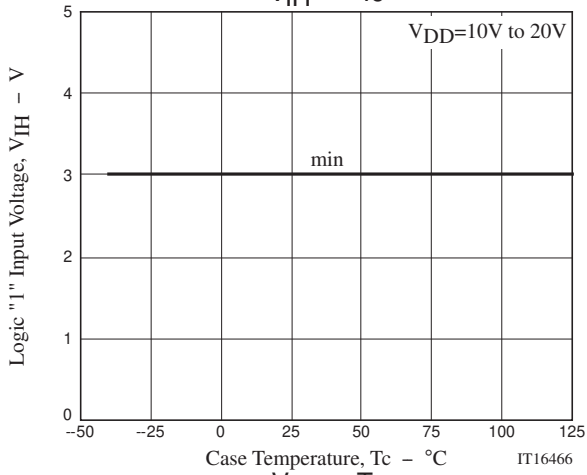
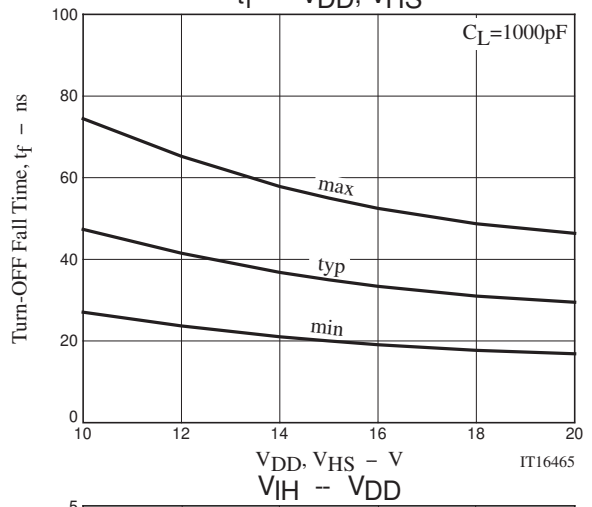
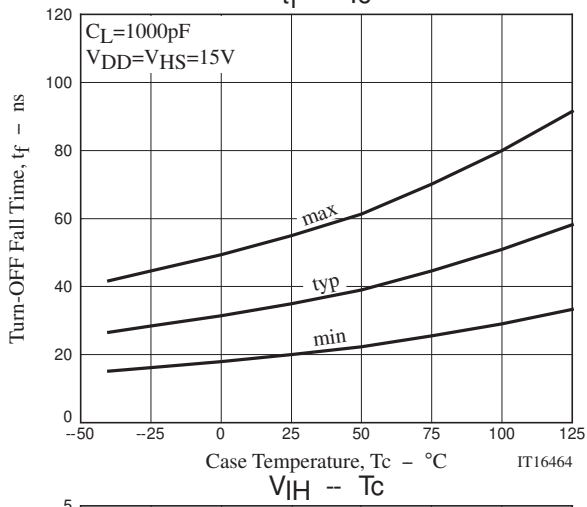
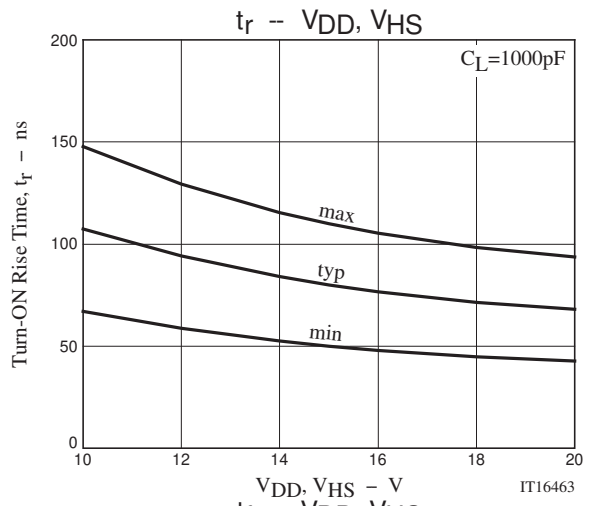
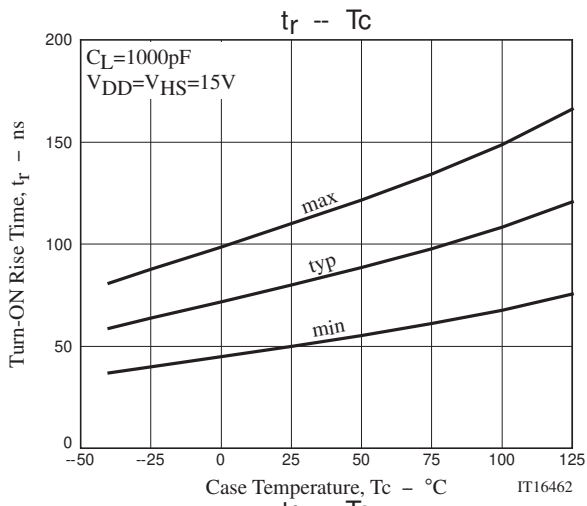


Ordering Information

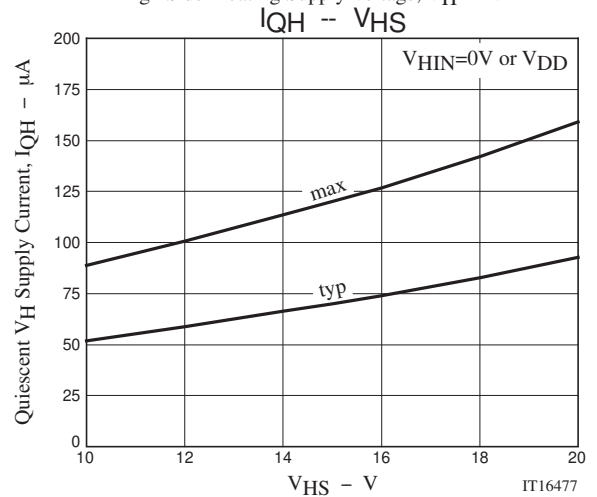
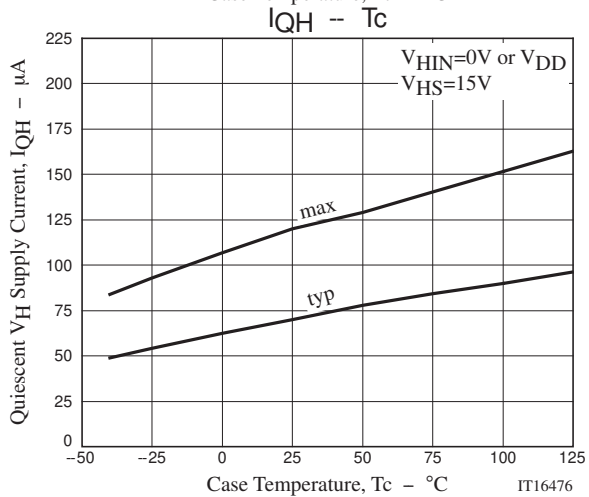
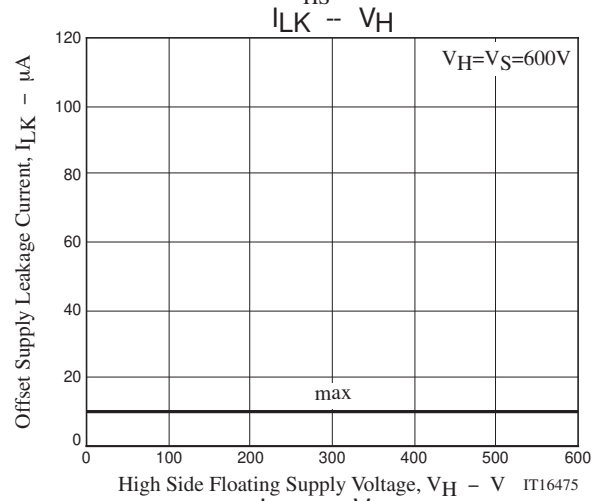
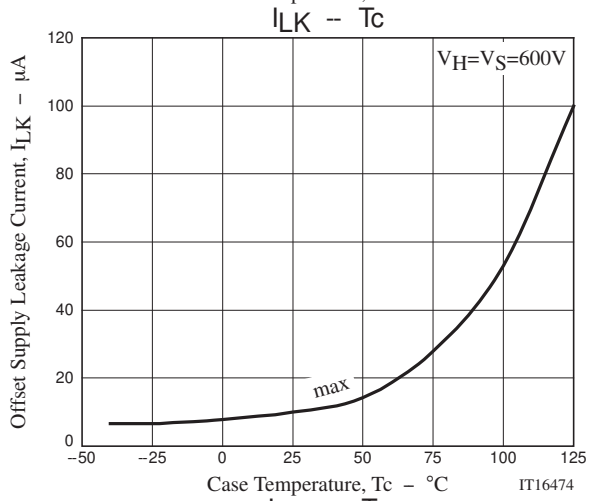
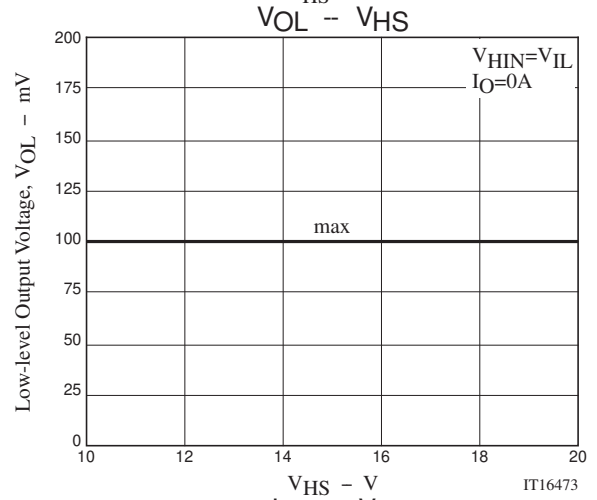
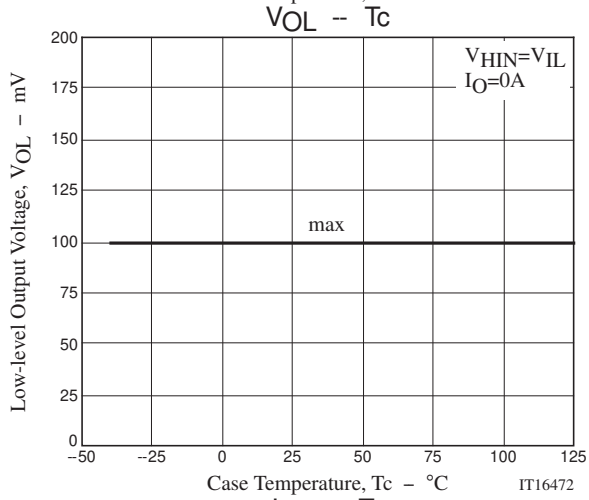
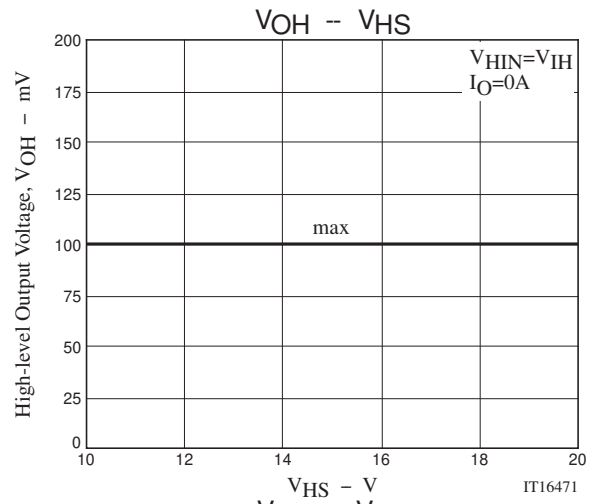
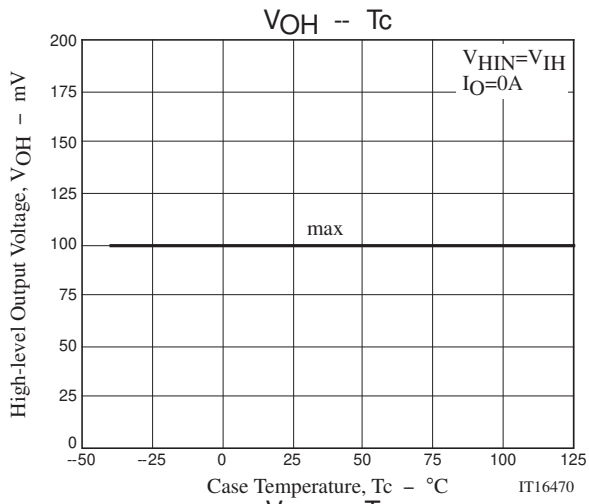
Devices	Package	Shipping	memo
TND523SS-TL-2H	SOIC8	2,500pcs./reel	Pb Free and Halogen Free

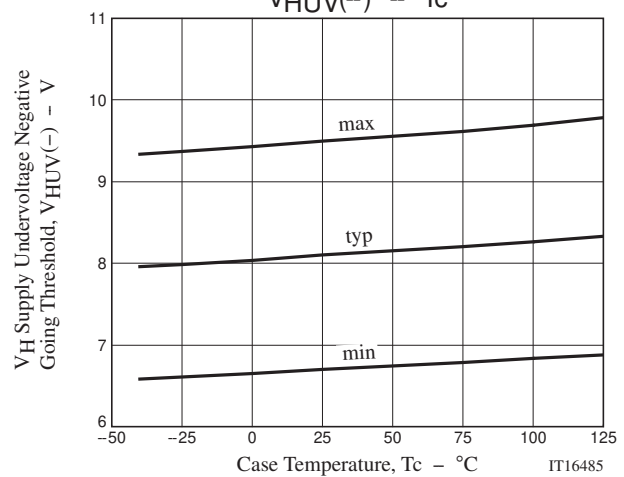
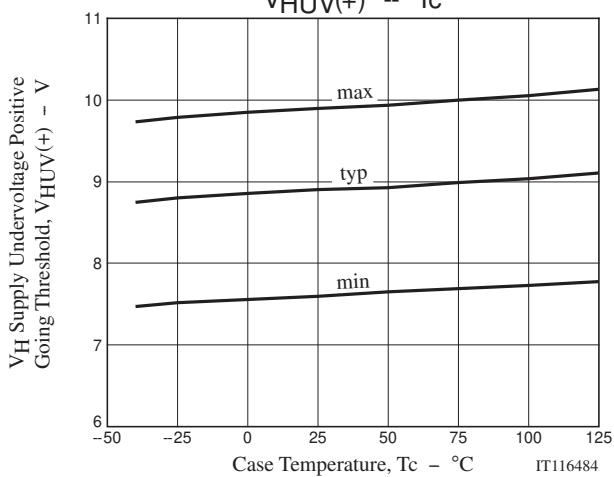
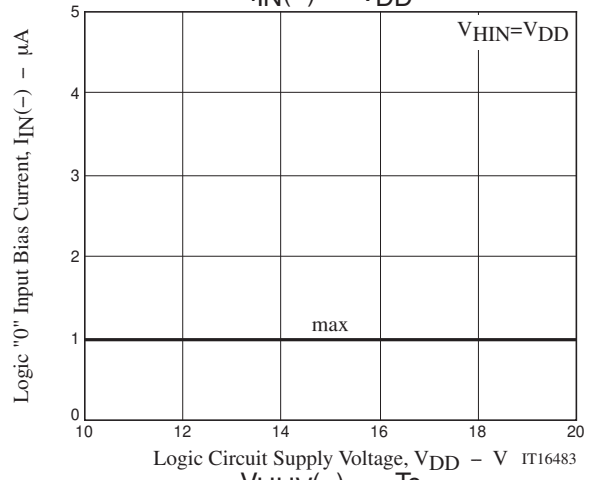
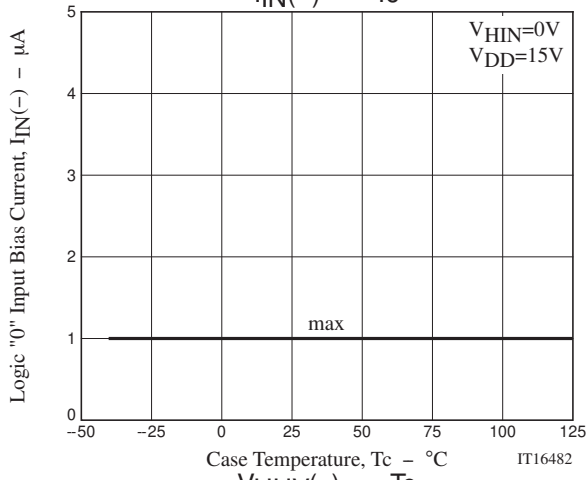
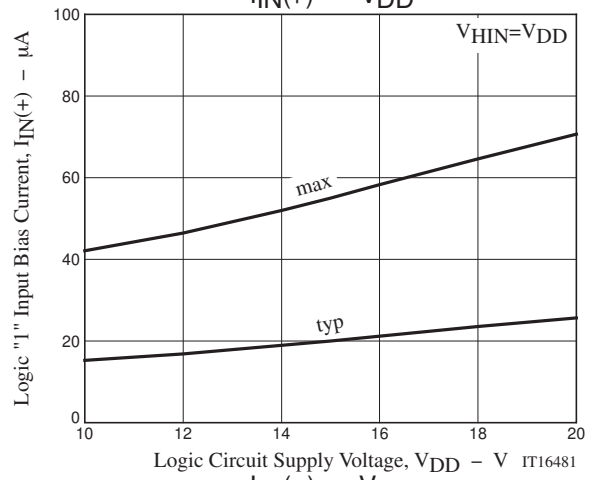
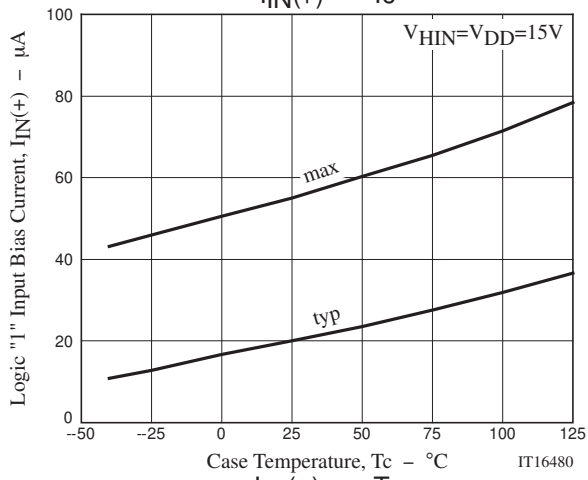
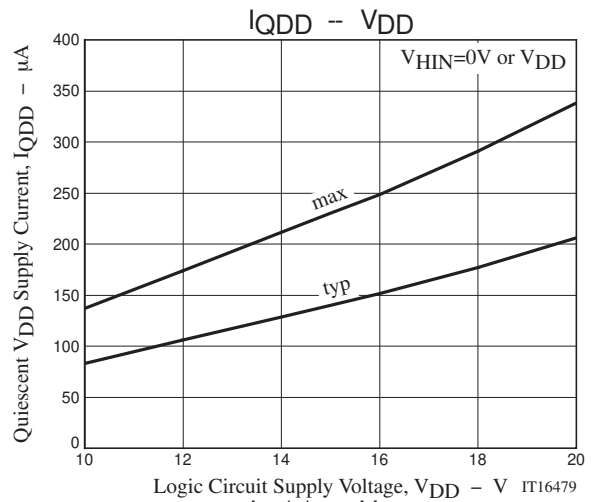
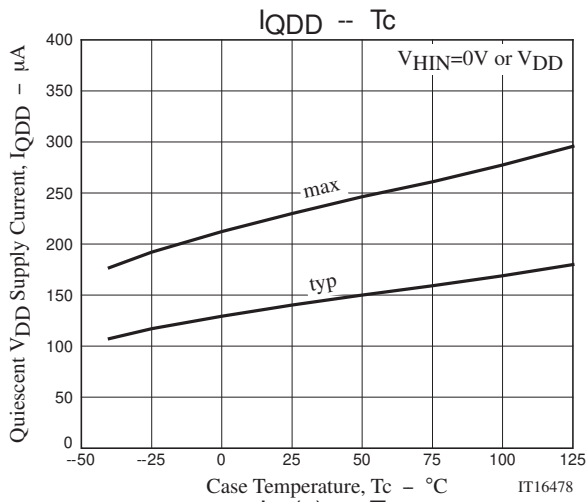


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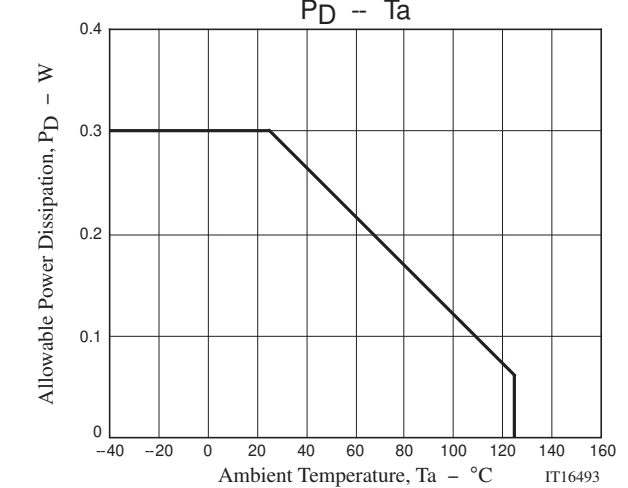
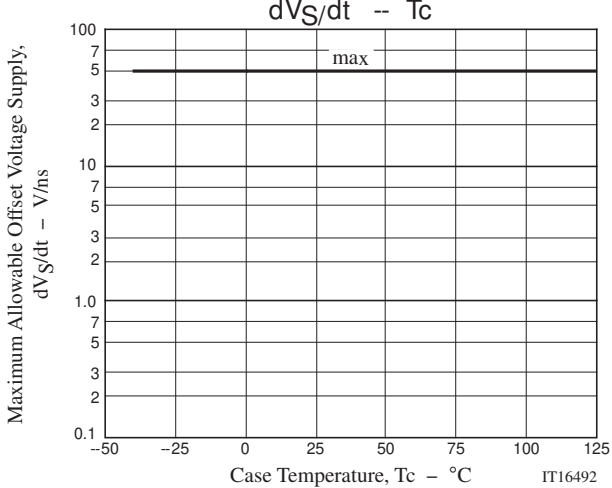
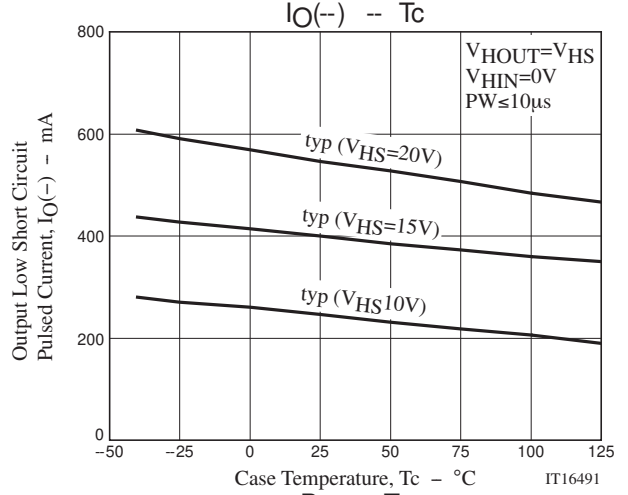
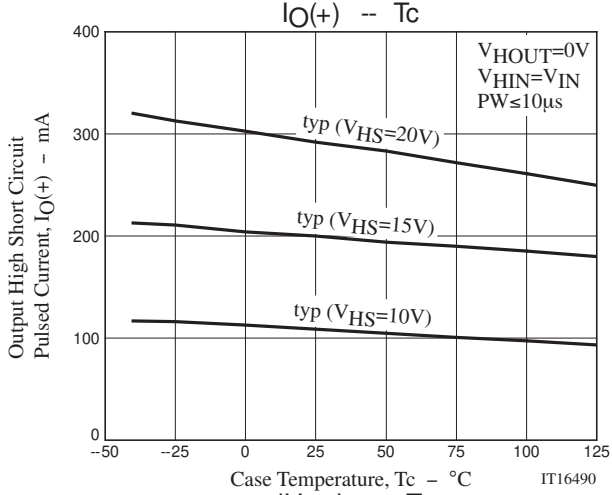
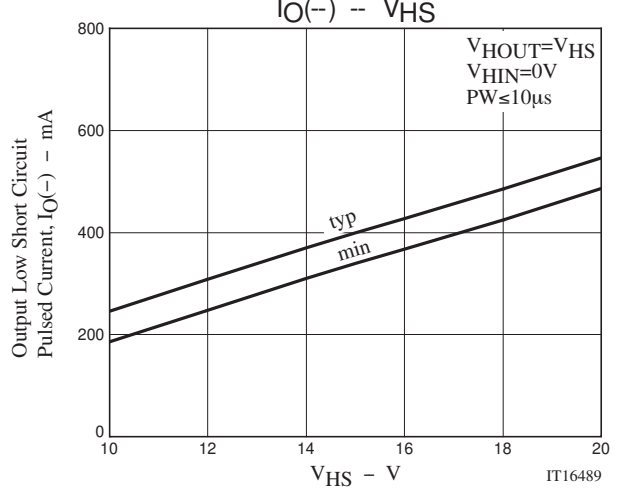
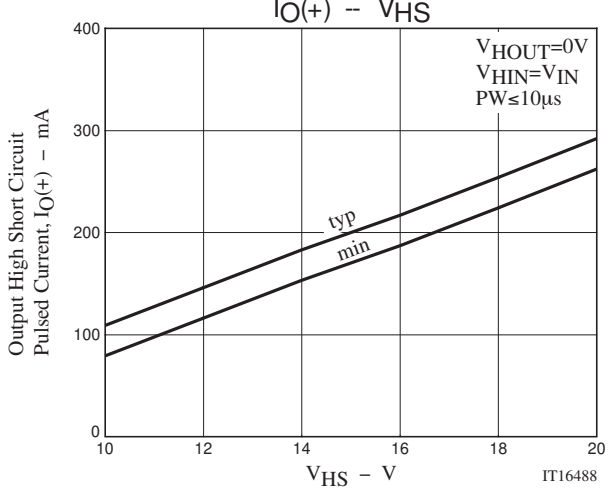
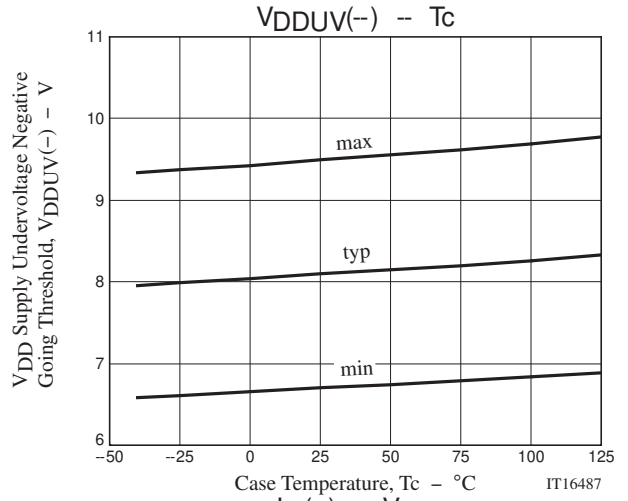
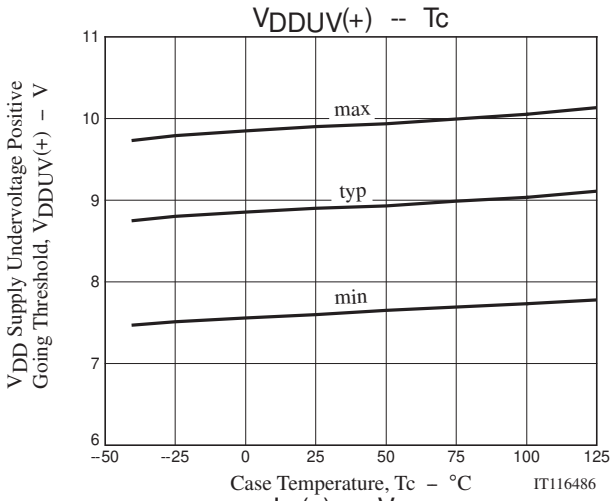


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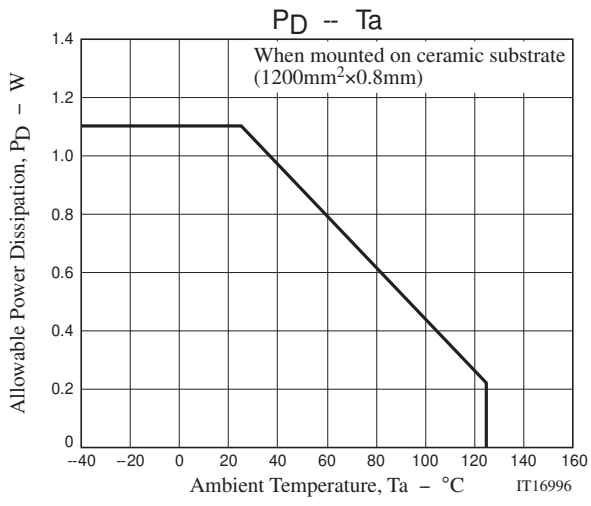




TND523SS



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Taping Specification

TND523SS-TL-2H

1. Packing Format

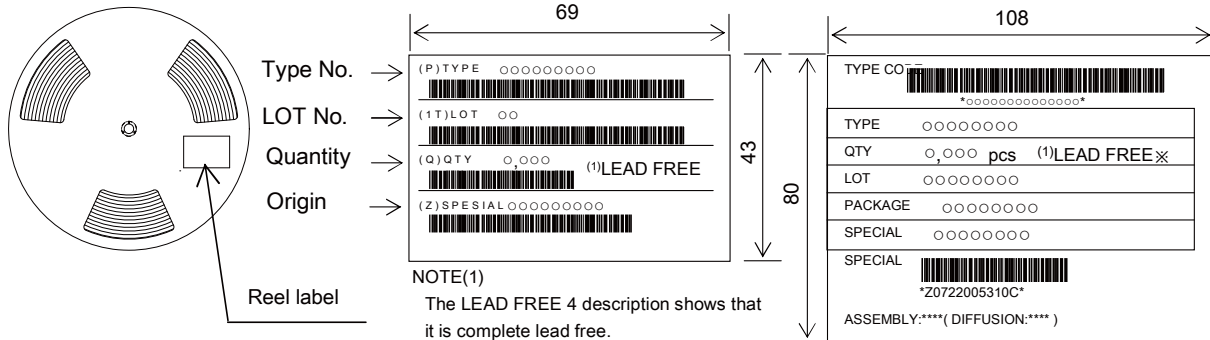
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX W206-112	Outer BOX W207-124
SOIC8	B202-101	2,500	12,500	25,000	5 reels contained Dimensions :mm(external) 340×95×340	2 inner boxes contained Dimensions :mm(external) 360×210×375

Packing method

Reel label, Inner box label (unit: mm)

Outer box label

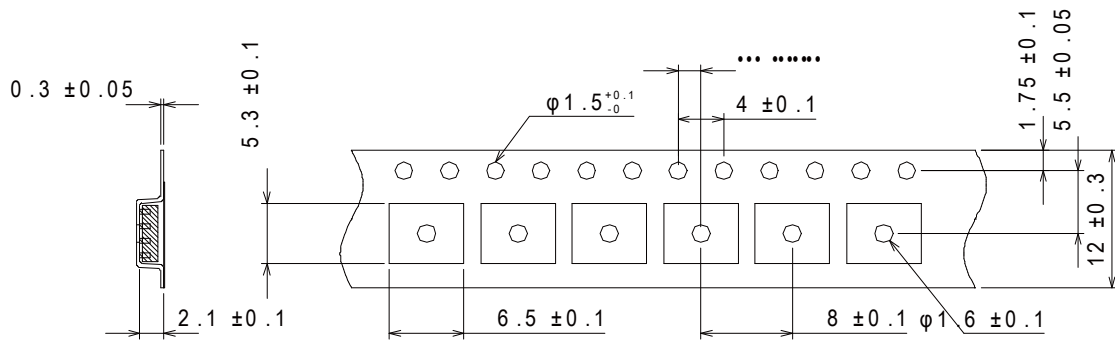
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.



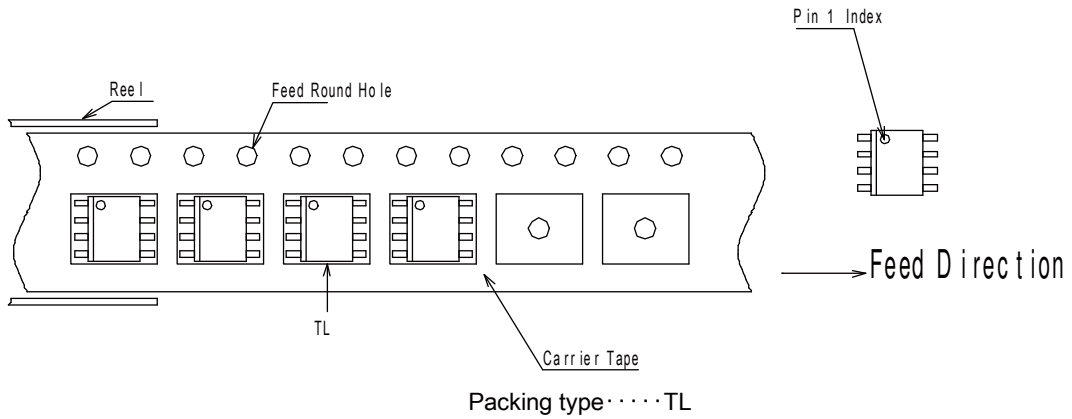
Label	JEITA Phase
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

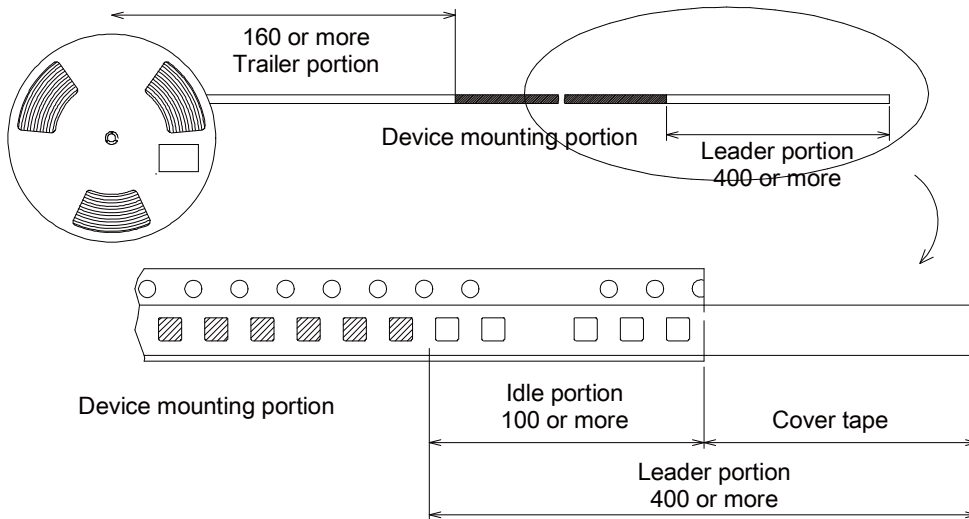
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction



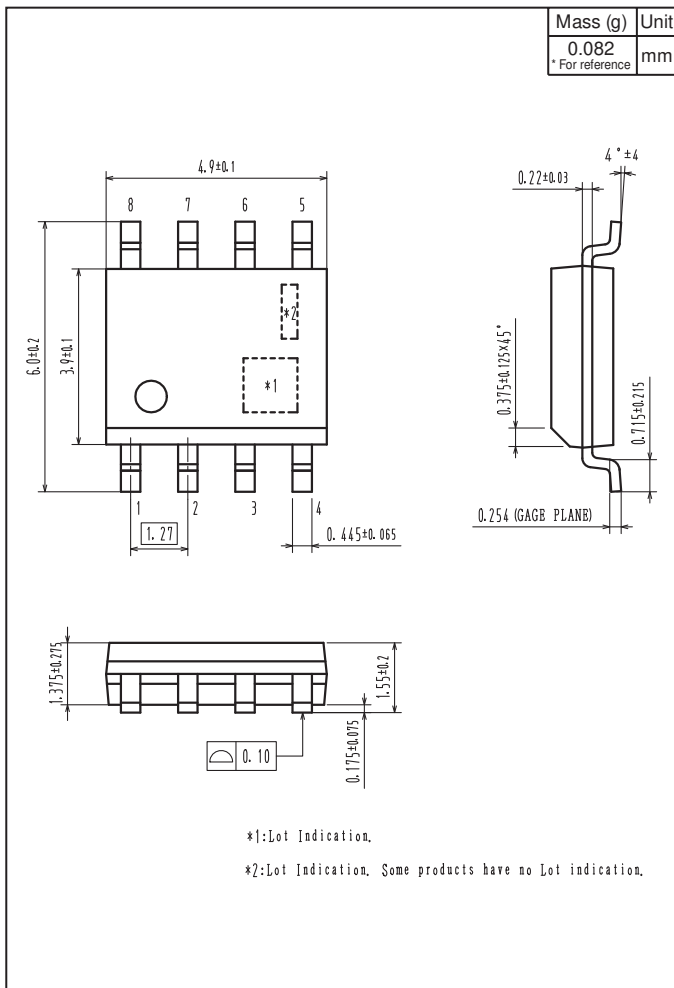
2-3. Leader portion and trailer portion (unit: mm)



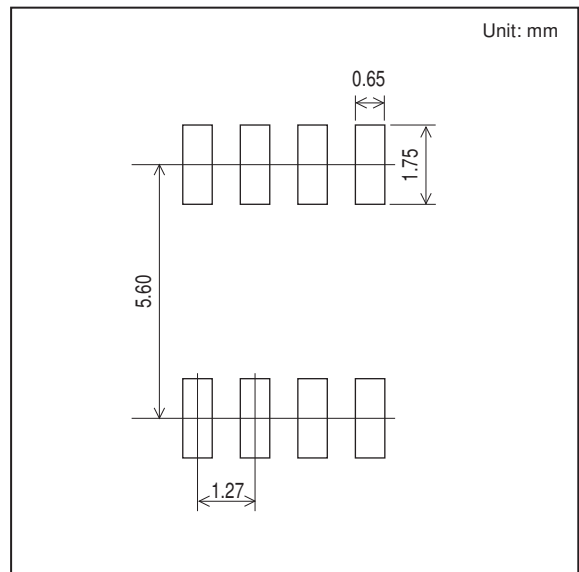
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Outline Drawing

TND523SS-TL-2H



Land Pattern Example



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