



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## MCH3476 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

### Features

- 1.8V drive
- Halogen free compliance
- Protection diode in

### Specifications

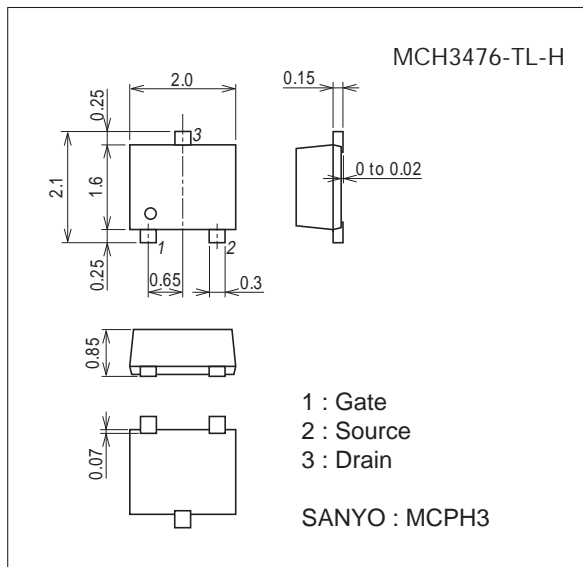
#### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		20	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±12	V
Drain Current (DC)	I <sub>D</sub>		2	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	8	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (900mm <sup>2</sup> ×0.8mm)	0.8	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Package Dimensions

unit : mm (typ)

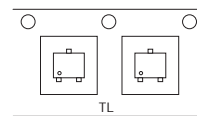
7019A-003



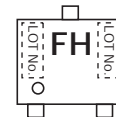
### Product & Package Information

- Package : MCH3476
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

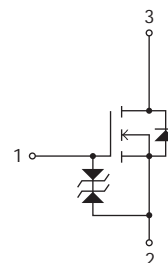
### Packing Type : TL



### Marking



### Electrical Connection

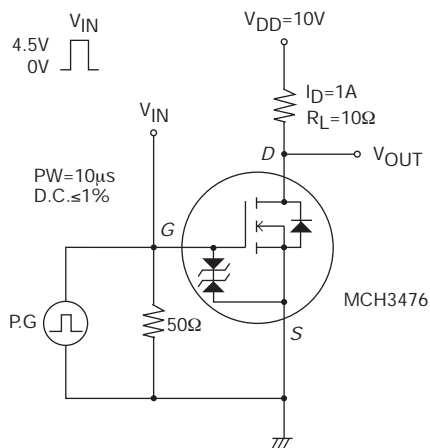


# MCH3476

## Electrical Characteristics at $T_a=25^\circ\text{C}$

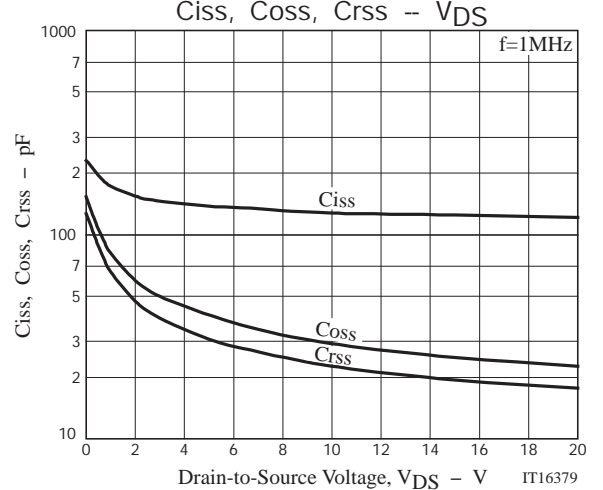
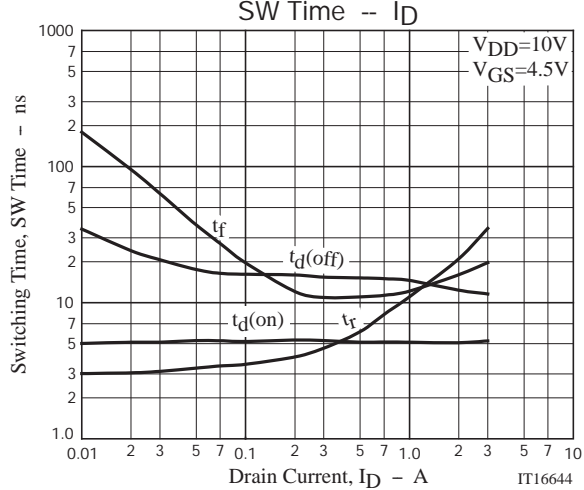
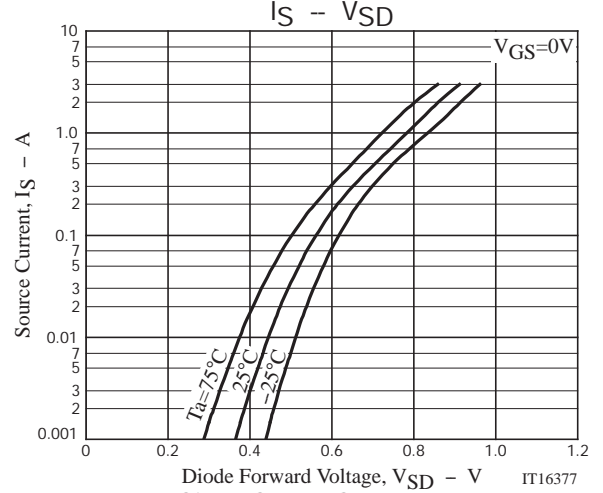
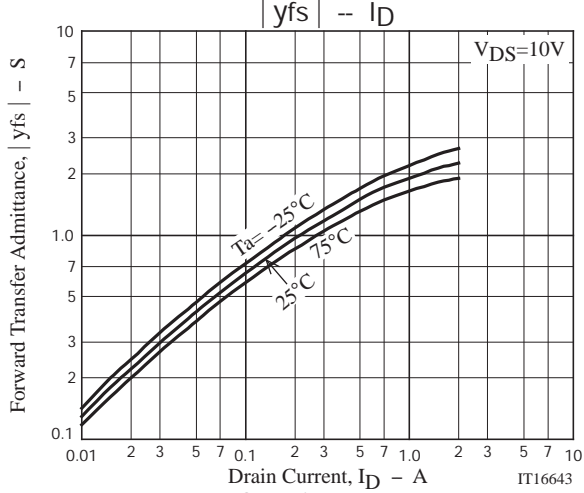
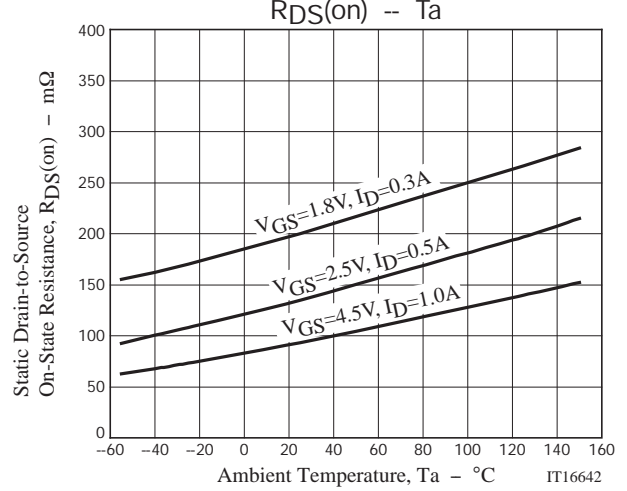
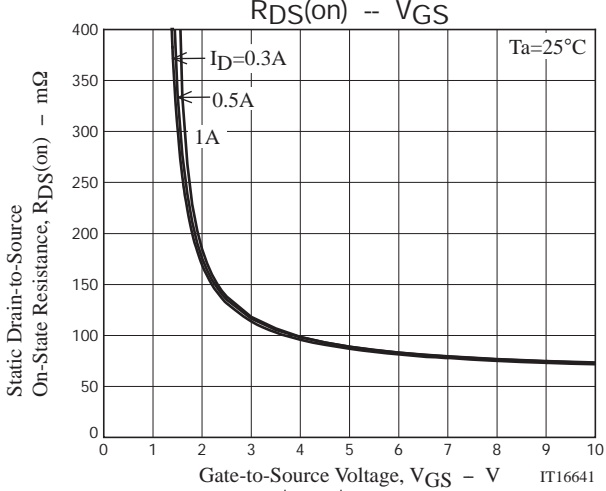
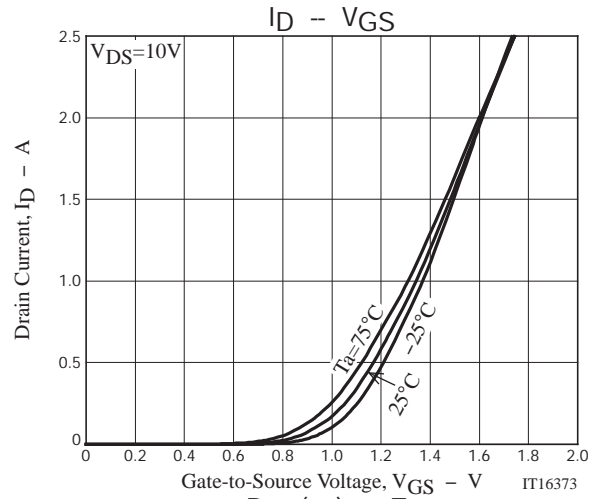
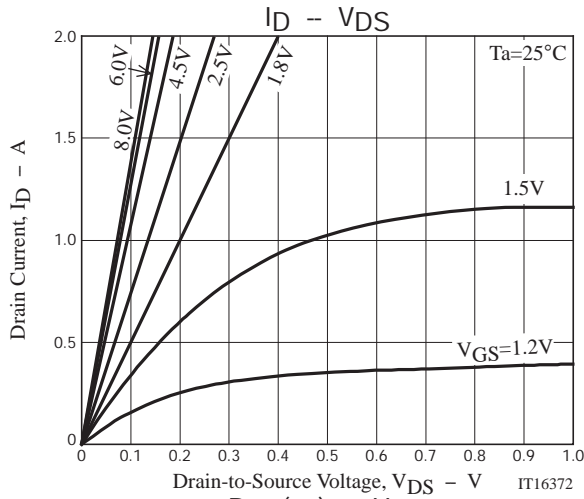
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}, V_{GS}=0\text{V}$	20			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=20\text{V}, V_{GS}=0\text{V}$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}, I_D=1\text{mA}$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}, I_D=1\text{A}$		1.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=1\text{A}, V_{GS}=4.5\text{V}$		93	125	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=0.5\text{A}, V_{GS}=2.5\text{V}$		135	190	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=0.3\text{A}, V_{GS}=1.8\text{V}$		200	310	$\text{m}\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10\text{V}, f=1\text{MHz}$		128		$\text{pF}$
Output Capacitance	$C_{oss}$			28		$\text{pF}$
Reverse Transfer Capacitance	$C_{rss}$			21		$\text{pF}$
Turn-ON Delay Time	$t_{d(on)}$		See specified Test Circuit.		5.1	
Rise Time	$t_r$			11		ns
Turn-OFF Delay Time	$t_{d(off)}$			14.5		ns
Fall Time	$t_f$			12		ns
Total Gate Charge	$Q_g$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=2\text{A}$			1.8	
Gate-to-Source Charge	$Q_{gs}$			0.3		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			0.55		nC
Diode Forward Voltage	$V_{SD}$		$I_S=2\text{A}, V_{GS}=0\text{V}$		0.85	1.2

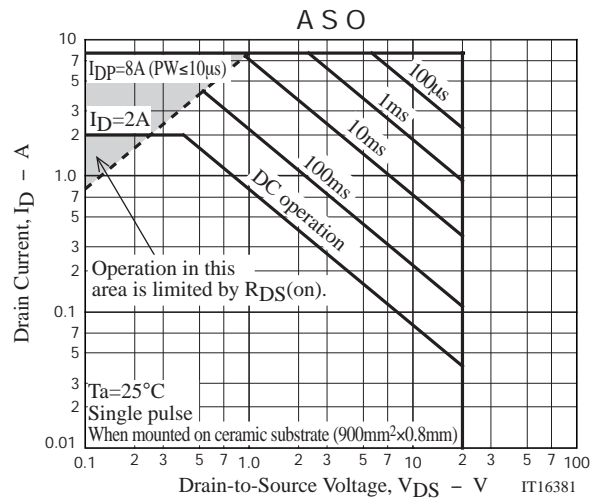
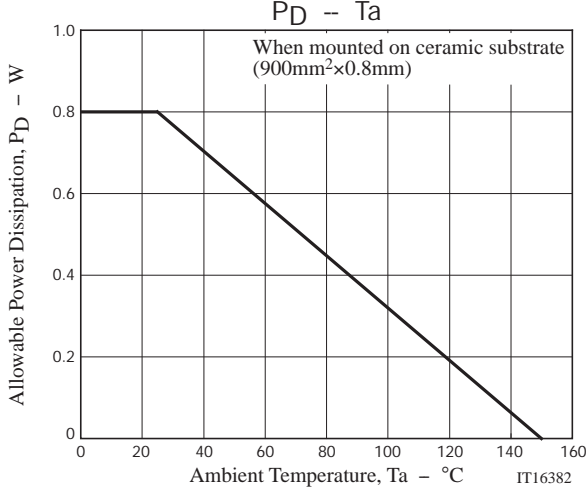
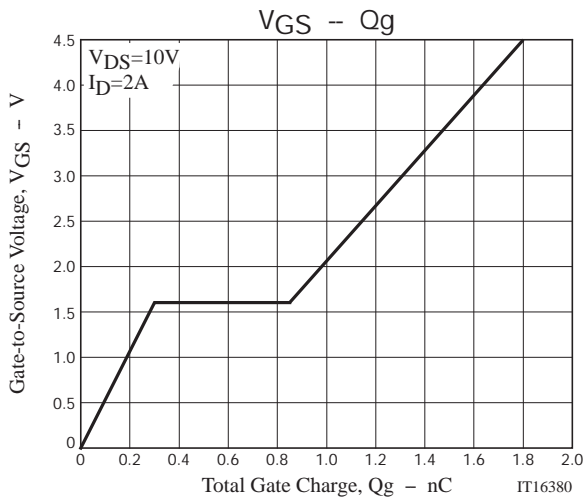
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
MCH3476-TL-H	MCPH3	3,000pcs./reel	Pb Free and Halogen Free





Taping Specification

MCH3476-TL-H

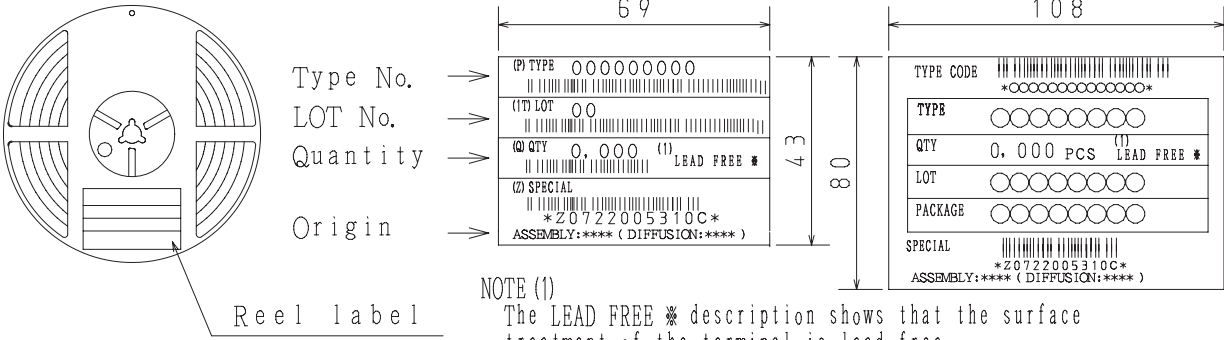
1. Packing Format

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)
MCPH3	MCPH3	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

Packing method

Reel label, Inner box label (unit:mm)

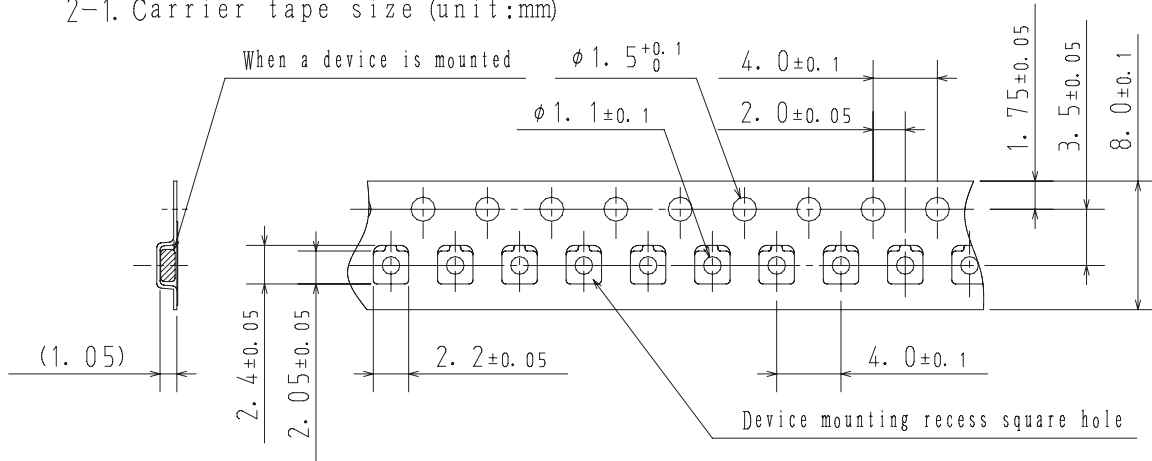
Outer box label  
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.



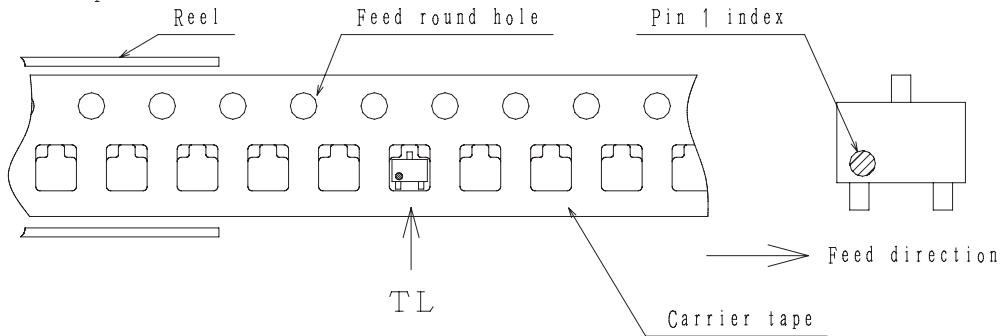
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



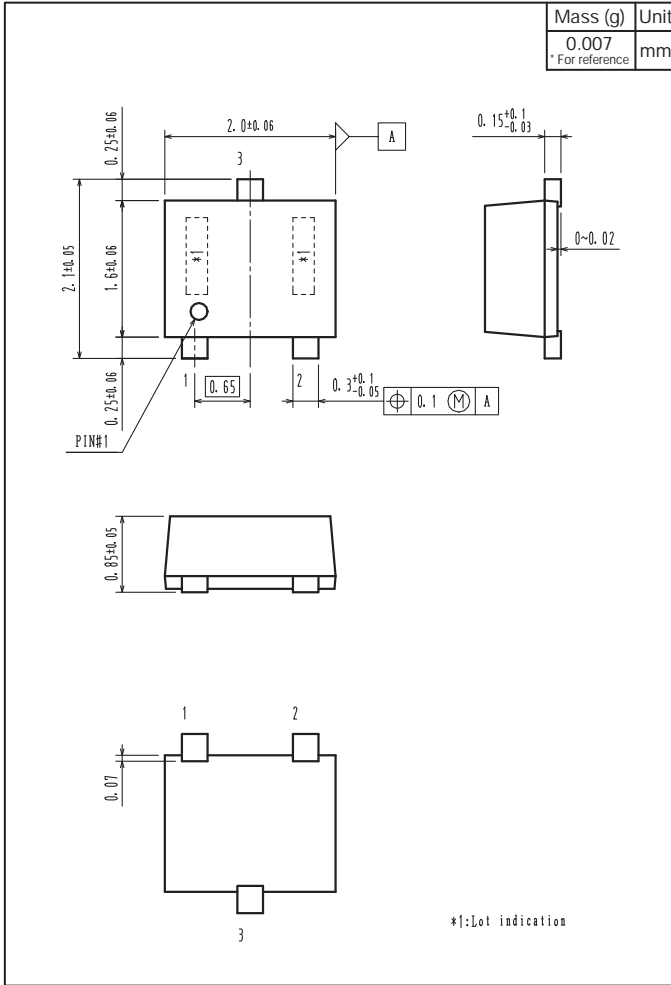
2-2. Device placement direction



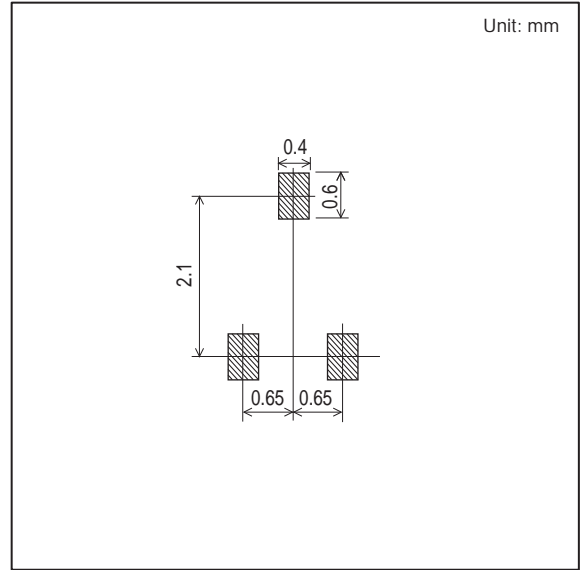
Those with pin 1 index on the feed hole side.....TL

# MCH3476

## Outline Drawing MCH3476-TL-H



## Land Pattern Example



Note on usage : Since the MCH3476 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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