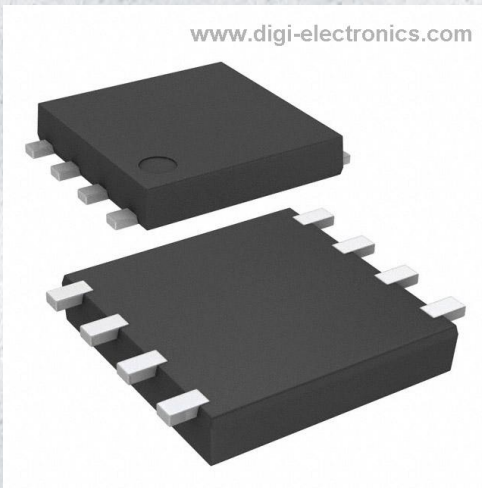


ECH8652-TL-H Datasheet



DiGi Electronics Part Number	ECH8652-TL-H-DG
Manufacturer	onsemi
Manufacturer Product Number	ECH8652-TL-H
Description	MOSFET 2P-CH 12V 6A 8ECH
Detailed Description	Mosfet Array 12V 6A 1.5W Surface Mount 8-ECH



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

ECH8652-TL-H

Series:

-

Technology:

MOSFET (Metal Oxide)

FET Feature:

Logic Level Gate

Current - Continuous Drain (Id) @ 25°C:

6A

Vgs(th) (Max) @ Id:

-

Input Capacitance (Ciss) (Max) @ Vds:

1000pF @ 6V

Operating Temperature:

150°C (TJ)

Package / Case:

8-SMD, Flat Lead

Base Product Number:

ECH8652

Manufacturer:

onsemi

Product Status:

Obsolete

Configuration:

2 P-Channel (Dual)

Drain to Source Voltage (Vdss):

12V

Rds On (Max) @ Id, Vgs:

28mOhm @ 3A, 4.5V

Gate Charge (Qg) (Max) @ Vgs:

11nC @ 4.5V

Power - Max:

1.5W

Mounting Type:

Surface Mount

Supplier Device Package:

8-ECH

Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0095

Ordering number : ENA0935A



ECH8652

P-Channel Power MOSFET -12V, -6A, 28mΩ, Dual ECH8

ON Semiconductor®

<http://onsemi.com>

Features

- Low ON-resistance
- 1.8V drive
- Composit type, facilitating high-density mounting
- Halogen free compliance
- Protection diode in

Specifications

Absolute Maximum Ratings at Ta=25°C

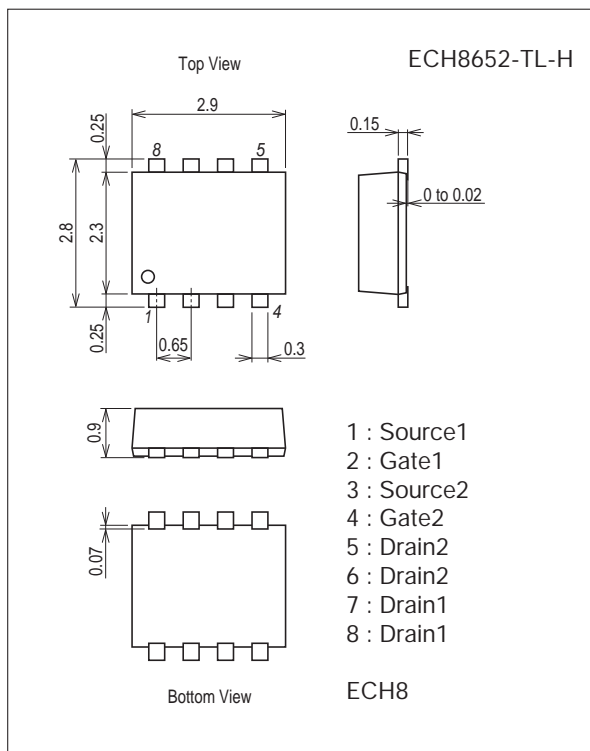
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-40	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm) 1unit	1.3	W
Total Power Dissipation	P _T	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.5	W
Channel Temperature	T _{ch}		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)

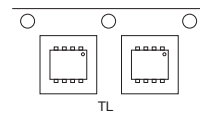
7011A-001



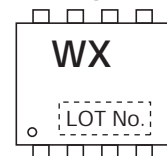
Product & Package Information

- Package : ECH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

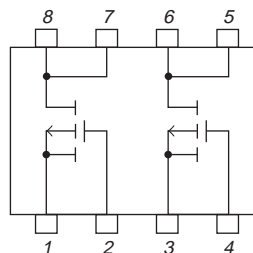
Packing Type : TL



Marking



Electrical Connection

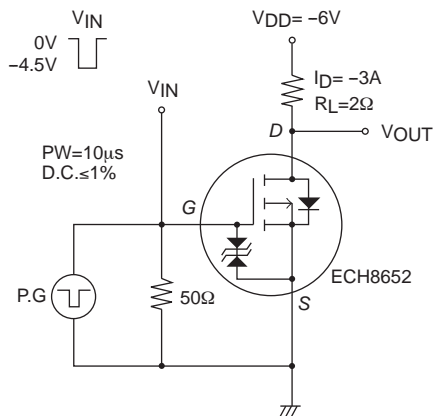


ECH8652

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-12			V
Zero-Gate Voltage Drain Current	I_{DSS1}	$V_{DS}=-8\text{V}$, $V_{GS}=0\text{V}$			-1	μA
	I_{DSS2}	$V_{DS}=-12\text{V}$, $V_{GS}=0\text{V}$			-10	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-6\text{V}$, $I_D=-1\text{mA}$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-6\text{V}$, $I_D=-3\text{A}$	6.6	11		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-3\text{A}$, $V_{GS}=-4.5\text{V}$		21	28	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-1.5\text{A}$, $V_{GS}=-2.5\text{V}$		31	45	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=-0.5\text{A}$, $V_{GS}=-1.8\text{V}$		49	78	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-6\text{V}$, $f=1\text{MHz}$		1000		pF
Output Capacitance	C_{oss}			320		pF
Reverse Transfer Capacitance	C_{rss}			250		pF
Turn-ON Delay Time	$t_{d(on)}$			11		ns
Rise Time	t_r	See specified Test Circuit.		72		ns
Turn-OFF Delay Time	$t_{d(off)}$			105		ns
Fall Time	t_f			87		ns
Total Gate Charge	Q_g			11		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-6\text{V}$, $V_{GS}=-4.5\text{V}$, $I_D=-6\text{A}$		1.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			2.9		nC
Diode Forward Voltage	V_{SD}		$I_S=-6\text{A}$, $V_{GS}=0\text{V}$		-0.81	-1.2

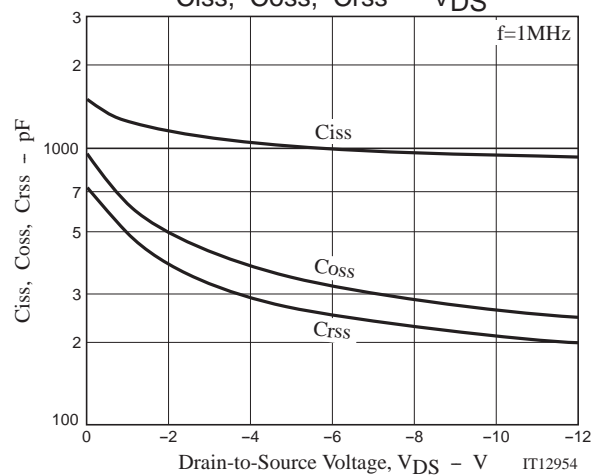
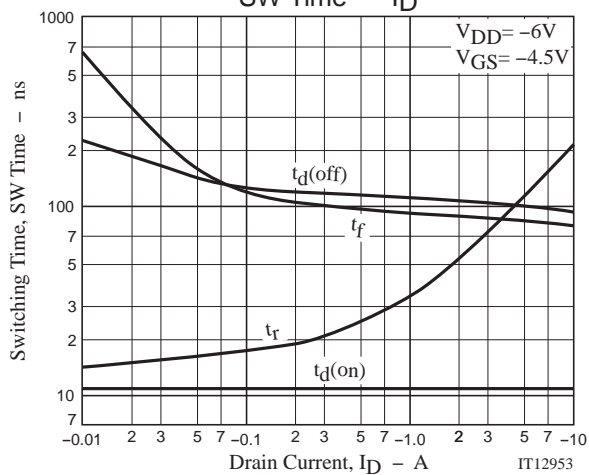
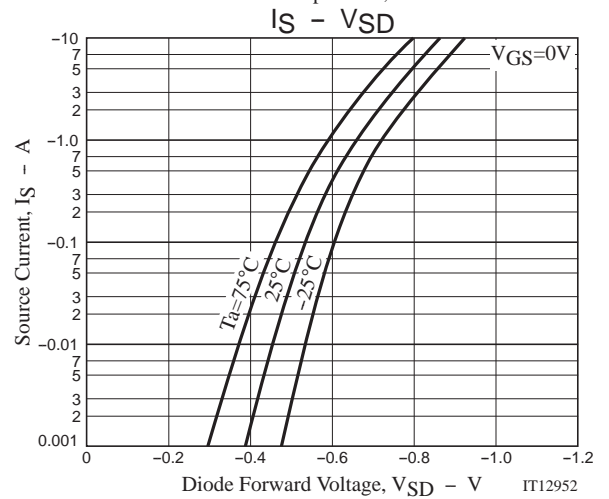
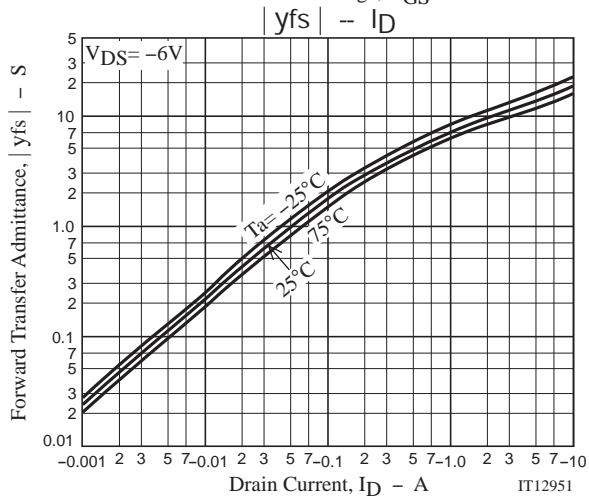
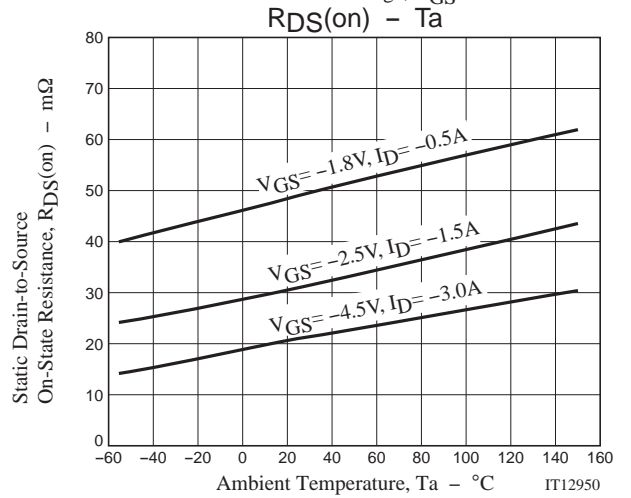
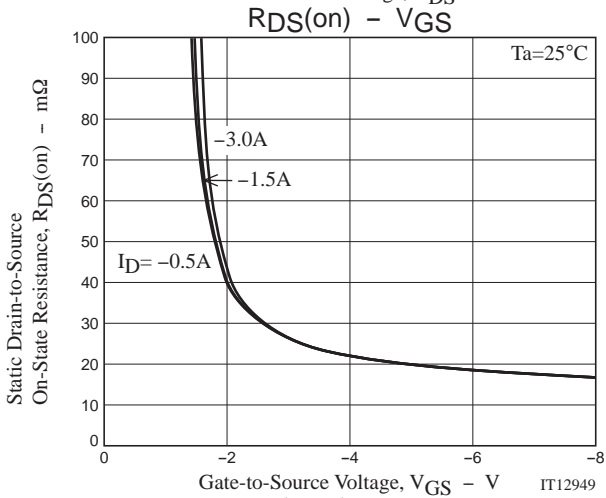
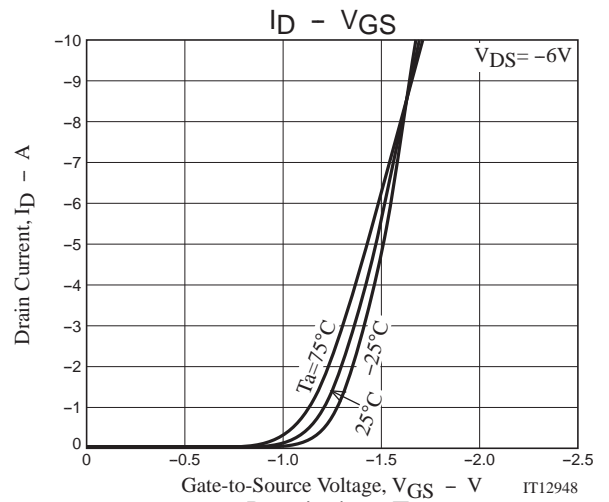
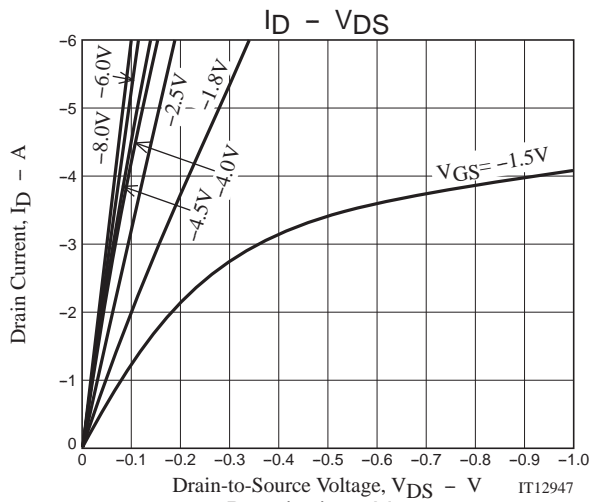
Switching Time Test Circuit



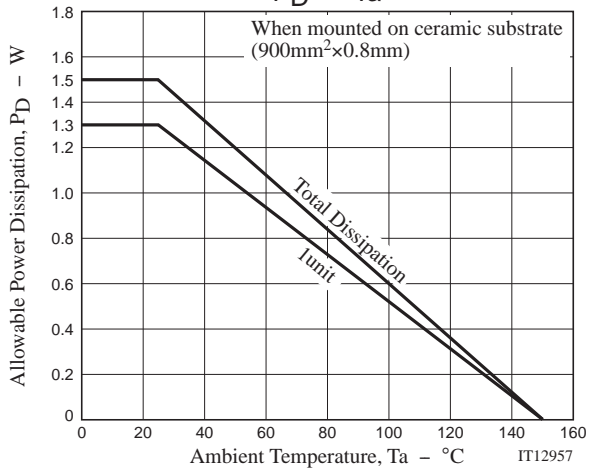
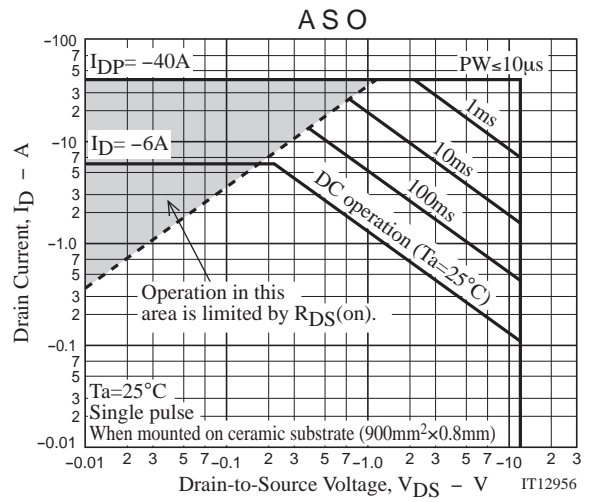
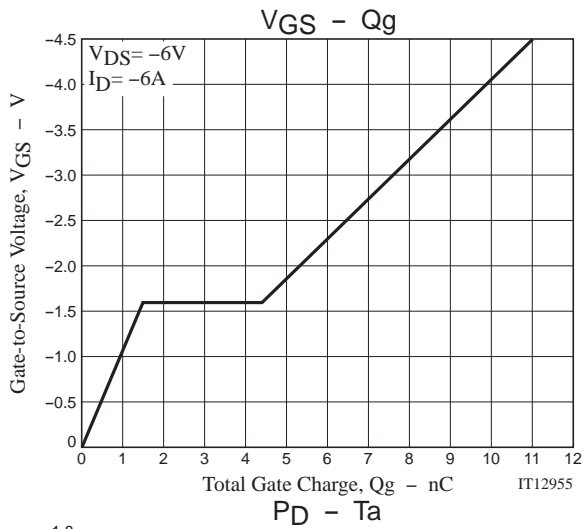
Ordering Information

Device	Package	Shipping	memo
ECH8652-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free

ECH8652



ECH8652



ECH8652

Embossed Taping Specification

ECH8652-TL-H

1. Packing Format

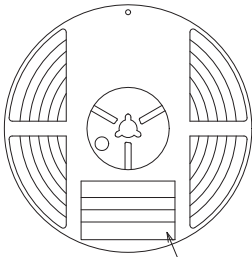
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
ECH8	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label
(unit :mm)

Outer box label

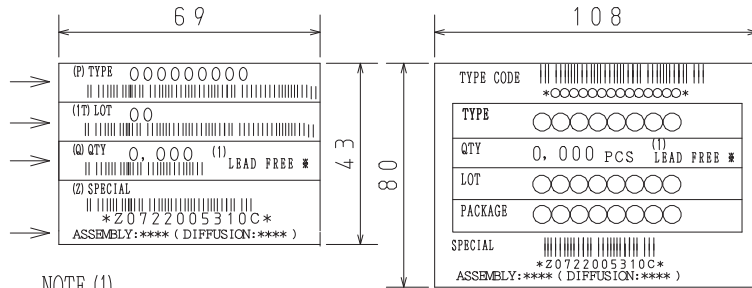
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No.
LOT No.
Quantity
Origin



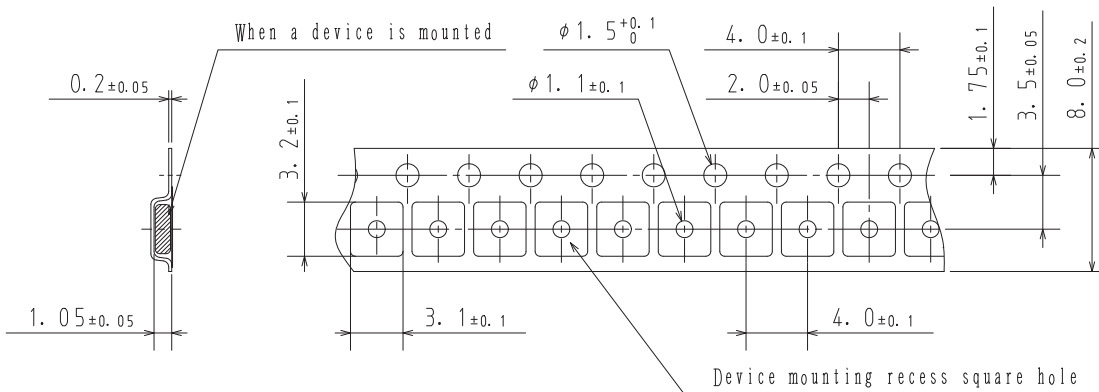
NOTE (1)

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

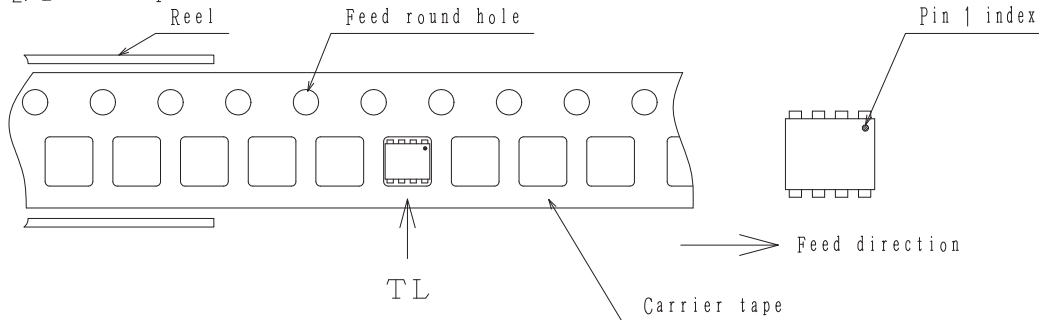
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



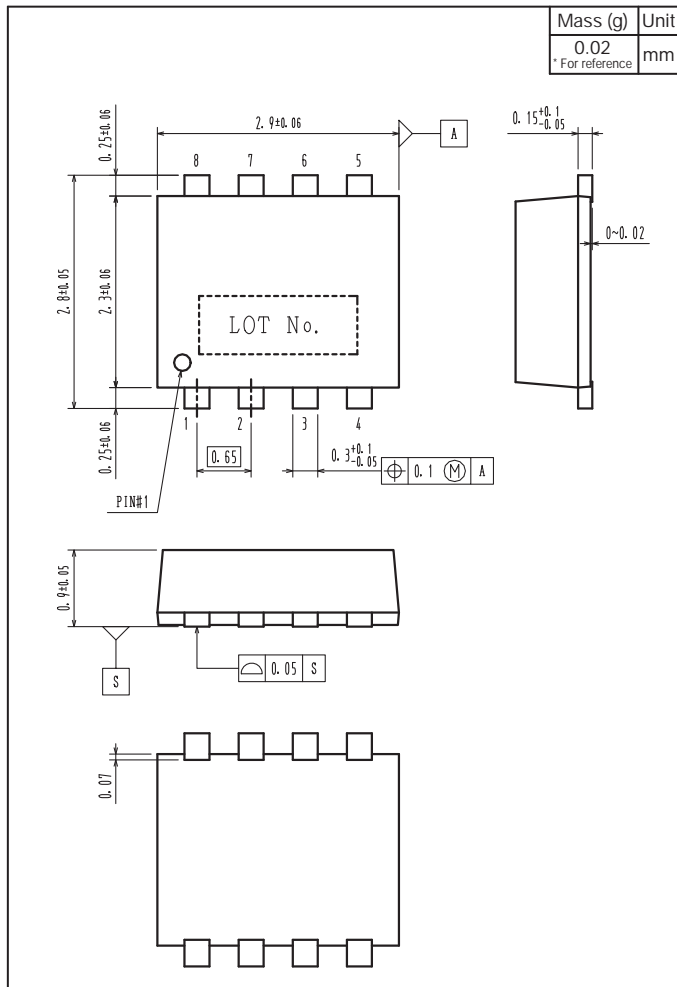
2-2. Device placement direction



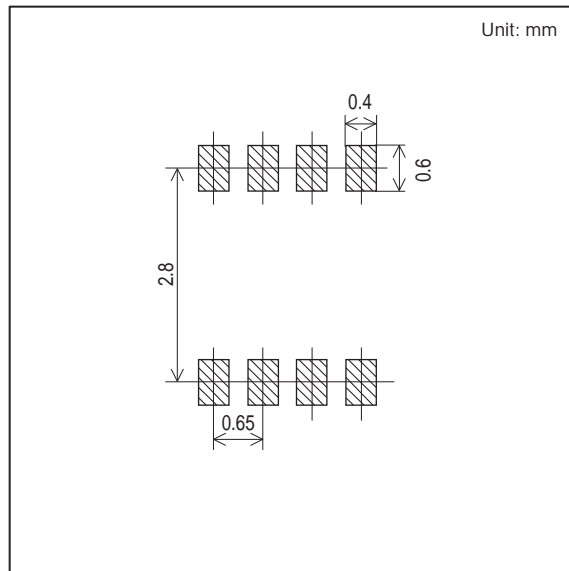
Those with pin 1 index on the feed hole side.....TL

ECH8652

Outline Drawing ECH8652-TL-H



Land Pattern Example



ECH8652

Note on usage : Since the ECH8652 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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