



MCH3376 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance
- 1.8V drive
- Protection diode in

Specifications

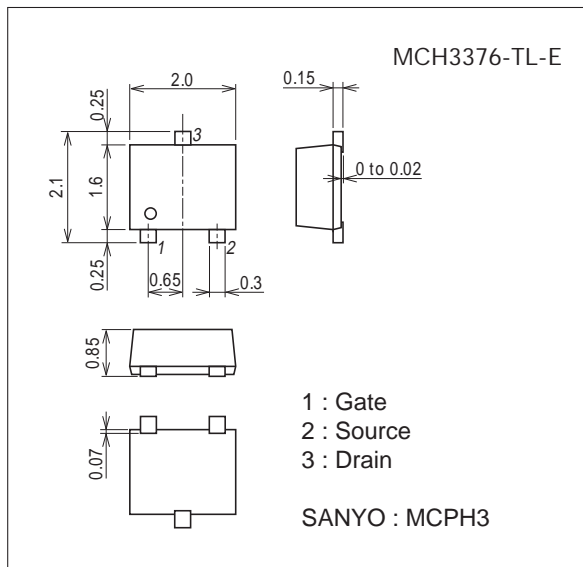
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-20	V
Gate-to-Source Voltage	V _{GSS}		±10	V
Drain Current (DC)	I _D		-1.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-6	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	0.8	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

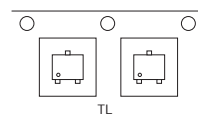
7019A-003



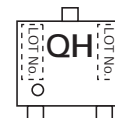
Product & Package Information

- Package : MCPH3
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

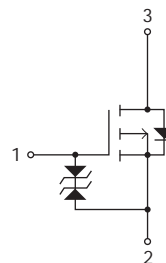
Packing Type: TL



Marking



Electrical Connection

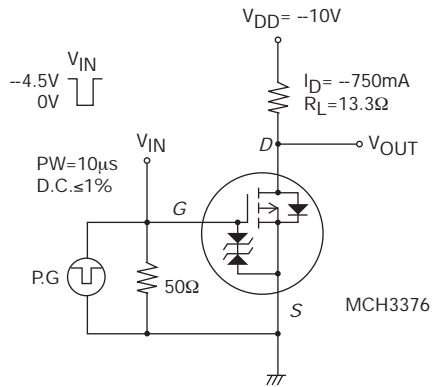


MCH3376

Electrical Characteristics at Ta=25°C

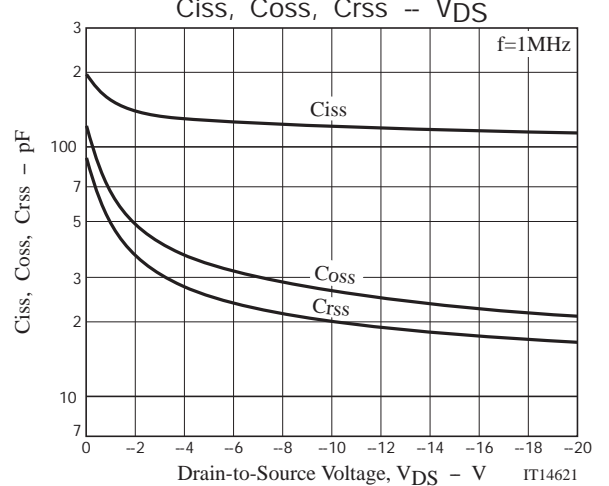
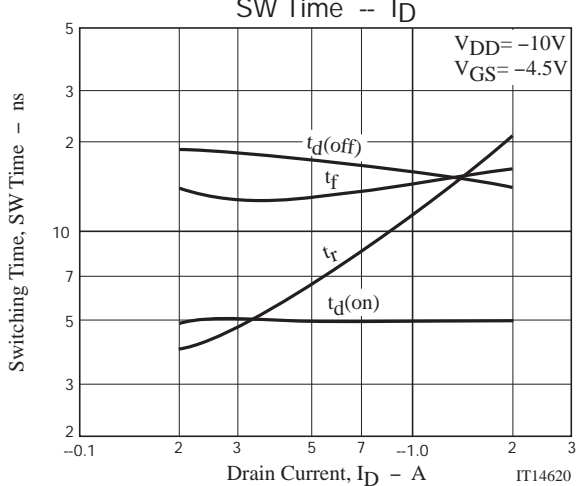
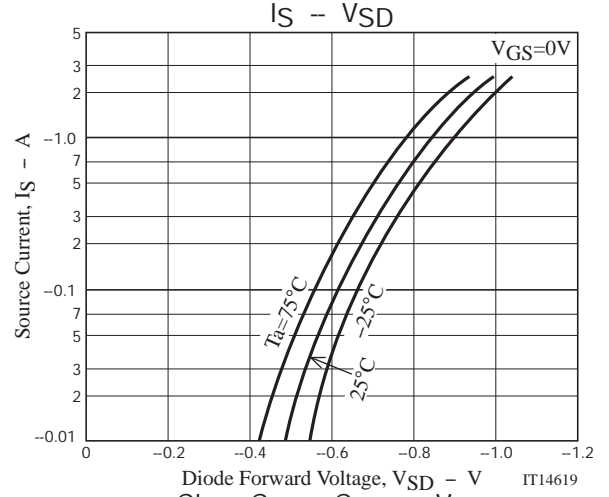
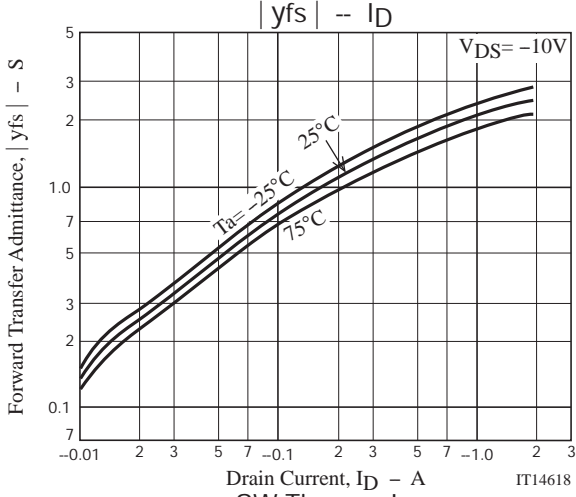
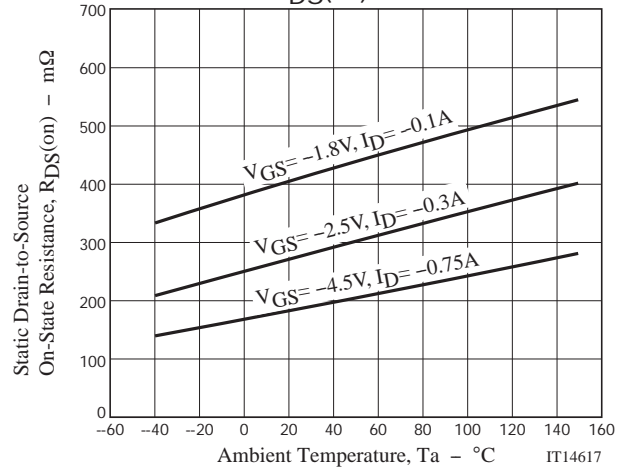
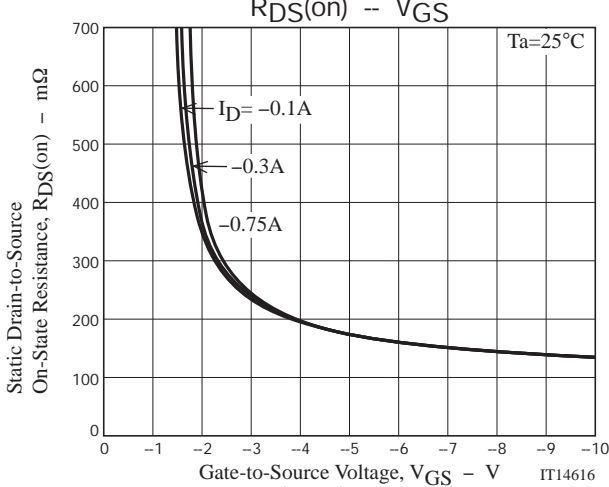
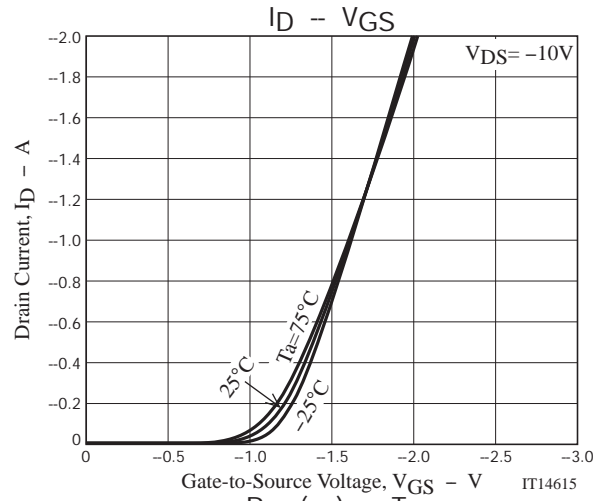
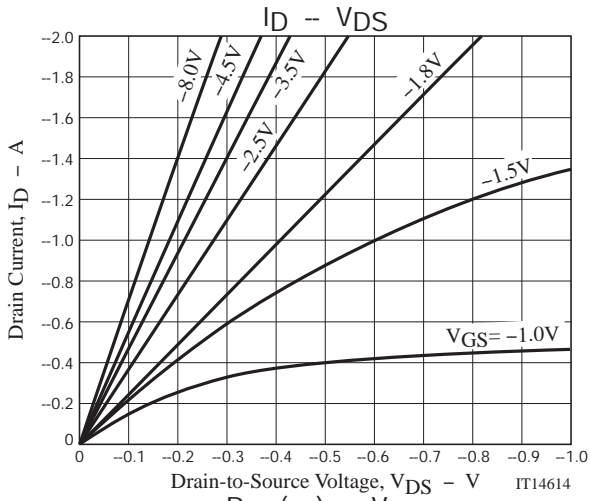
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-750mA	1.14	1.9		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-750mA, V _{GS} =-4.5V		185	241	mΩ
	R _{DS(on)2}	I _D =-300mA, V _{GS} =-2.5V		275	385	mΩ
	R _{DS(on)3}	I _D =-100mA, V _{GS} =-1.8V		410	615	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		120		pF
Output Capacitance	C _{oss}			26		pF
Reverse Transfer Capacitance	C _{rss}			20		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		5.3	
Rise Time	t _r			9.7		ns
Turn-OFF Delay Time	t _{d(off)}			16		ns
Fall Time	t _f			14		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-4.5V, I _D =-1.5A			1.7	
Gate-to-Source Charge	Q _{gs}			0.28		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			0.47		nC
Diode Forward Voltage	V _{SD}		I _S =-1.5A, V _{GS} =0V		-0.89	-1.2

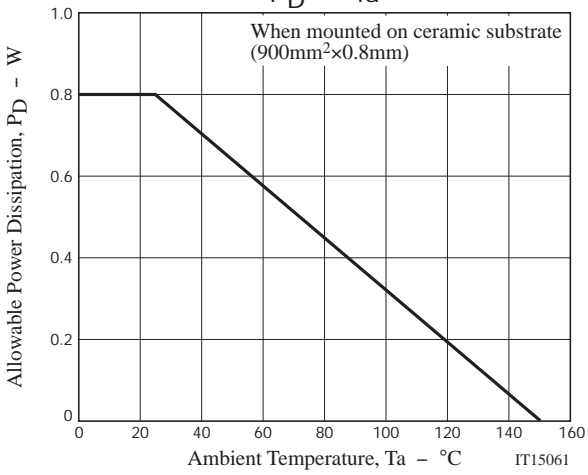
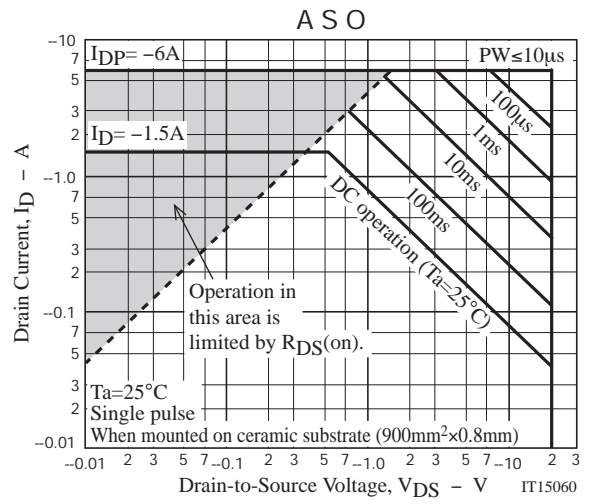
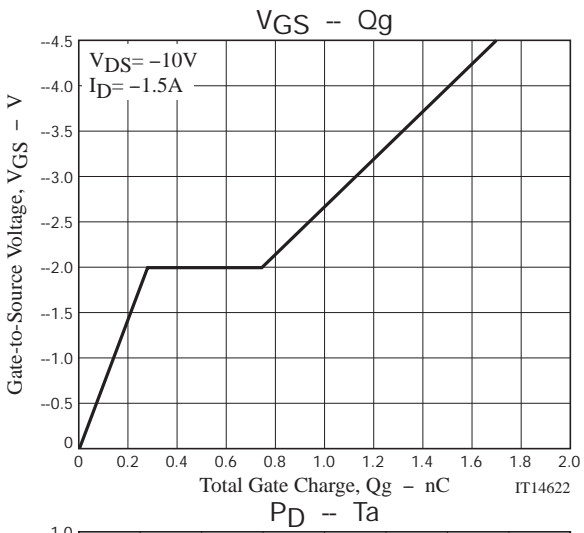
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
MCH3376-TL-E	MCPH3	3,000pcs./reel	Pb Free





Taping Specification

MCH3376-TL-E

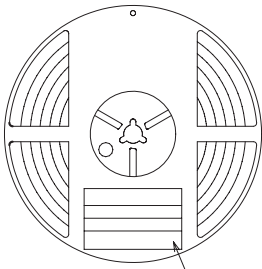
1. Packing Format

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

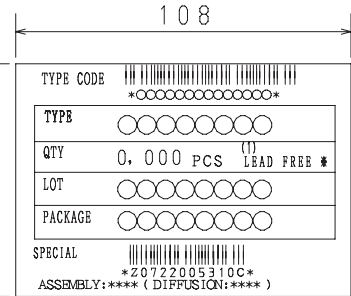
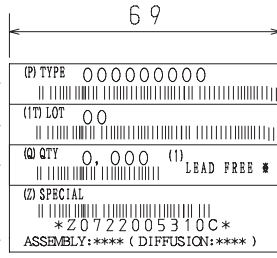
Reel label, Inner box label
(unit: mm)

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



Reel label

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



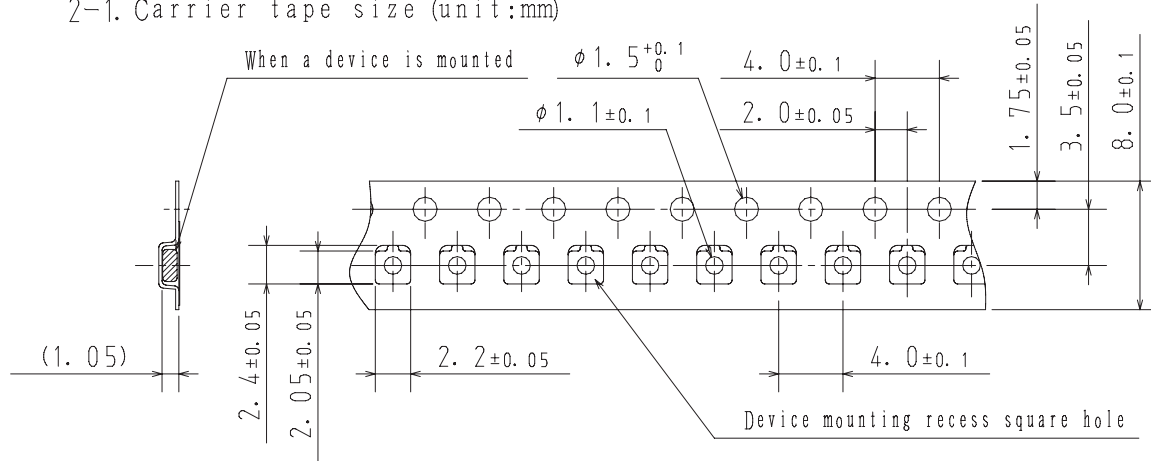
NOTE (1)

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

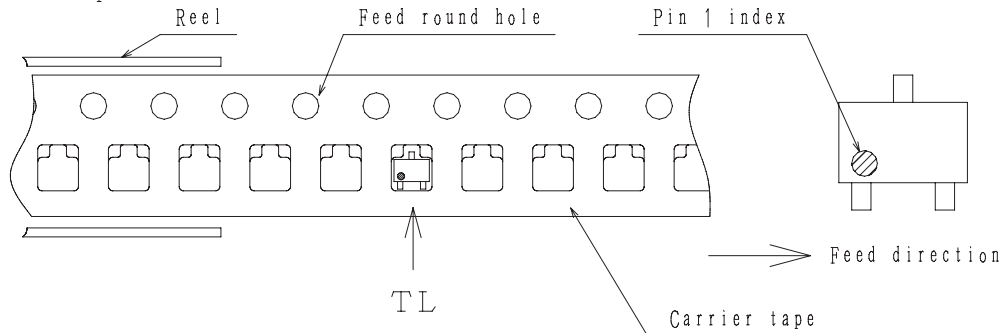
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



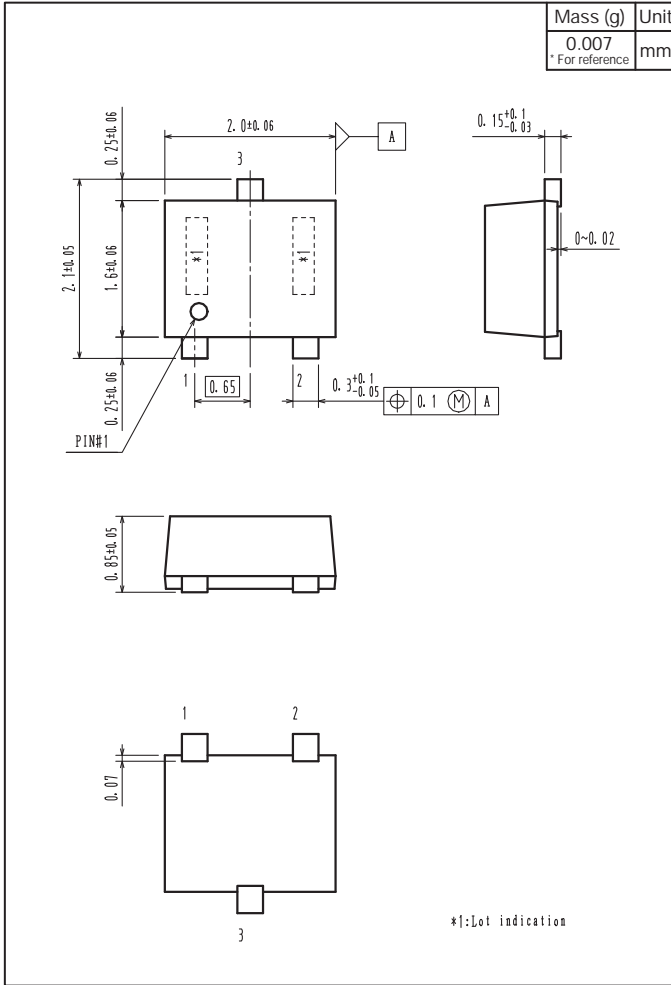
2-2. Device placement direction



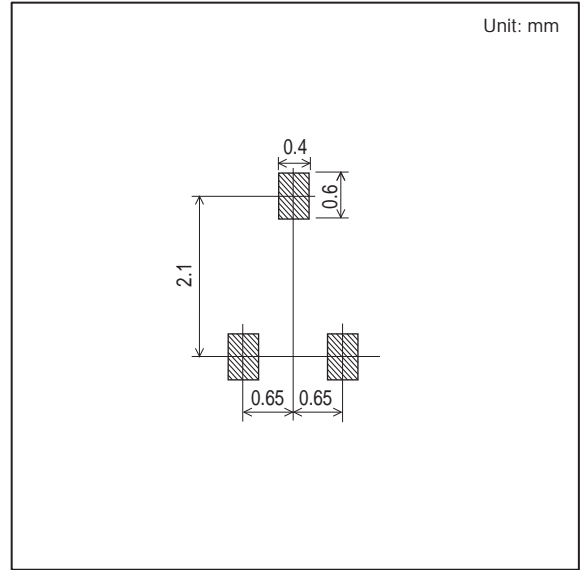
Those with pin 1 index on the feed hole side.....TL

MCH3376

Outline Drawing MCH3376-TL-E



Land Pattern Example



Note on usage : Since the MCH3376 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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