



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH3484 — N-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)} = 33\text{m}\Omega$ (typ.)
- 0.9V drive
- Halogen free compliance
- Protection diode in

Specifications

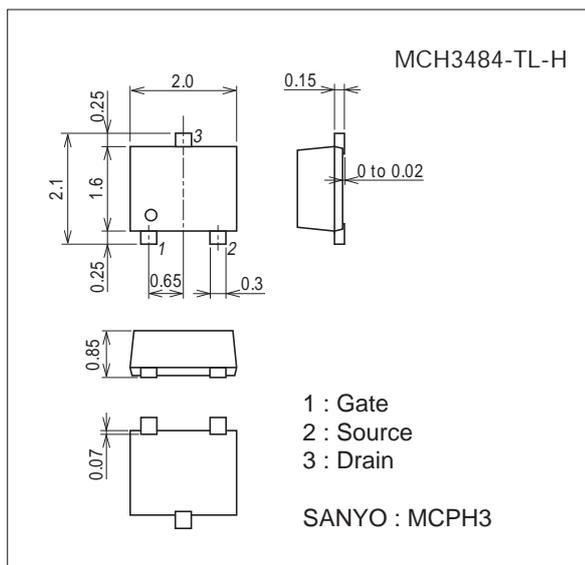
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		± 5	V
Drain Current (DC)	I_D		4.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	18	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (900mm ² × 0.8mm)	1.0	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Operating Temperature	T_{opr}		-5 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

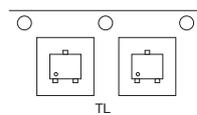
7019A-003



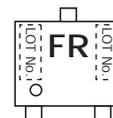
Product & Package Information

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

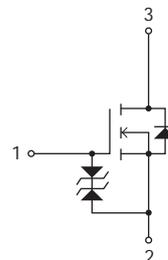
Packing Type : TL



Marking



Electrical Connection

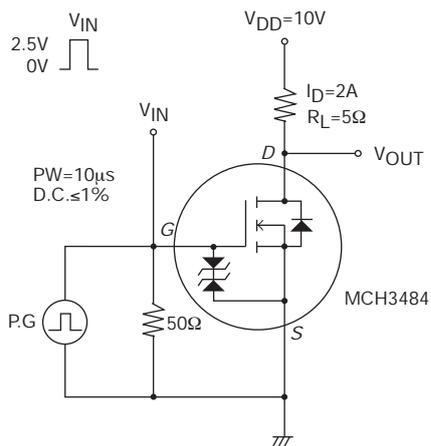


MCH3484

Electrical Characteristics at Ta=25°C

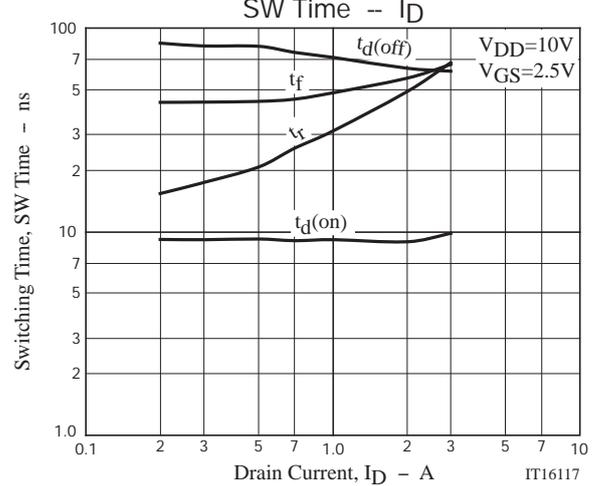
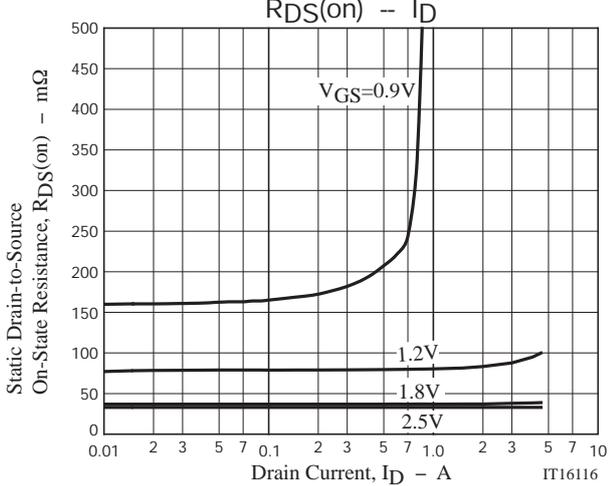
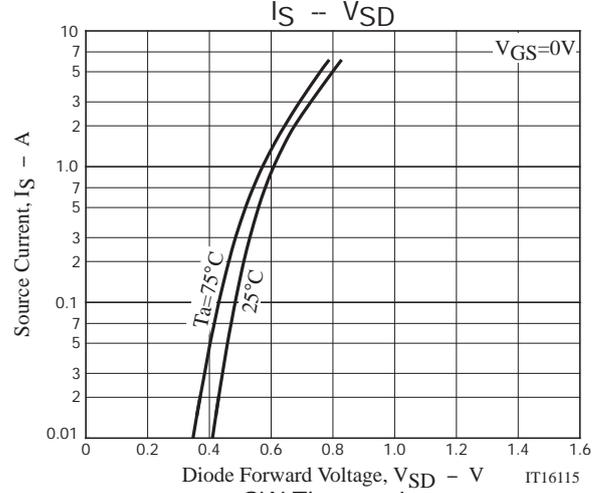
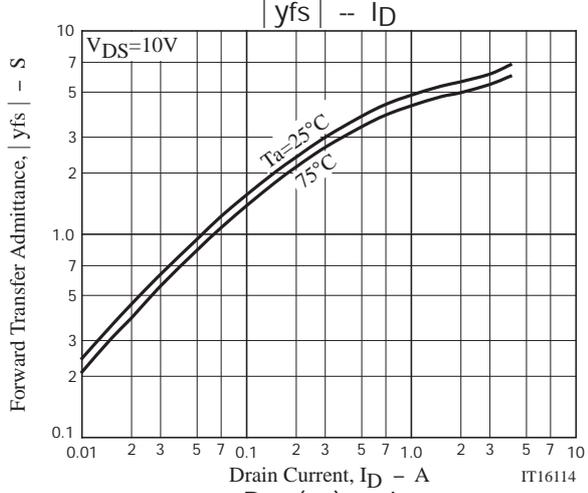
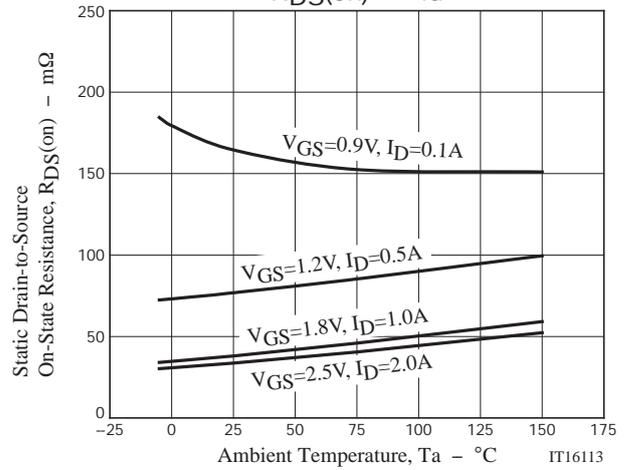
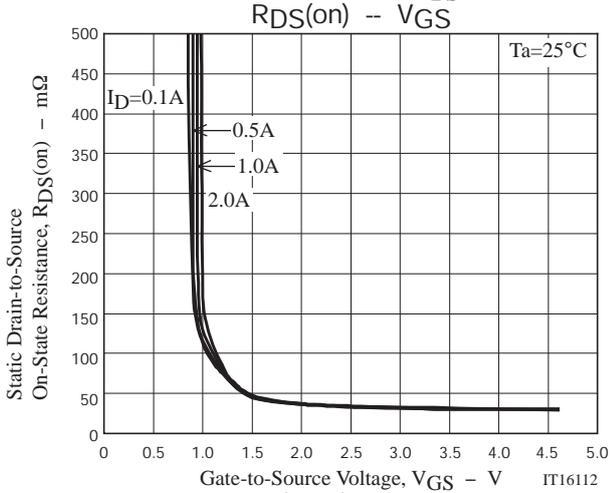
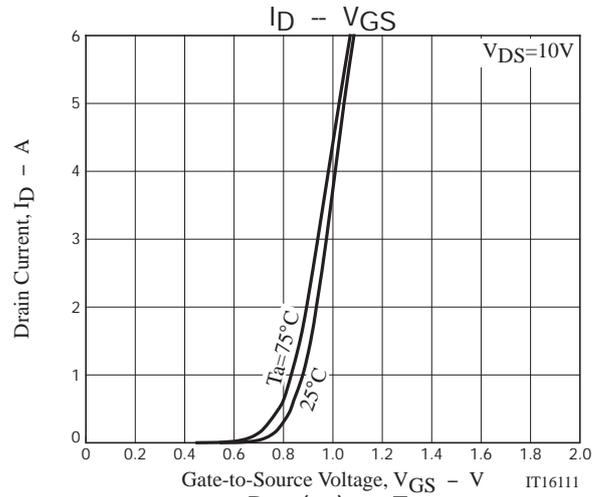
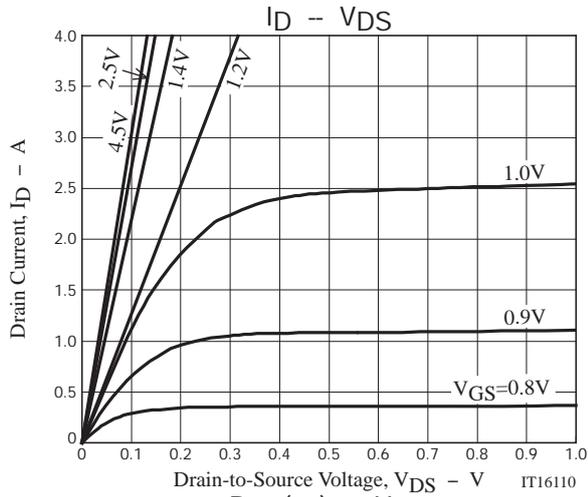
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±4V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	0.3		0.8	V
Forward Transfer Admittance	yfs	VDS=10V, ID=2A		5.6		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=2A, VGS=2.5V		33	40	mΩ
	RDS(on)2	ID=1A, VGS=1.8V		37	49	mΩ
	RDS(on)3	ID=0.5A, VGS=1.2V		79	119	mΩ
	RDS(on)4	ID=0.1A, VGS=0.9V		165	330	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		630		pF
Output Capacitance	Coss			75		pF
Reverse Transfer Capacitance	Crss			65		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		8.9	
Rise Time	t _r			49		ns
Turn-OFF Delay Time	t _{d(off)}			63		ns
Fall Time	t _f			57		ns
Total Gate Charge	Qg	VDS=10V, VGS=2.5V, ID=4.5A			11	
Gate-to-Source Charge	Qgs			0.9		nC
Gate-to-Drain "Miller" Charge	Qgd			1.8		nC
Diode Forward Voltage	VSD	IS=4.5A, VGS=0V		0.8	1.2	V

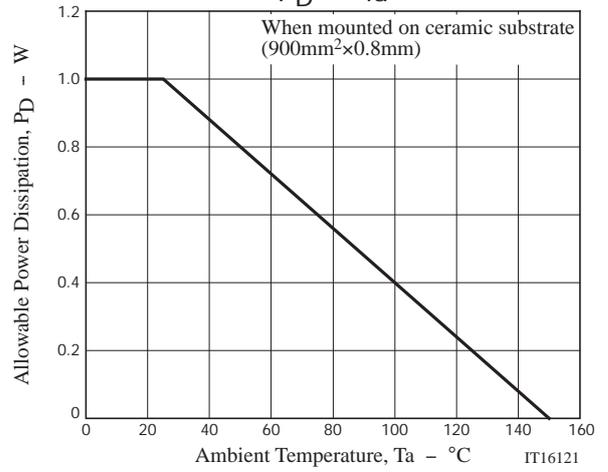
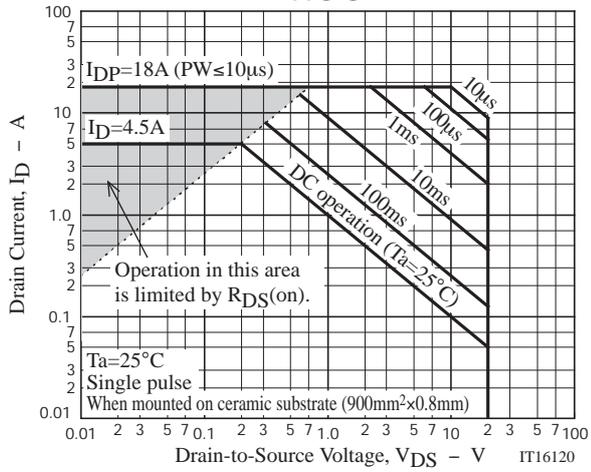
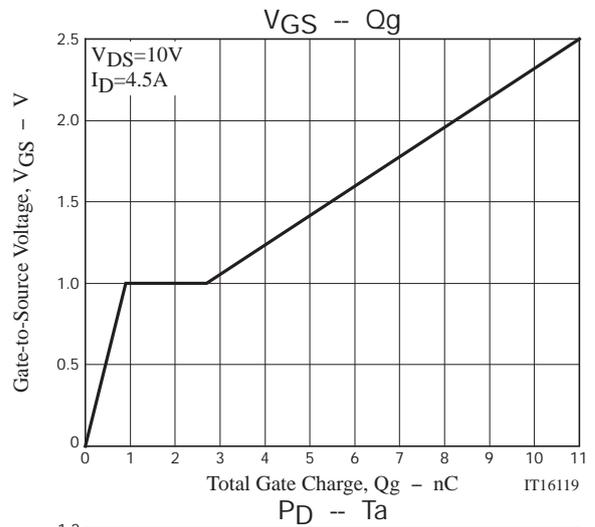
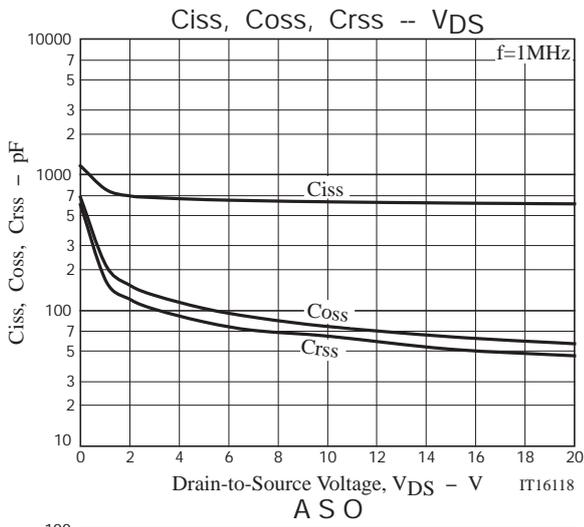
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
MCH3484-TL-H	MCPH3	3,000pcs./reel	Pb Free and Halogen Free





Taping Specification

MCH3484-TL-H

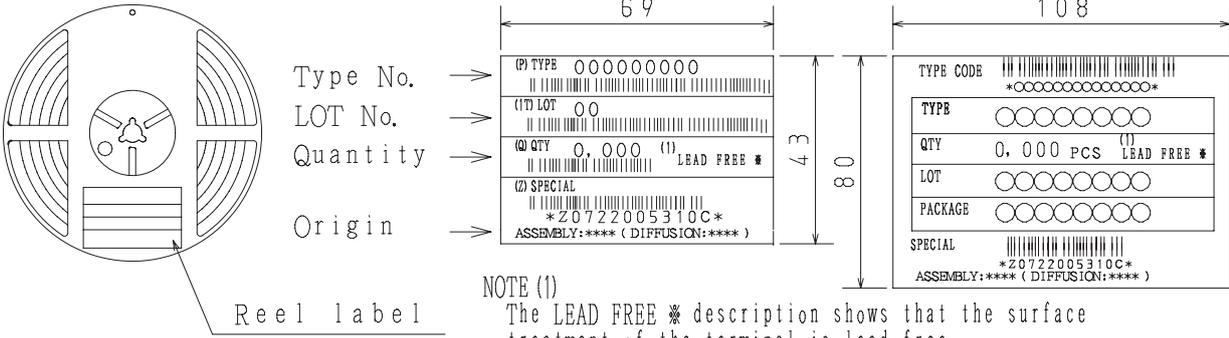
1. Packing Format

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.

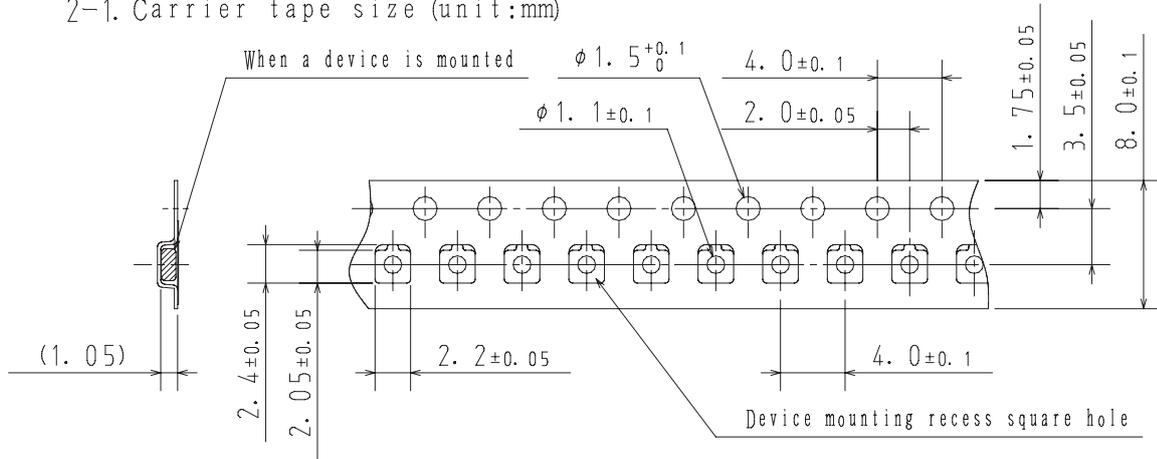


NOTE (1)
The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

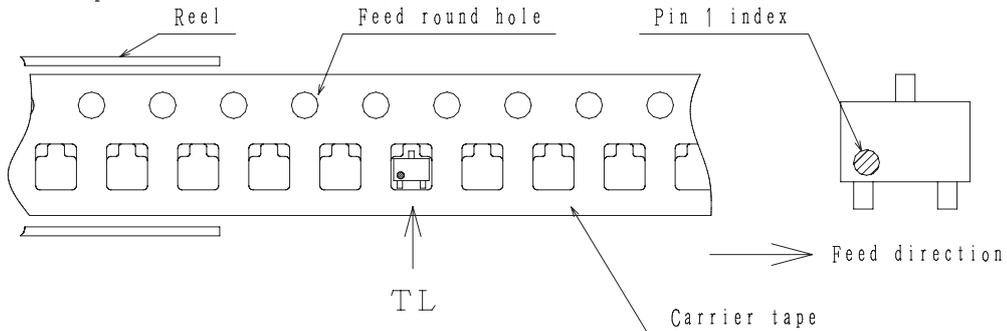
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



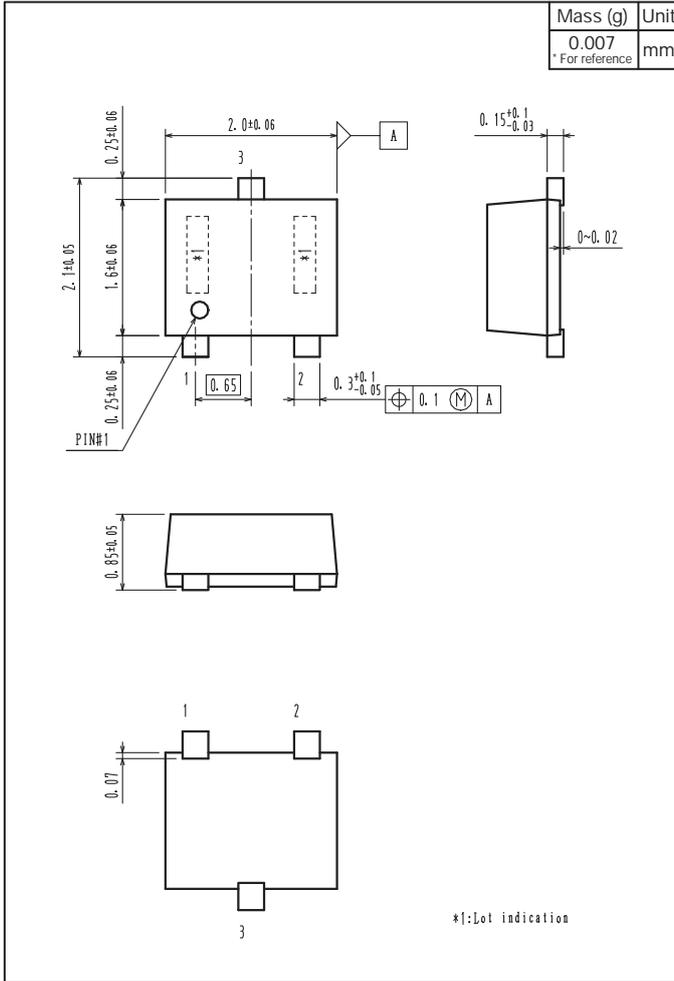
2-2. Device placement direction



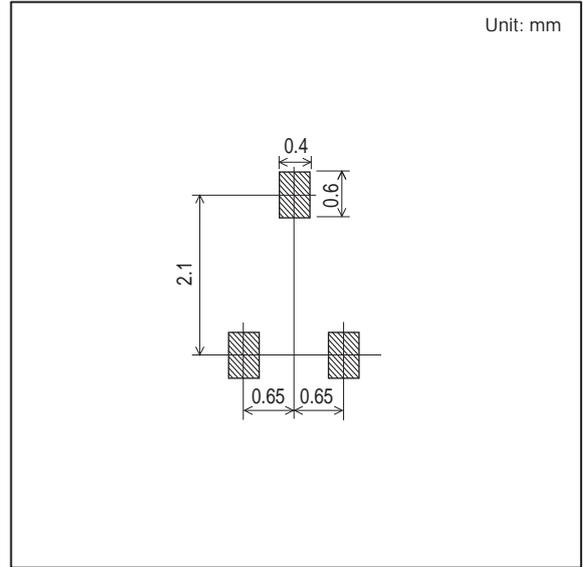
Those with pin 1 index on the feed hole side.....TL

MCH3484

Outline Drawing MCH3484-TL-H



Land Pattern Example



Note on usage : Since the MCH3484 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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