



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

MCH6337 — General-Purpose Switching Device Applications

Features

- Low ON-resistance
- 1.8V drive
- Protection diode in
- Ultrahigh-speed switching
- Halogen free compliance

Specifications

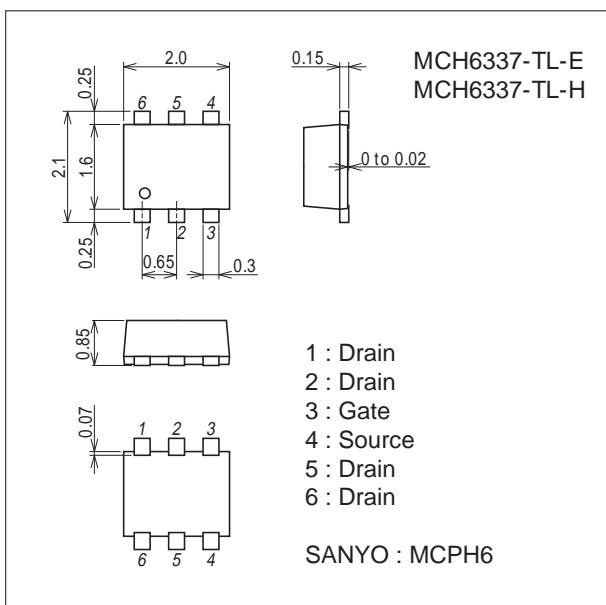
Absolute Maximum Ratings at Ta=25°C

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		-4.5	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-18	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (1200mm ² ×0.8mm)	1.5	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

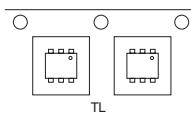
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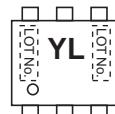
Product & Package Information

- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel

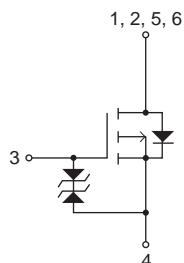
Packing Type : TL



Marking



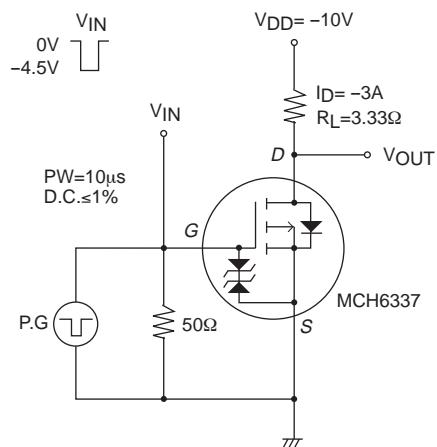
Electrical Connection



Electrical Characteristics at $T_a=25^\circ C$

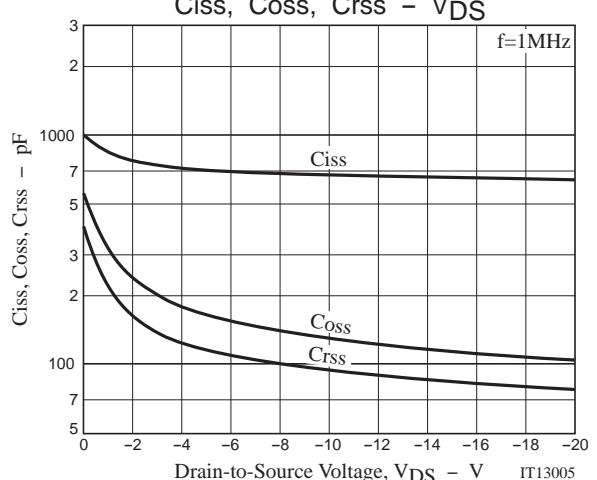
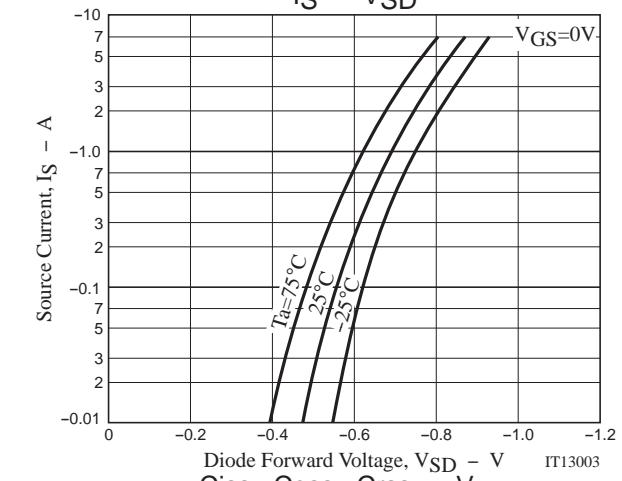
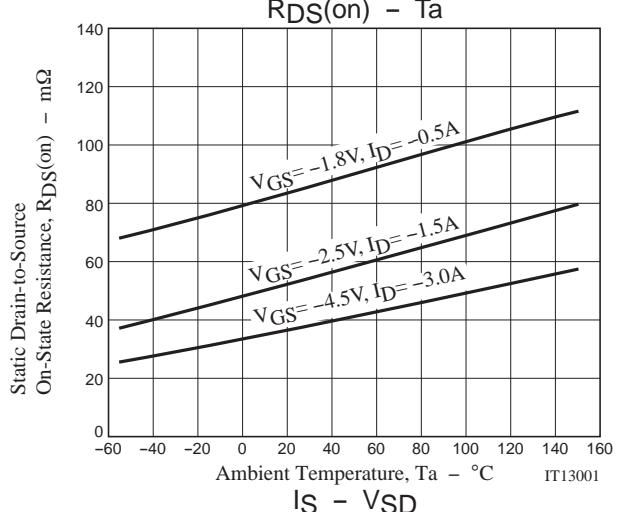
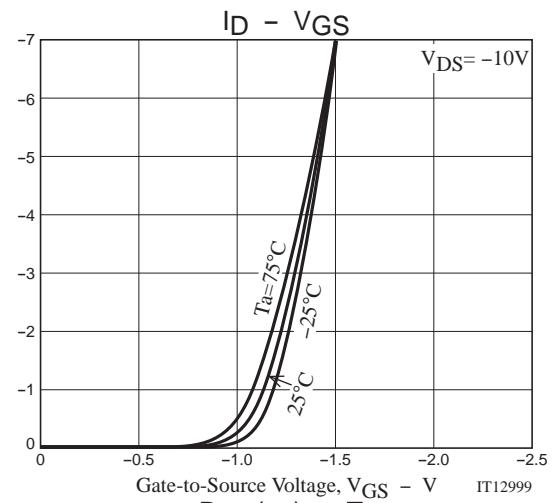
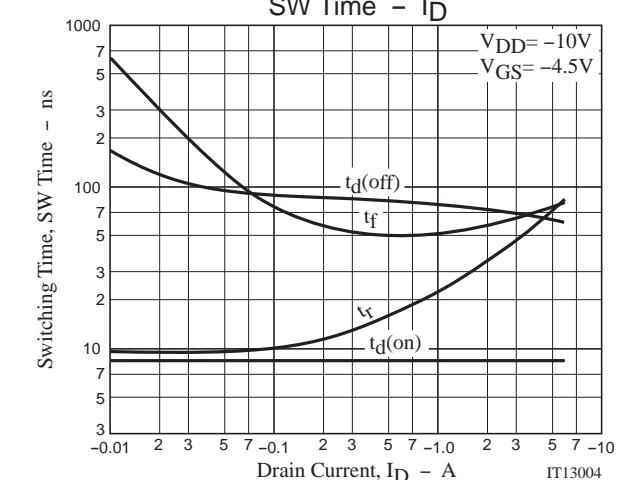
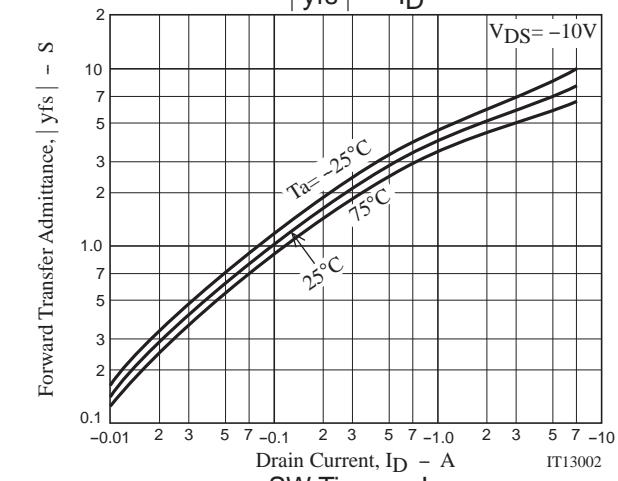
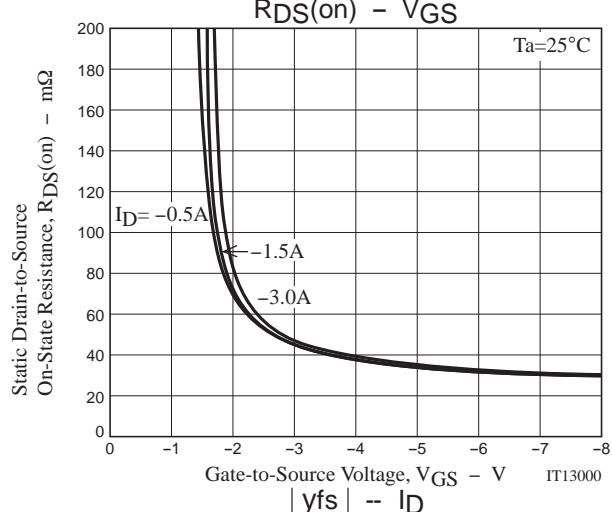
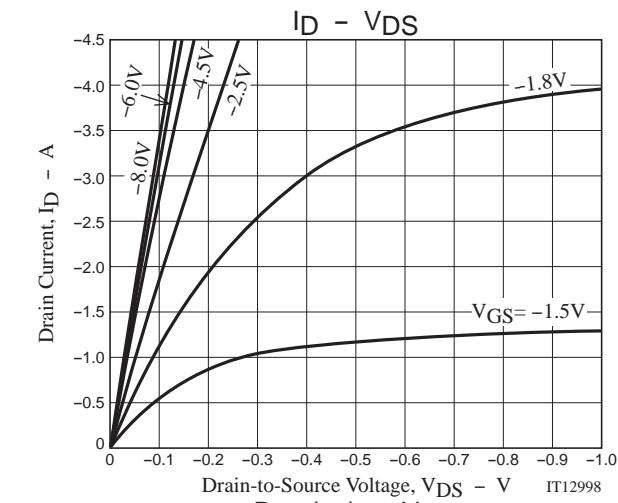
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V(BR)_{DSS}$	$I_D=-1\text{mA}, V_{GS}=0\text{V}$	-20			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20\text{V}, V_{GS}=0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(\text{off})}$	$V_{DS}=-10\text{V}, I_D=-1\text{mA}$	-0.4		-1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10\text{V}, I_D=-3\text{A}$	3.5	5.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(\text{on})1}$	$I_D=-3\text{A}, V_{GS}=-4.5\text{V}$		37	49	$\text{m}\Omega$
	$R_{DS(\text{on})2}$	$I_D=-1.5\text{A}, V_{GS}=-2.5\text{V}$		53	75	$\text{m}\Omega$
	$R_{DS(\text{on})3}$	$I_D=-0.5\text{A}, V_{GS}=-1.8\text{V}$		85	130	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-10\text{V}, f=1\text{MHz}$		670		pF
Output Capacitance	C_{oss}			130		pF
Reverse Transfer Capacitance	C_{rss}			94		pF
Turn-ON Delay Time	$t_{d(\text{on})}$	See specified Test Circuit.		8.4		ns
Rise Time	t_r			45		ns
Turn-OFF Delay Time	$t_{d(\text{off})}$			69		ns
Fall Time	t_f			63		ns
Total Gate Charge	Q_g	$V_{DS}=-10\text{V}, V_{GS}=-4.5\text{V}, I_D=-4.5\text{A}$		7.3		nC
Gate-to-Source Charge	Q_{gs}			1.3		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			2.1		nC
Diode Forward Voltage	V_{SD}	$I_S=-4.5\text{A}, V_{GS}=0\text{V}$		-0.82	-1.2	V

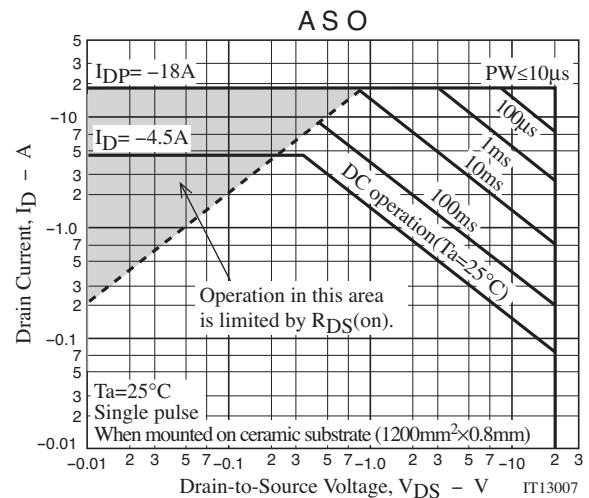
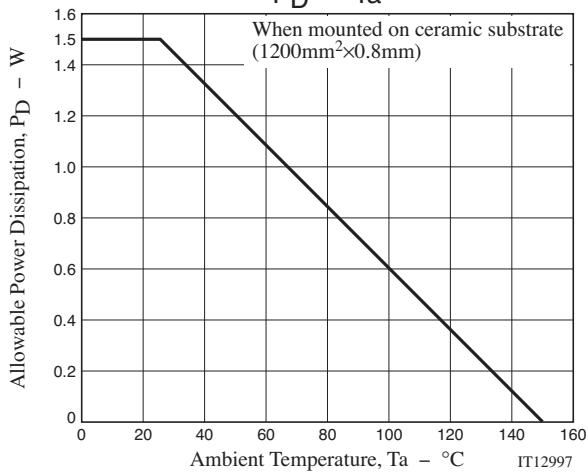
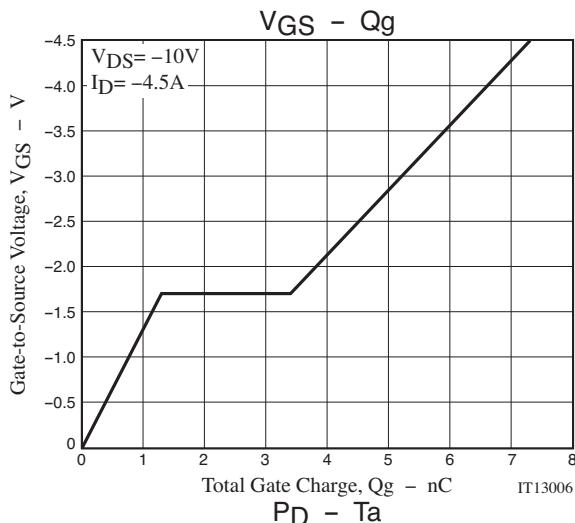
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
MCH6337-TL-E	MCPH6	3,000pcs./reel	Pb Free
MCH6337-TL-H	MCPH6	3,000pcs./reel	Pb Free and Halogen Free



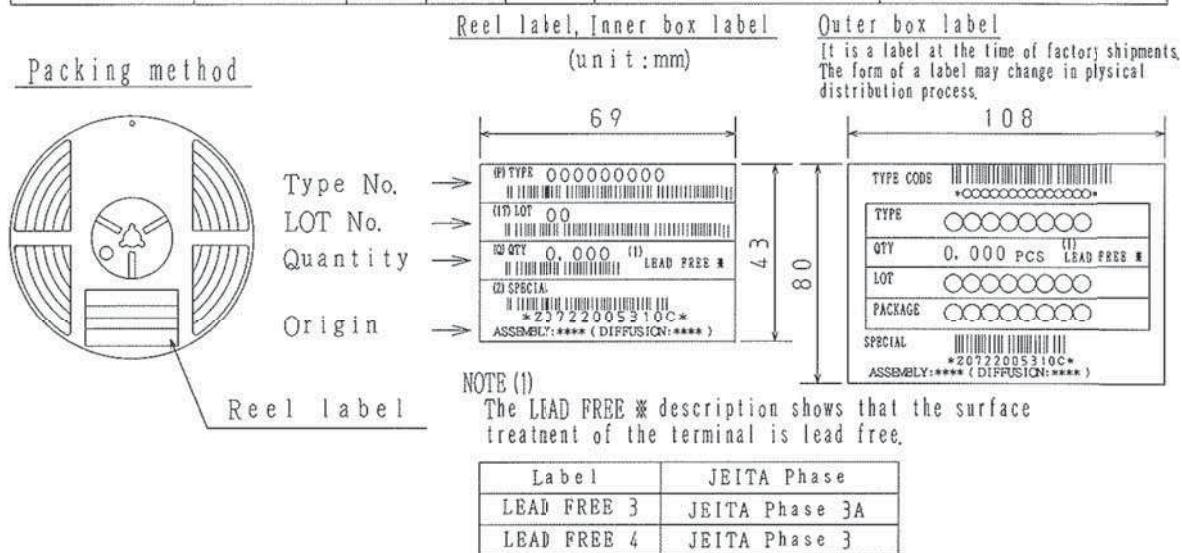


Taping Specification

MCH6337-TL-E, MCH6337-TL-H

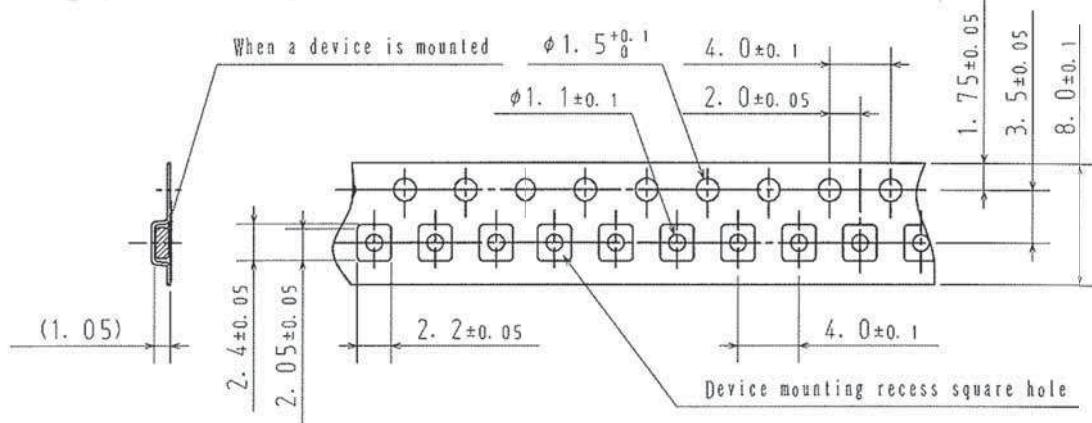
1. Packing Format

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)
MCPH6	MCP 4	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

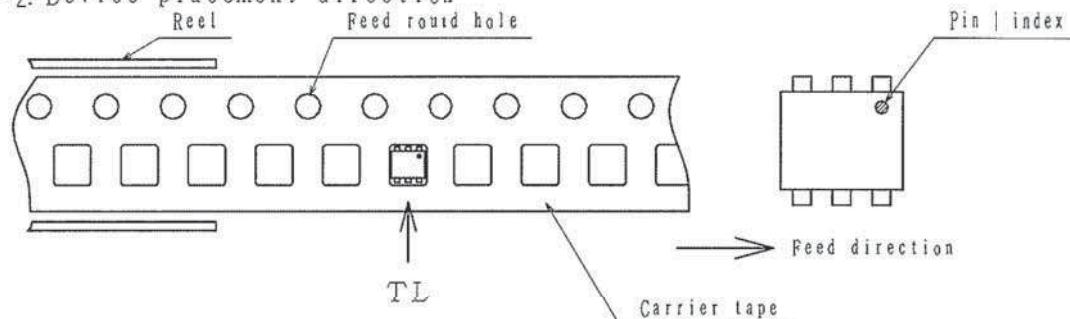


2. Taping configuration

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



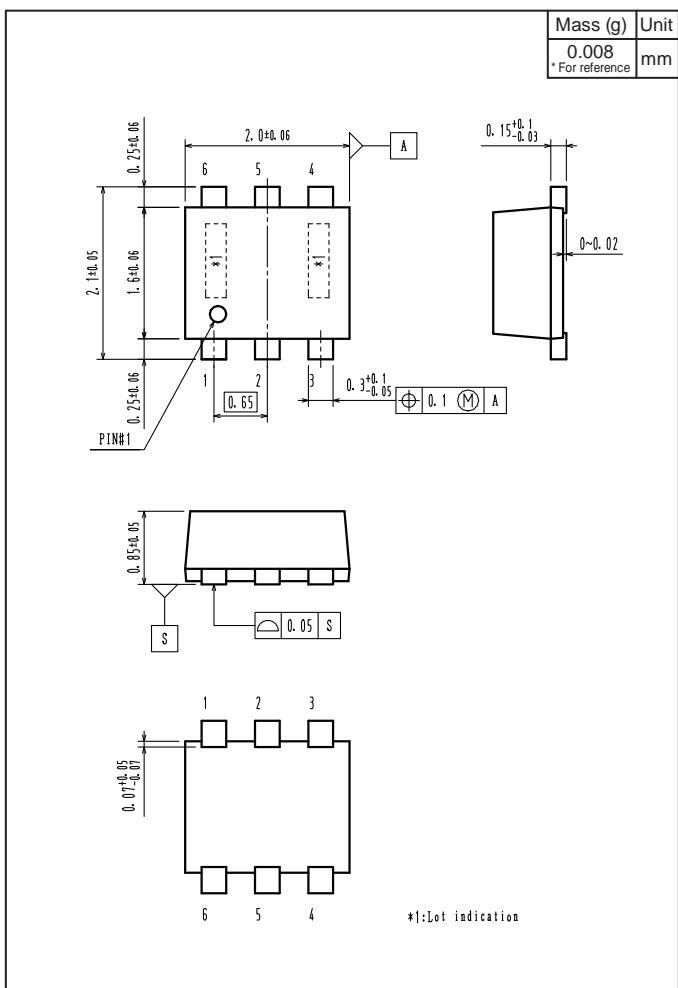
2-2. Device placement direction



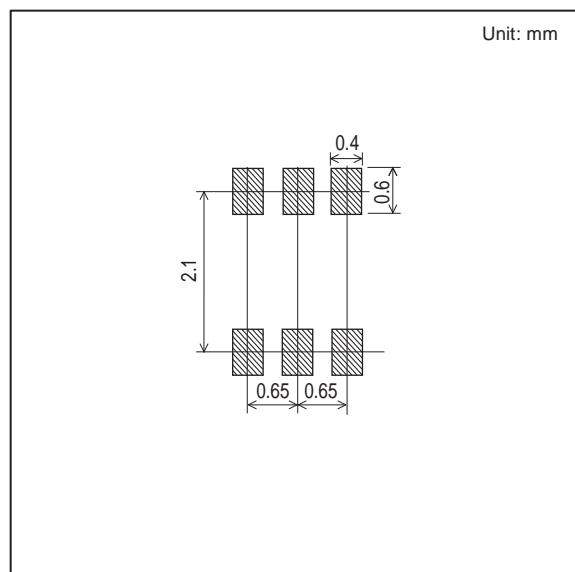
Those with pin 1 index on the feed hole side.....TL

Outline Drawing

MCH6337-TL-E, MCH6337-TL-H



Land Pattern Example



Note on usage : Since the MCH6337 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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