



MCH6342 — P-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

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

Specifications

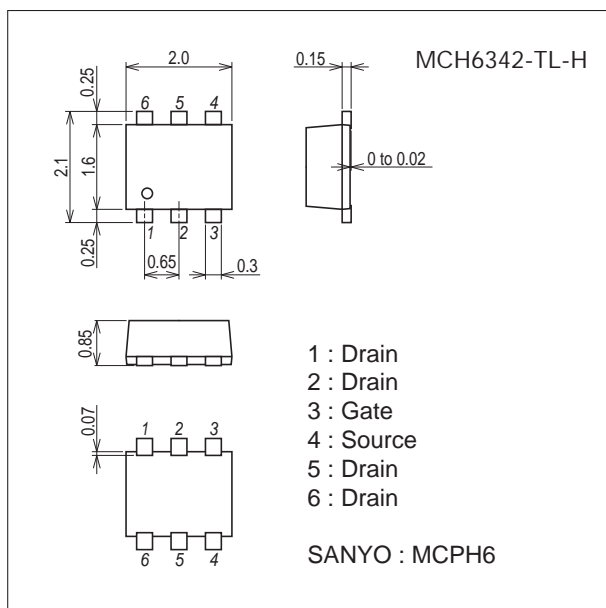
Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|--|-------------|------|
| Drain-to-Source Voltage | V _{DSS} | | -30 | 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 (1500mm 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)

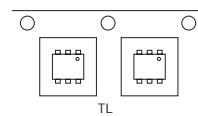
7022A-009



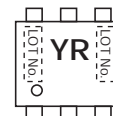
Product & Package Information

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

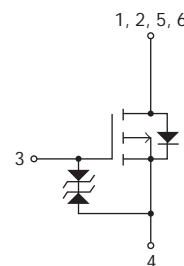
Packing Type : TL



Marking



Electrical Connection

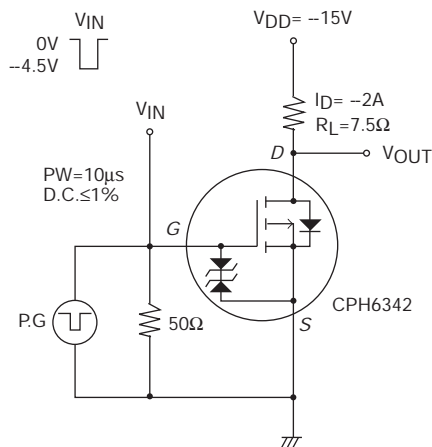


MCH6342

Electrical Characteristics at Ta=25°C

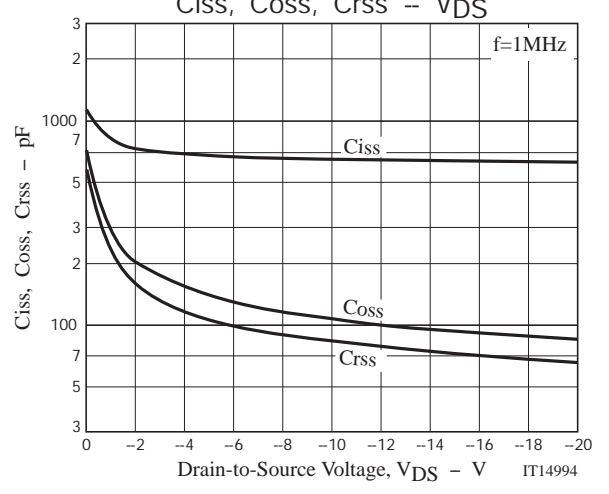
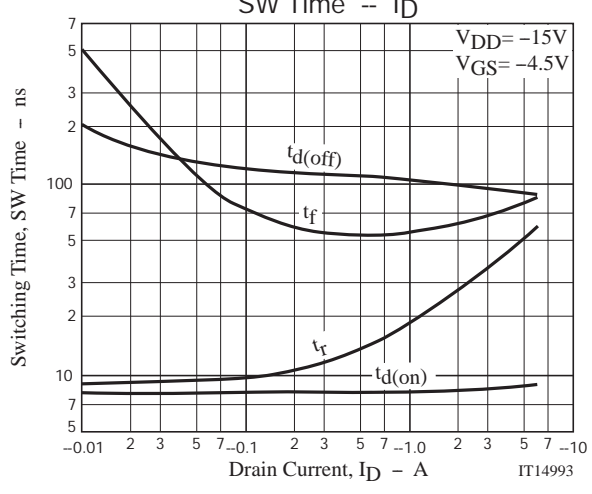
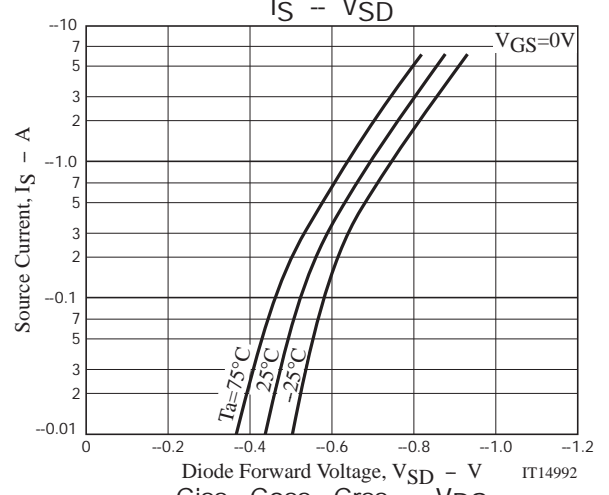
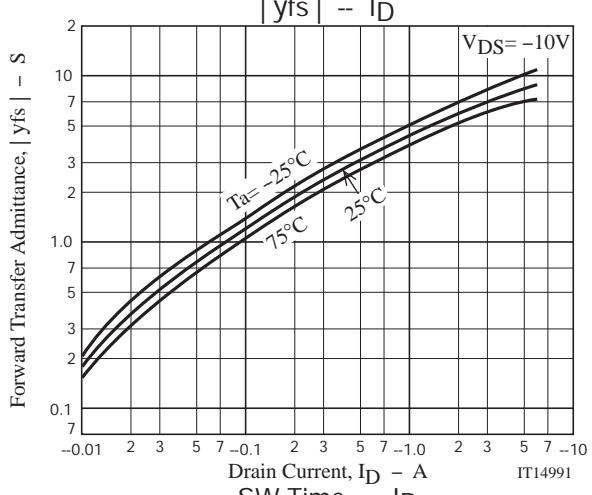
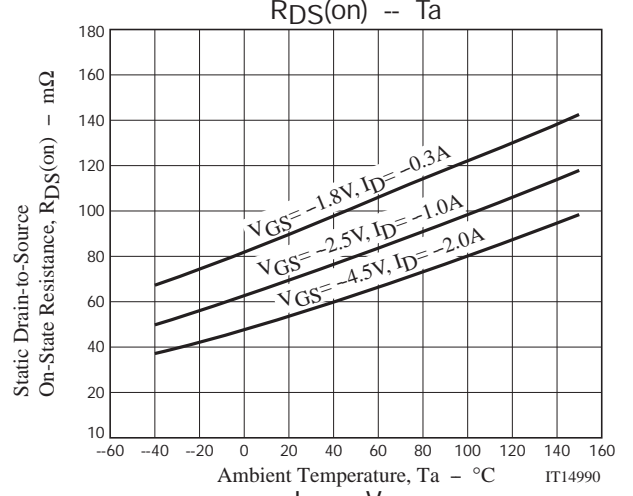
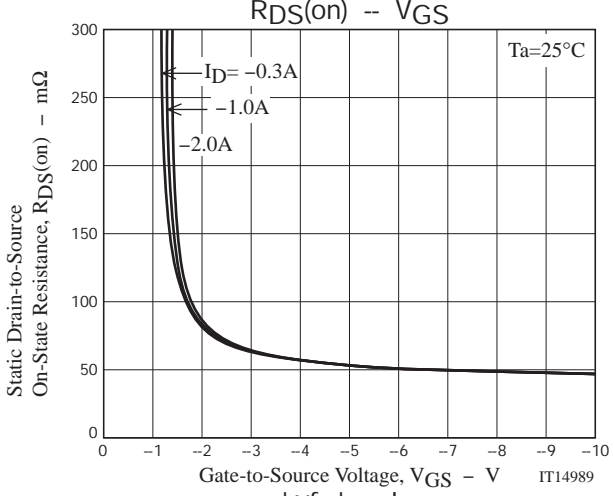
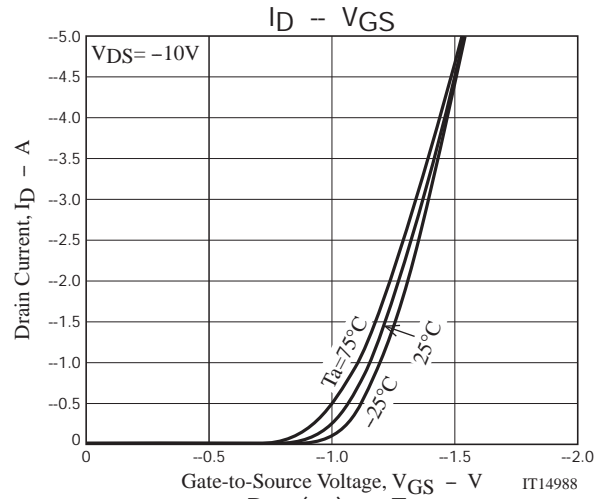
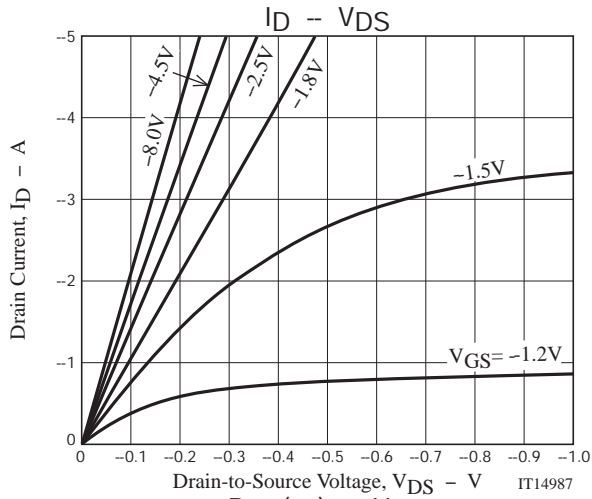
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|----------------------|--|---------|-------|------|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | V(BR)DSS | I _D =-1mA, V _{GS} =0V | -30 | | | V |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =-30V, V _{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 | | -1.3 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =-10V, I _D =-2A | 3.4 | 5.8 | | S |
| Static Drain-to-Source On-State Resistance | R _{DS(on)1} | I _D =-2A, V _{GS} =-4.5V | | 56 | 73 | mΩ |
| | R _{DS(on)2} | I _D =-1A, V _{GS} =-2.5V | | 71 | 99 | mΩ |
| | R _{DS(on)3} | I _D =-0.3A, V _{GS} =-1.8V | | 95 | 155 | mΩ |
| Input Capacitance | C _{iss} | | | 650 | | pF |
| Output Capacitance | C _{oss} | V _{DS} =-10V, f=1MHz | | 105 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 83 | | pF |
| Turn-ON Delay Time | t _{d(on)} | See specified Test Circuit. | | 8.2 | | ns |
| Rise Time | t _r | | | 28 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | | | 100 | | ns |
| Fall Time | t _f | | | 60 | | ns |
| Total Gate Charge | Q _g | | | | 8.6 | |
| Gate-to-Source Charge | Q _{gs} | V _{DS} =-15V, V _{GS} =-4.5V, I _D =-4.5A | | 1.3 | | nC |
| Gate-to-Drain "Miller" Charge | Q _{gd} | | | 2.4 | | nC |
| Diode Forward Voltage | V _{SD} | I _S =-4.5A, V _{GS} =0V | | -0.83 | -1.2 | V |

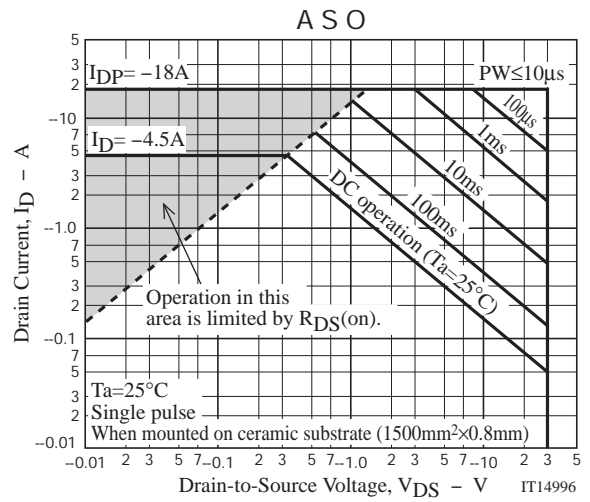
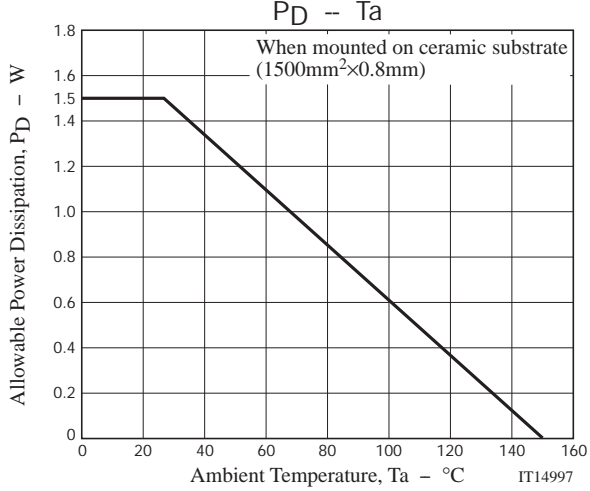
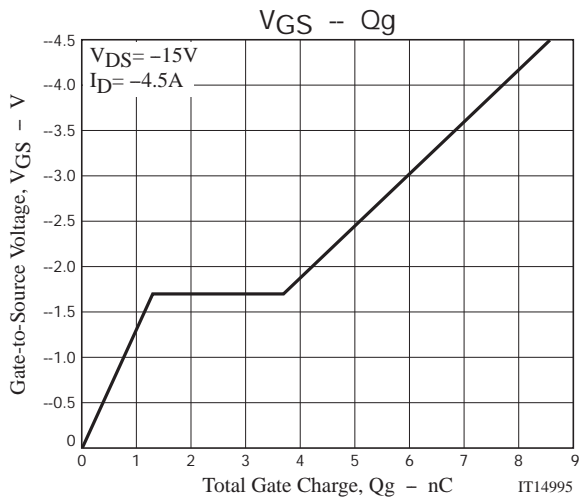
Switching Time Test Circuit



Ordering Information

| Device | Package | Shipping | memo |
|--------------|---------|----------------|--------------------------|
| MCH6342-TL-H | MCPH6 | 3,000pcs./reel | Pb Free and Halogen Free |





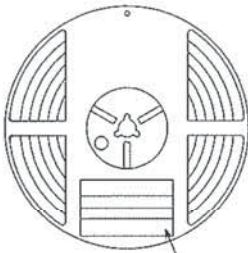
Taping Specification

MCH6342-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 | MCP4 | 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 |

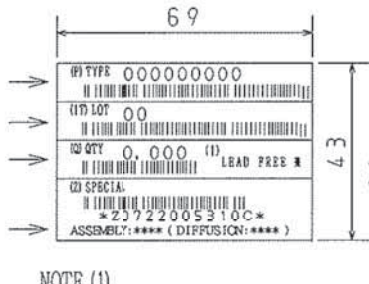
Packing method



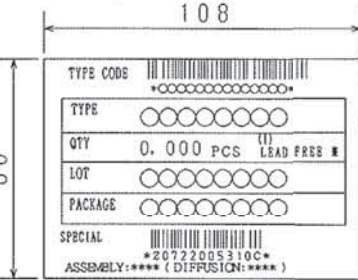
Type No.
LOT No.
Quantity
Origin

Reel label

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.



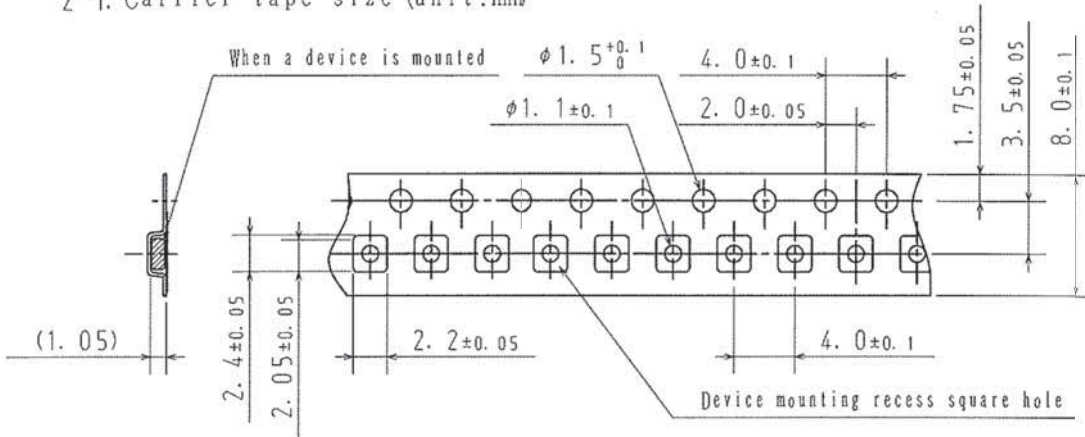
NOTE (1)

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

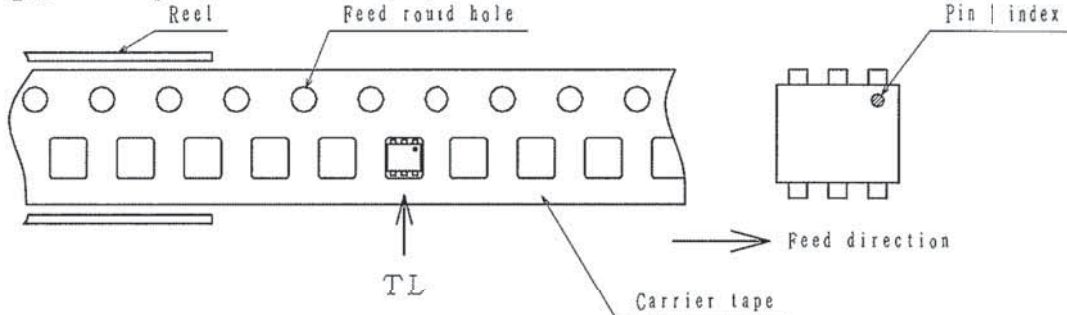
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

2. Taping configuration

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



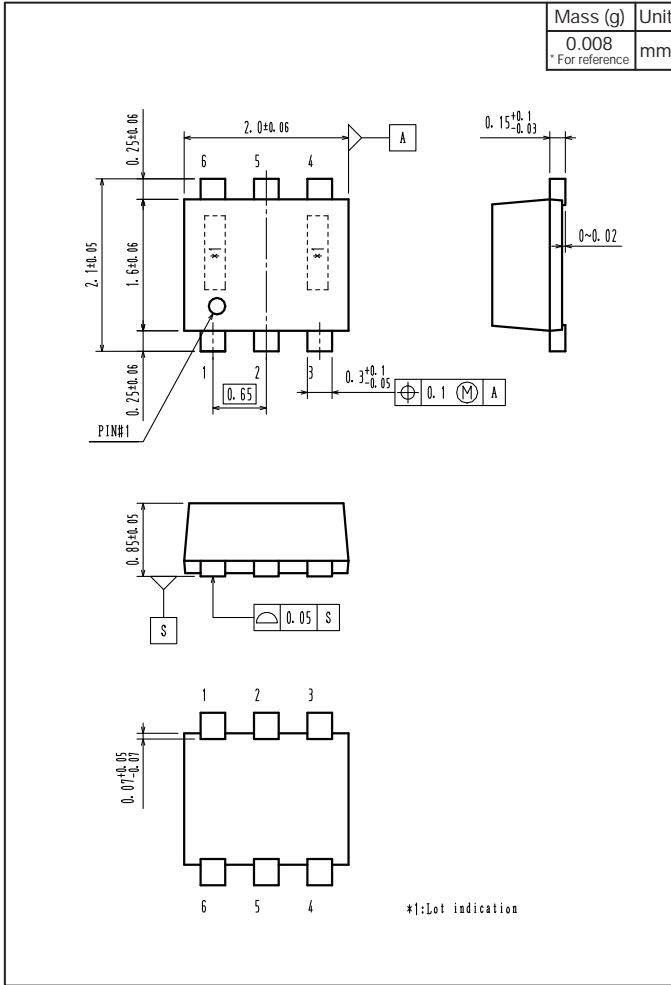
2-2. Device placement direction



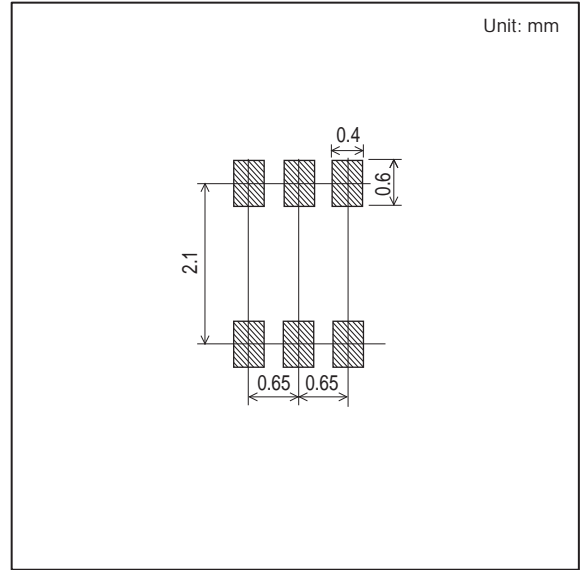
Those with pin | index on the feed hole side.....TL

MCH6342

Outline Drawing MCH6342-TL-H



Land Pattern Example



Note on usage : Since the MCH6342 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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