



# MCH3914

## N-Channel JFET 15V, 16 to 50mA, 29mS, MCPH3

ON Semiconductor®

<http://onsemi.com>

### Features

- $|y_{fs}|$  is large
- $C_{iss}$  is small
- Small package
- FBET process
- Halogen free compliance

### Specifications

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

| Parameter                   | Symbol    | Conditions  | Ratings     | Unit |
|-----------------------------|-----------|---|-------------|------|
| Drain-to-Source Voltage     | $V_{DSX}$ |   | 15          | V    |
| Gate-to-Drain Voltage       | $V_{GDS}$ |   | -15         | V    |
| Gate Current                | $I_G$     |   | 5           | mA   |
| Drain Current               | $I_D$     |   | 50          | mA   |
| Allowable Power Dissipation | $P_D$     | When mounted on ceramic substrate (600mm <sup>2</sup> ×0.8mm) | 300         | mW   |
| Junction Temperature        | $T_j$     |   | 150         | °C   |
| Storage Temperature         | $T_{stg}$ |   | -55 to +150 | °C   |

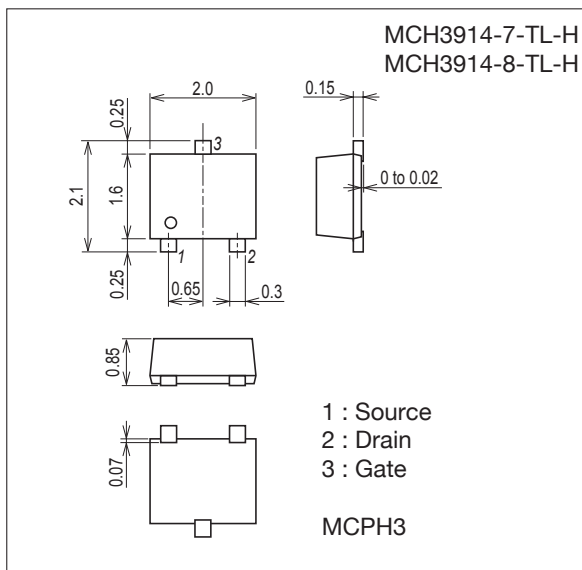
This product is designed to "ESD immunity < 200V\*\*", so please take care when handling.

\* Machine Model

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### Package Dimensions

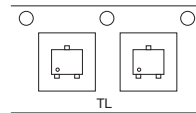
unit : mm (typ)  
7019A-006



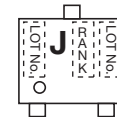
### Product & Package Information

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

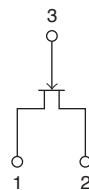
### Packing Type : TL



### Marking



### Electrical Connection



### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

# MCH3914

## Electrical Characteristics at Ta=25°C

| Parameter                       | Symbol               | Conditions  | Ratings |      |       | Unit |
|---------------------------------|----------------------|---|---------|------|-------|------|
|                                 |                      |   | min     | typ  | max   |      |
| Gate-to-Drain Breakdown Voltage | V(BR)GDS             | I <sub>G</sub> =-10μA, V <sub>DS</sub> =0V        | -15     |      |       | V    |
| Gate-to-Source Leakage Current  | I <sub>GSS</sub>     | V <sub>GS</sub> =-10V, V <sub>DS</sub> =0V        |         |      | -1.0  | nA   |
| Cutoff Voltage                  | V <sub>GS(off)</sub> | V <sub>DS</sub> =5V, I <sub>D</sub> =10μA         | -0.6    | -1.4 | -3.0  | V    |
| Zero-Gate Voltage Drain Current | I <sub>DSS</sub>     | V <sub>DS</sub> =5V, V <sub>GS</sub> =0V          | 16.0*   |      | 50.0* | mA   |
| Forward Transfer Admittance     | y <sub>fs</sub>  1   | V <sub>DS</sub> =5V, I <sub>D</sub> =10mA, f=1kHz | 14      | 21   |       | mS   |
|                                 | y <sub>fs</sub>  2   | V <sub>DS</sub> =5V, V <sub>GS</sub> =0V, f=1kHz  | 14      | 29   |       | mS   |
| Input Capacitance               | C <sub>iss</sub>     | V <sub>DS</sub> =5V, V <sub>GS</sub> =0V, f=1MHz  |         | 4.9  |       | pF   |
| Reverse Transfer Capacitance    | C <sub>rss</sub>     |   |         | 1.4  |       | pF   |

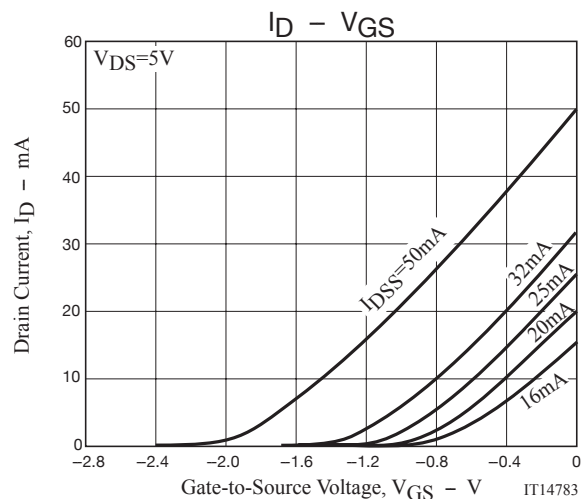
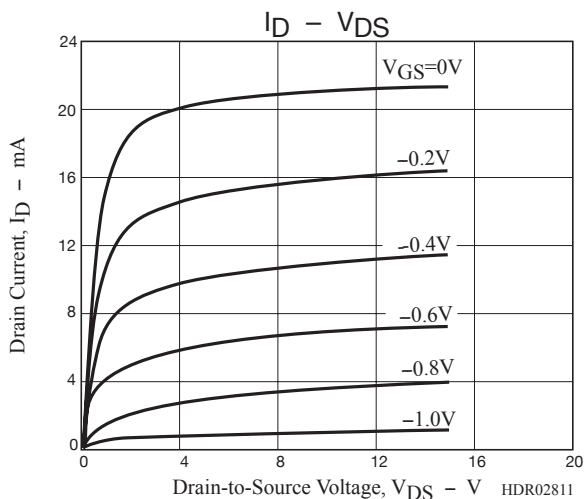
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

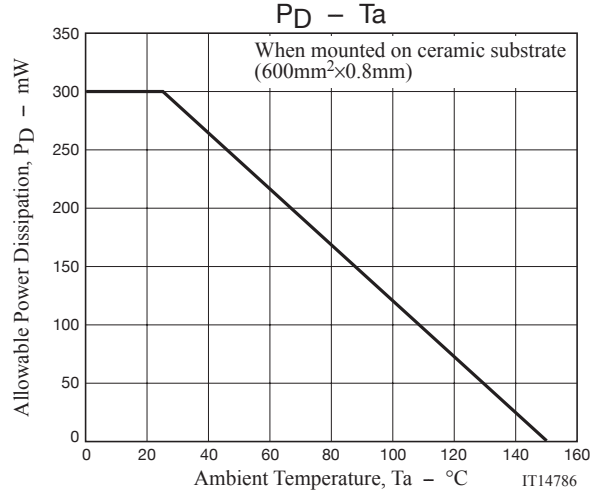
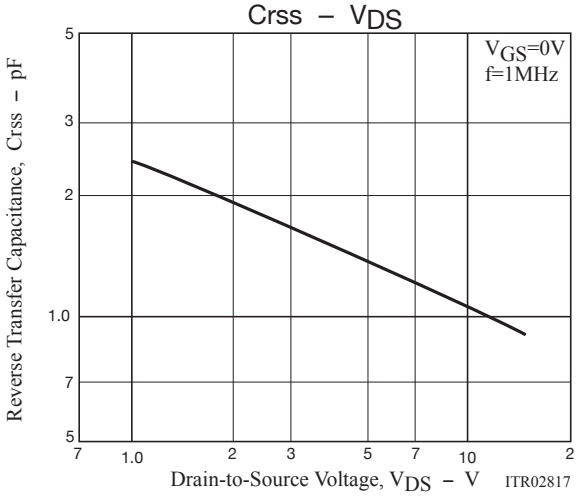
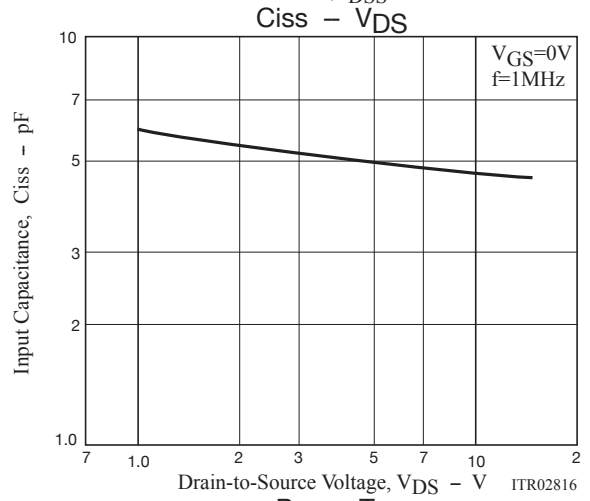
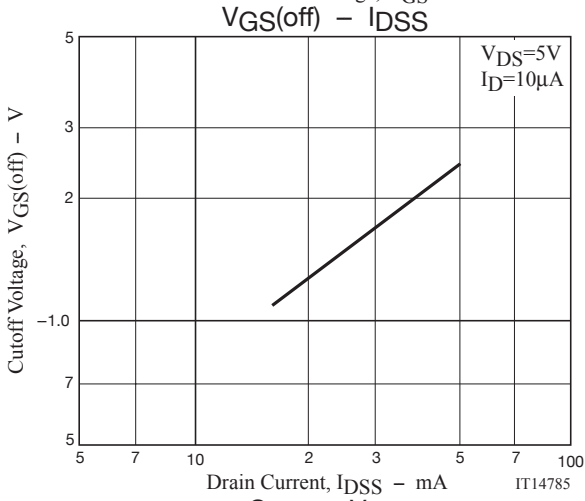
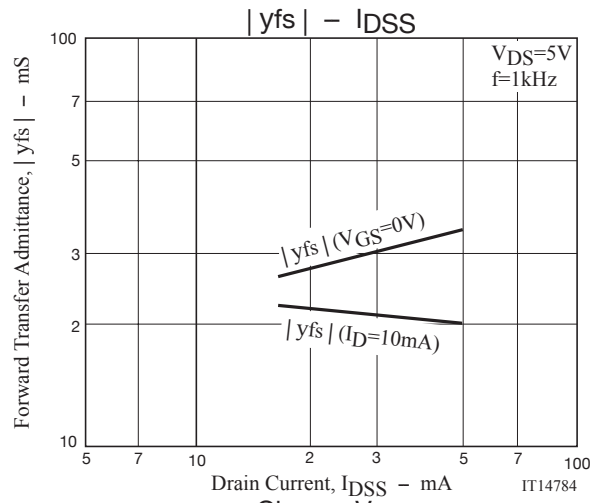
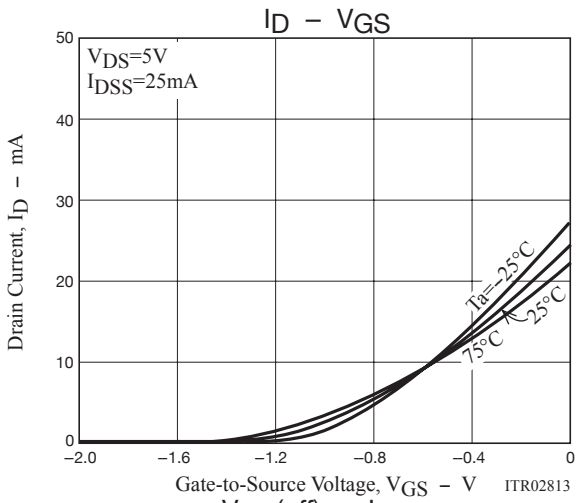
\* : The MCH3914 is classified by I<sub>DSS</sub> as follows : (unit : mA)

| Rank             | 7            | 8            |
|------------------|--------------|--------------|
| I <sub>DSS</sub> | 16.0 to 32.0 | 25.0 to 50.0 |

## Ordering Information

| Device         | Package | Shipping       | memo                     |
|----------------|---------|----------------|--------------------------|
| MCH3914-7-TL-H | MCPH3   | 3,000pcs./reel | Pb Free and Halogen Free |
| MCH3914-8-TL-H | MCPH3   | 3,000pcs./reel |                          |

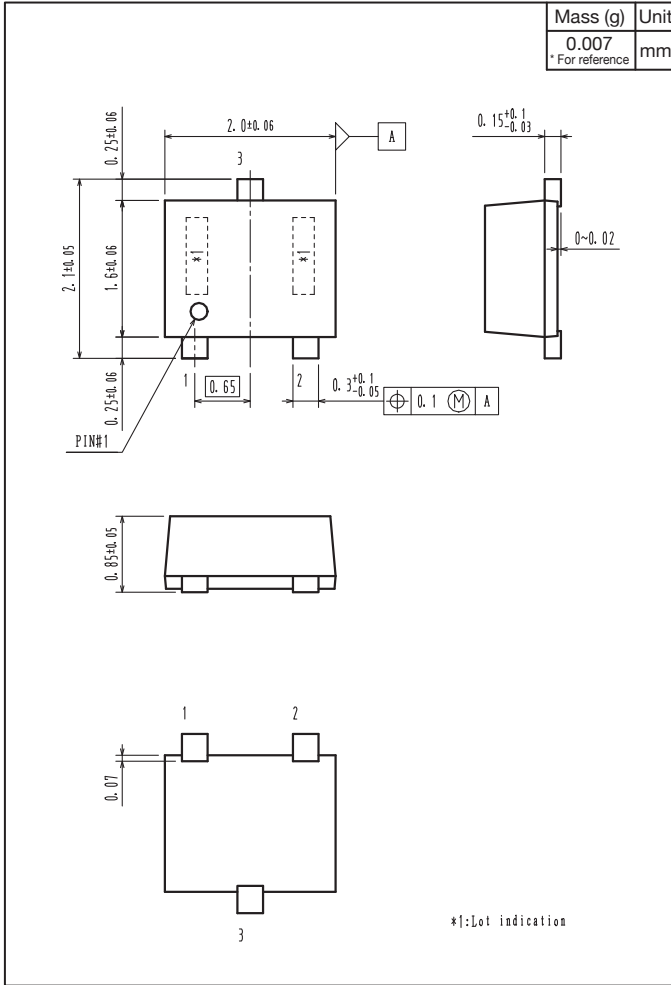




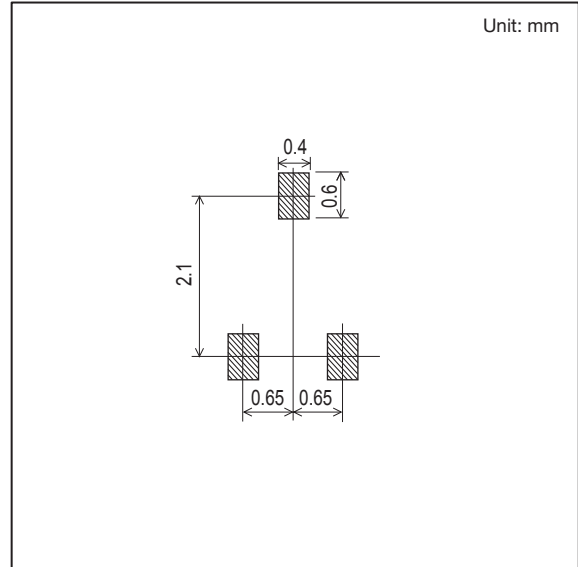
# MCH3914

## Outline Drawing

MCH3914-7-TL-H, MCH3914-8-TL-H



## Land Pattern Example



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