



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH3914 — N-Channel Junction Silicon FET High-Frequency Amplifier, Analog Switch Applications

Features

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

Specifications

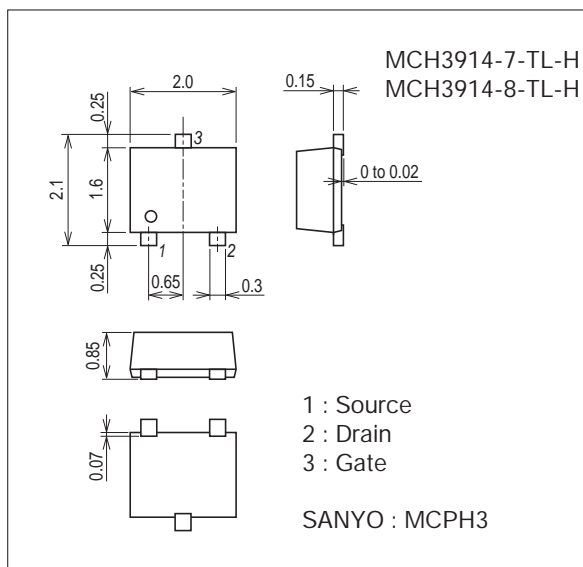
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| 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 ² x0.8mm) | 300 | mW |
| Junction Temperature | T_J | | 150 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |

Package Dimensions

unit : mm (typ)

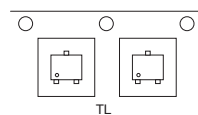
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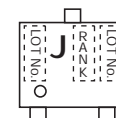
Product & Package Information

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

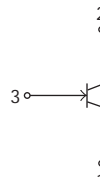
Packing Type : TL



Marking



Electrical Connection



MCH3914

Electrical Characteristics at Ta=25°C

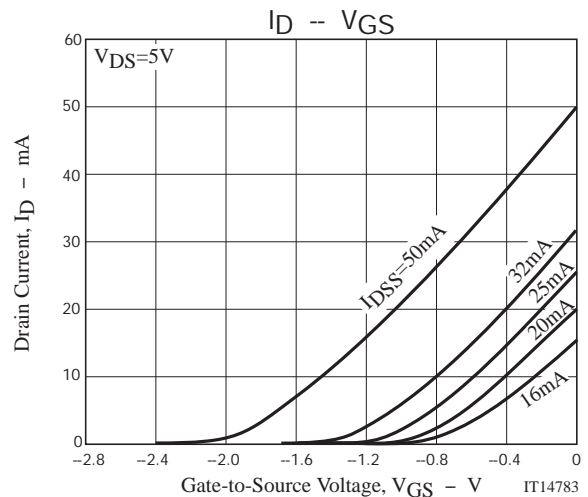
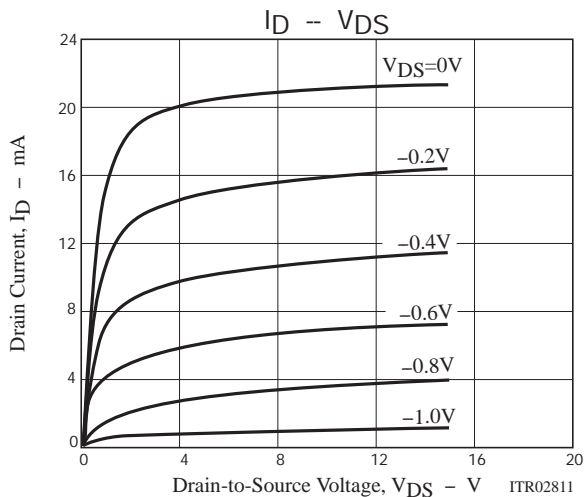
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------------|----------|-------------------------|---------|------|-------|------|
| | | | min | typ | max | |
| Gate-to-Drain Breakdown Voltage | V(BR)GDS | IG=-10μA, VDS=0V | -15 | | | V |
| Gate-to-Source Leakage Current | IGSS | VGS=-10V, VDS=0V | | | -1.0 | nA |
| Cutoff Voltage | VGS(off) | VDS=5V, ID=10μA | -0.6 | -1.4 | -3.0 | V |
| Zero-Gate Voltage Drain Current | IDSS | VDS=5V, VGS=0V | 16.0* | | 50.0* | mA |
| Forward Transfer Admittance | yfs 1 | VDS=5V, ID=10mA, f=1kHz | 14 | 21 | | mS |
| | yfs 2 | VDS=5V, VGS=0V, f=1kHz | 14 | 29 | | mS |
| Input Capacitance | Ciss | VDS=5V, VGS=0V, f=1MHz | | 4.9 | | pF |
| Reverse Transfer Capacitance | Crss | | | 1.4 | | pF |

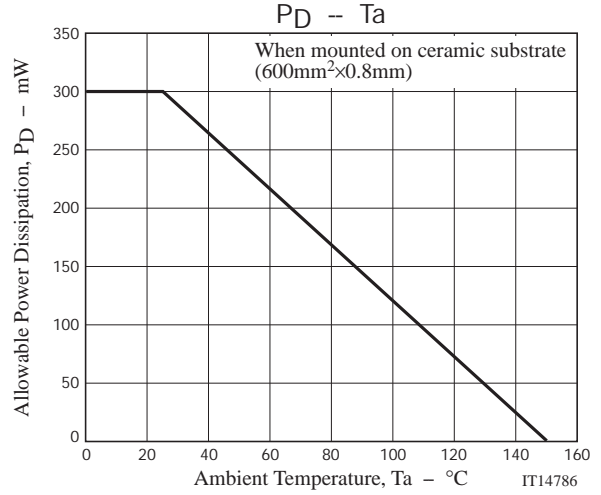
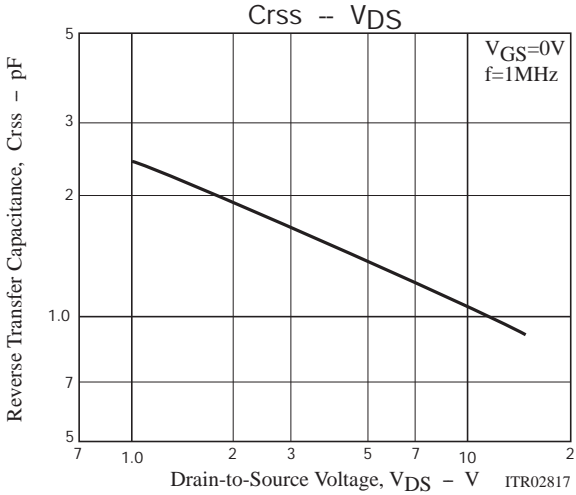
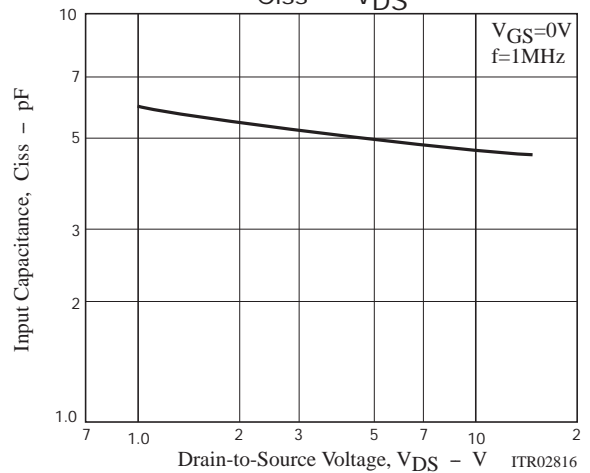
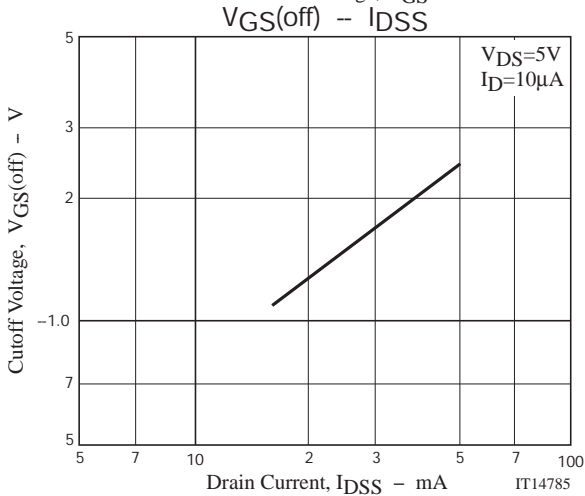
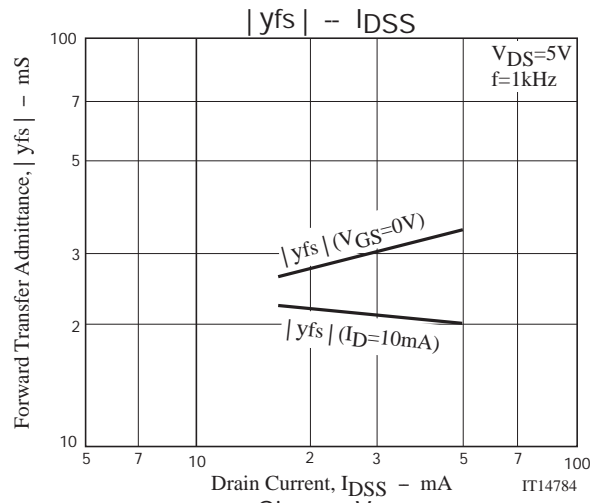
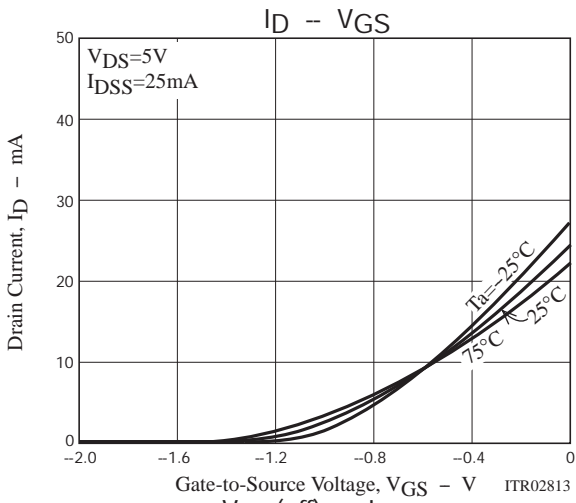
* : The MCH3914 is classified by IDSS as follows : (unit : mA)

| Rank | 7 | 8 |
|------|--------------|--------------|
| IDSS | 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

Taping Specification

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

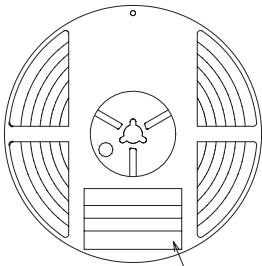
1. Packing Format

| 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 |

Reel label, Inner box label
(unit: mm)

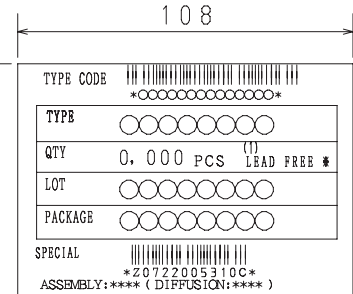
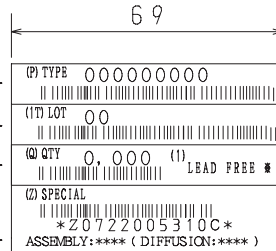
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



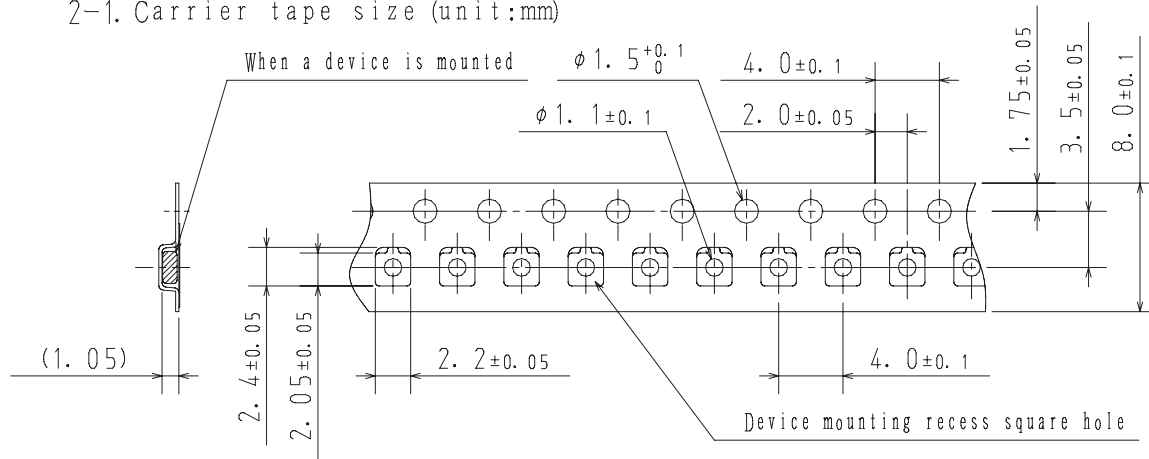
NOTE (1)

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

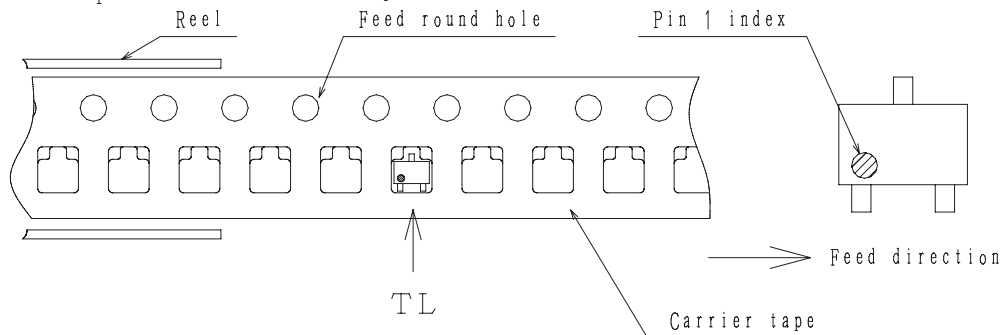
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

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

MCH3914

Outline Drawing

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



Land Pattern Example



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