

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company



N-Channel Silicon MOSFET **CPH3448** — General-Purpose Switching Device **Applications**

Features

- 1.8V drive
- · Halogen free compliance
- · Protection diode in

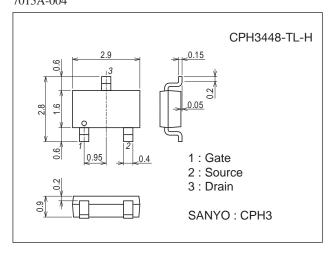
Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|--------|---|-------------|------|
| Drain-to-Source Voltage | VDSS | | 30 | V |
| Gate-to-Source Voltage | VGSS | | ±12 | V |
| Drain Current (DC) | ID | | 4 | А |
| Drain Current (Pulse) | IDP | PW⊴10µs, duty cycle≤1% | 16 | А |
| Allowable Power Dissipation | PD | When mounted on ceramic substrate (900mm ² ×0.8mm) | 1.0 | W |
| Channel Temperature | Tch | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Package Dimensions

unit : mm (typ) 7015A-004



Product & Package Information

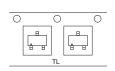
• Package

- JEITA, JEDEC
 - : SC-59, TO-236, SOT-23

: CPH3

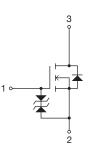
• Minimum Packing Quantity : 3,000 pcs./reel

Packing Type: TL





Electrical Connection

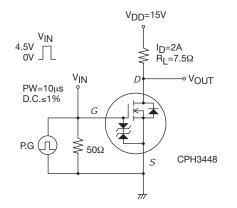


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Electrical Characteristics at Ta=25°C

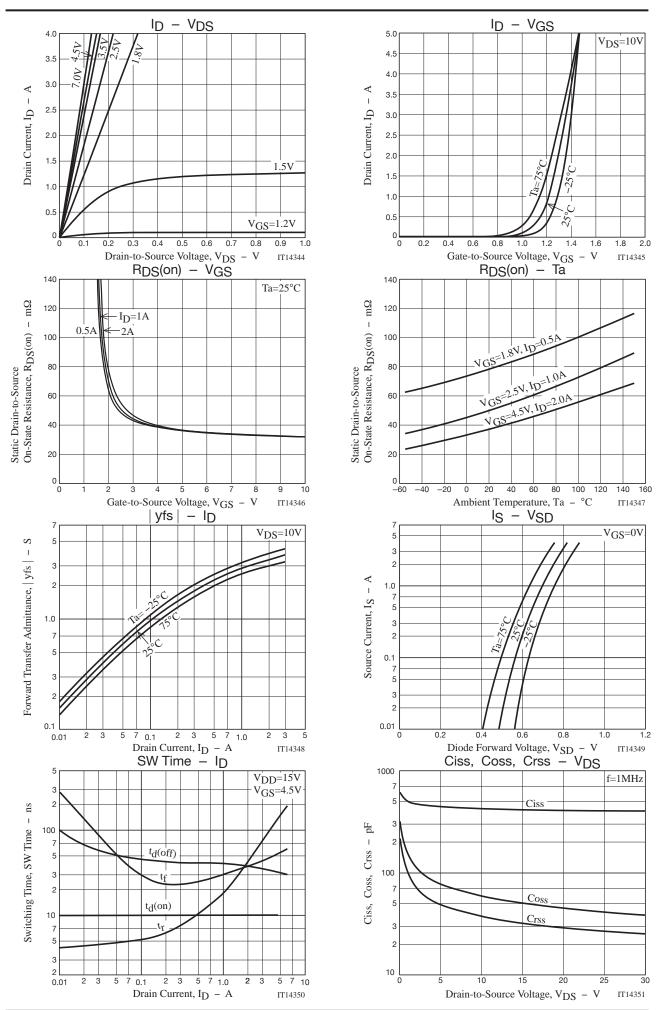
| Parameter | Symbol Conditions | | | 1.1 | | |
|--|-----------------------|---|-----|-------------|-----|--------|
| Parameter | | | min | min typ max | | - Unit |
| Drain-to-Source Breakdown Voltage | V(BR)DSS | ID=1mA, VGS=0V | 30 | | | V |
| Zero-Gate Voltage Drain Current | IDSS | V _{DS} =30V, V _{GS} =0V | | | 1 | μA |
| Gate-to-Source Leakage Current | IGSS | V _{GS} =±8V, V _{DS} =0V | | | ±10 | μΑ |
| Cutoff Voltage | V _{GS} (off) | V _{DS} =10V, I _D =1mA | 0.4 | | 1.3 | V |
| Forward Transfer Admittance | yfs | V _{DS} =10V, I _D =2A | | 3.4 | | S |
| | R _{DS} (on)1 | ID=2A, VGS=4.5V | | 38 | 50 | mΩ |
| Static Drain-to-Source On-State Resistance | R _{DS} (on)2 | ID=1A, VGS=2.5V | | 51 | 72 | mΩ |
| | R _{DS} (on)3 | I _D =0.5A, V _{GS} =1.8V | | 80 | 130 | mΩ |
| Input Capacitance | Ciss | V _{DS} =10V, f=1MHz | | 430 | | pF |
| Output Capacitance | Coss | V _{DS} =10V, f=1MHz | | 59 | | pF |
| Reverse Transfer Capacitance | Crss | V _{DS} =10V, f=1MHz | | 38 | | pF |
| Turn-ON Delay Time | t _d (on) | See specified Test Circuit. | | 10 | | ns |
| Rise Time | tr | See specified Test Circuit. | | 41 | | ns |
| Turn-OFF Delay Time | td(off) | See specified Test Circuit. | | 36 | | ns |
| Fall Time | tf | See specified Test Circuit. | | 37 | | ns |
| Total Gate Charge | Qg | V _{DS} =15V, V _{GS} =4.5V, I _D =4A | | 4.7 | | nC |
| Gate-to-Source Charge | Qgs | V _{DS} =15V, V _{GS} =4.5V, I _D =4A | | 0.8 | | nC |
| Gate-to-Drain "Miller" Charge | Qgd | VDS=15V, VGS=4.5V, ID=4A 1.1 | | | nC | |
| Diode Forward Voltage | V _{SD} | IS=4A, VGS=0V | | 0.82 | 1.2 | V |

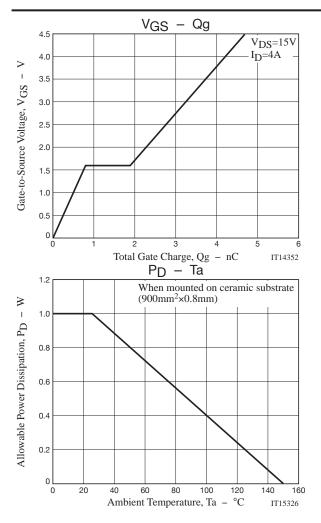
Switching Time Test Circuit

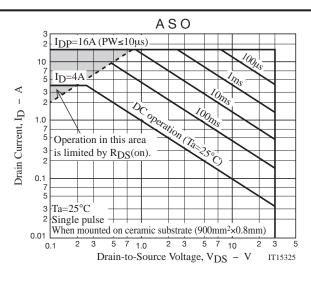


Ordering Information

| 0 | | | | |
|--------------|---------|----------------|--------------------------|--|
| Device | Package | Shipping | memo | |
| CPH3448-TL-H | CPH3 | 3,000pcs./reel | Pb Free and Halogen Free | |







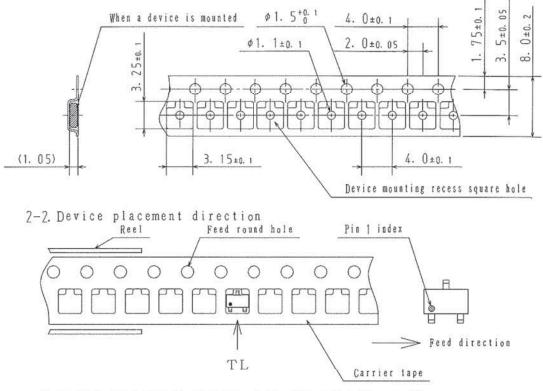
Embossed Taping Specification CPH3448-TL-H

1. Packing Format

| Package Name | Carrier Tape | Maximum Number of devices contained (pcs) | | | Packing format | | | | |
|--------------|-------------------------------|--|--------|--|---|------------------|-----------------|--|--|
| 14-501-50- | Type | Reel inner box Outer box | | Inner BOX (C-1) | | | Outer BOX (A-7) | | |
| СРНЗ | CPH3 | 3, 000 | 15,000 | 90,000 | 5 reels contained Dimensions:mm (external) | | | 6 inner boxes contained al) Dimensions:mm (external) | |
| | | | | | The second second | ×72× | | A STATE OF A | |
| Packing met | :hod | | Reel | (u 1 | nit:mr | <u>x label</u>) | It i The | <u>ter box label</u> is a label at the time of factory shipme form of a label may change in physical tribution process. | |
| | Type | | | | t INDE A THE A CONTRACTOR OF A CONT | | | 108 TYPE CODE •000000000000000000000000000000000000 | |
| | Quan | tity | | CTY 0, 00 111111 1111 111111 SPECIAL # 11111 11111 # 20 7 2 2 (SSEMELY: **** | 0 ⁽¹⁾ LEAD | + + | 8 0 | GTY O, 000 PCS LEAD FREE # LOT OCCONTRACTOR OF CONTRACTOR | |
| | Reel la | | NOTE | : (1) e LBAD FI | REE 💥 de | scription | | special #20722005310C* ASSEMBLY:**** (DIFFUSICN:****) that the surface | |
| | Version and the second second | 1470 - HARA | tr - | eatment o | | | | | |
| | | | | Label LEAD FRE | Contractor and the second | JEITA JEITA P | Phase 3 | | |
| | | | | LEAD FRE | | JEITA P | | | |

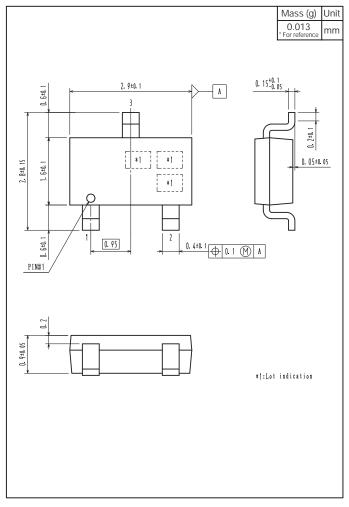
2. Taping configuration

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

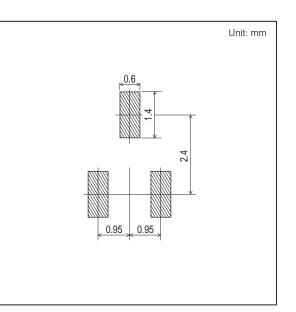


Those with one electrode terminal on the feed hole side TL

Outline Drawing CPH3448-TL-H



Land Pattern Example



Note on usage : Since the CPH3448 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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