



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

P-Channel Silicon MOSFET

# CPH3348 — General-Purpose Switching Device Applications

## Features

- Ultrahigh-speed switching
- 1.8V drive

## Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-12	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±10	V
Drain Current (DC)	I <sub>D</sub>		-3	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-12	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (1200mm <sup>2</sup> ×0.8mm)	1.0	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

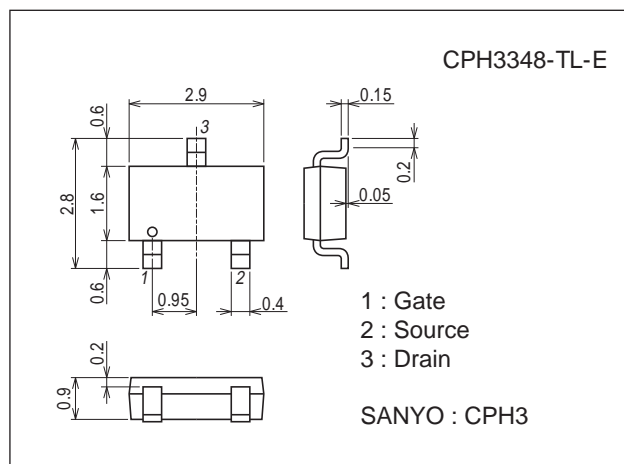
This product is designed to "ESD immunity &lt; 200V\*\*", so please take care when handling.

\* Machine Model

## Package Dimensions

unit : mm (typ)

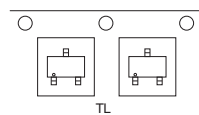
7015A-004



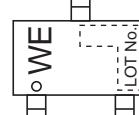
## Product & Package Information

- Package : CPH3
- JEITA, JEDEC : SC-59, TO-236, SOT-23
- Minimum Packing Quantity : 3,000 pcs./reel

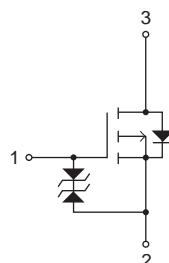
## Packing Type: TL



## Marking



## Electrical Connection

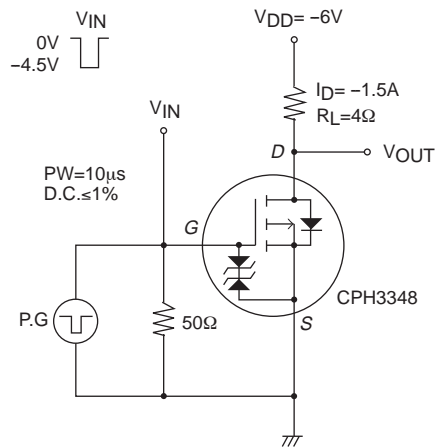


# CPH3348

## Electrical Characteristics at Ta=25°C

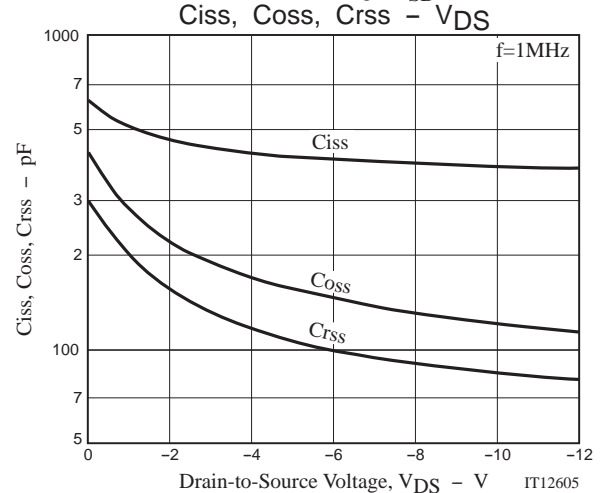
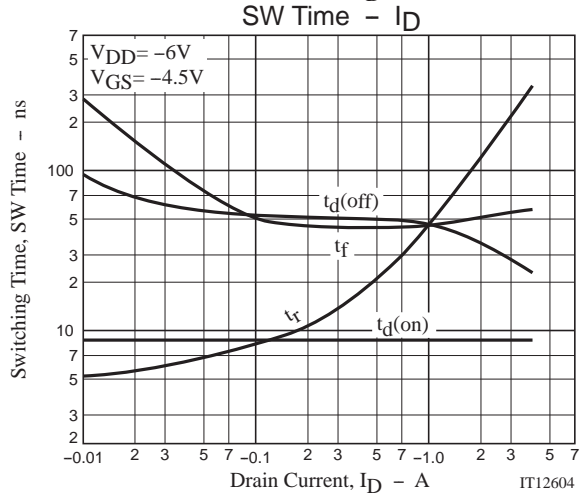
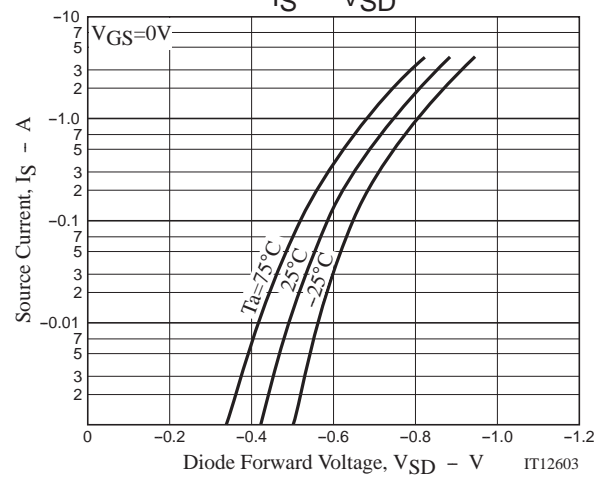
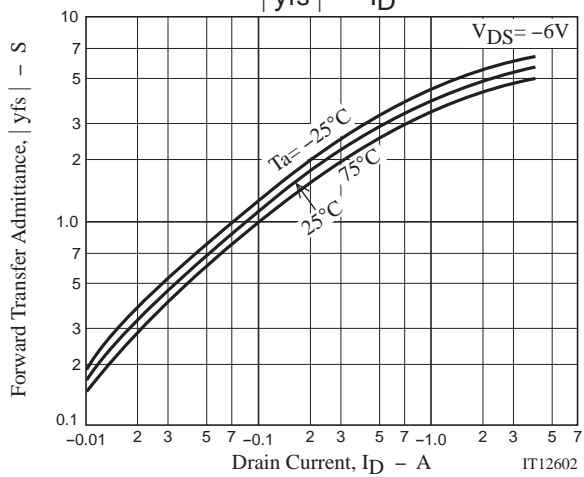
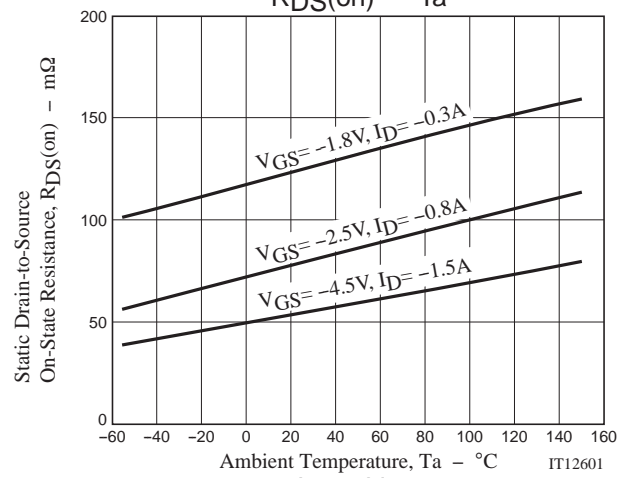
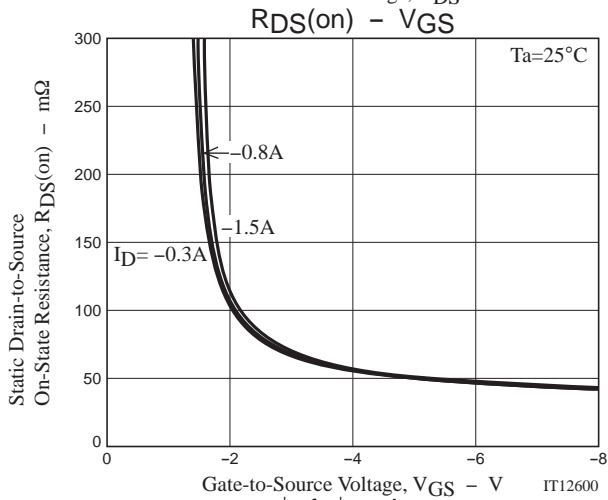
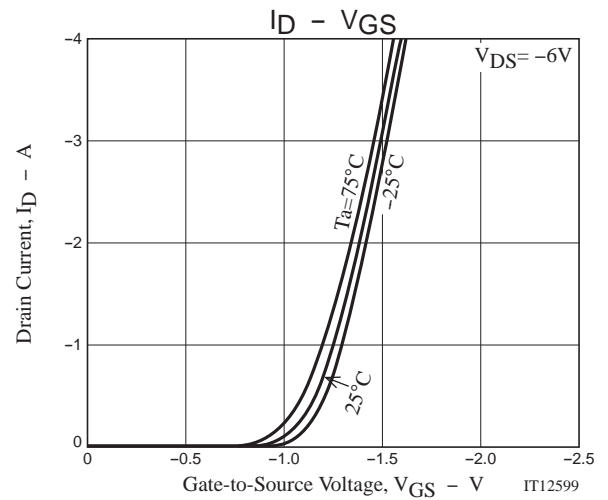
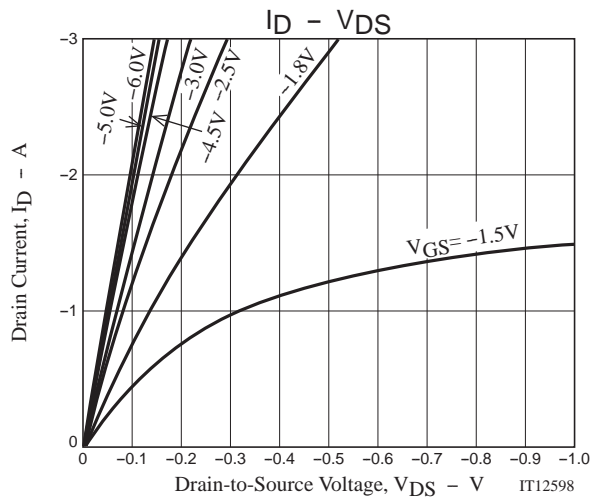
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = -1mA, V_{GS} = 0V$	-12			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -12V, V_{GS} = 0V$			-10	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -6V, I_D = -1mA$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -6V, I_D = -1.5A$		4.3		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -1.5A, V_{GS} = -4.5V$		54	70	m $\Omega$
	$R_{DS(on)2}$	$I_D = -0.8A, V_{GS} = -2.5V$		80	115	m $\Omega$
	$R_{DS(on)3}$	$I_D = -0.3A, V_{GS} = -1.8V$		125	215	m $\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = -6V, f = 1MHz$		405		pF
Output Capacitance	$C_{oss}$			145		pF
Reverse Transfer Capacitance	$C_{rss}$			100		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		8.8		ns
Rise Time	$t_r$			80		ns
Turn-OFF Delay Time	$t_d(off)$			41		ns
Fall Time	$t_f$			50		ns
Total Gate Charge	$Q_g$	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -3A$		5.6		nC
Gate-to-Source Charge	$Q_{gs}$			0.7		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			1.6		nC
Diode Forward Voltage	$V_{SD}$	$I_S = -3A, V_{GS} = 0V$		-0.85	-1.2	V

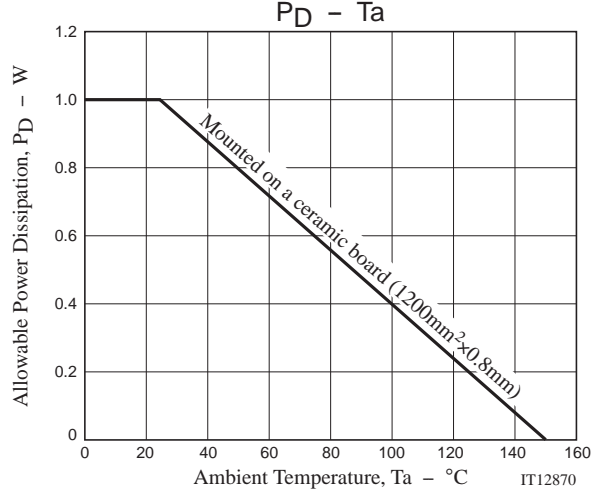
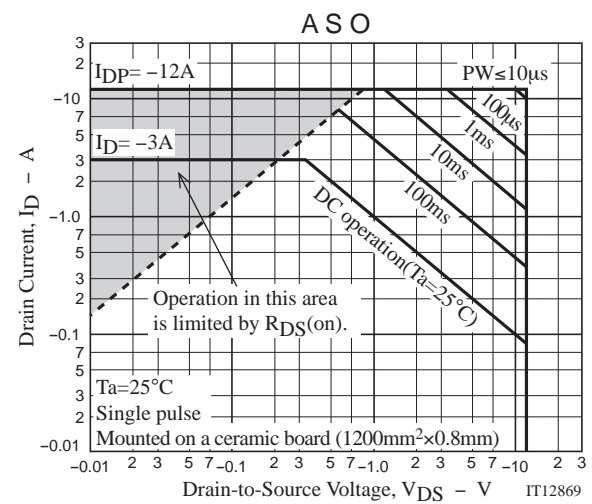
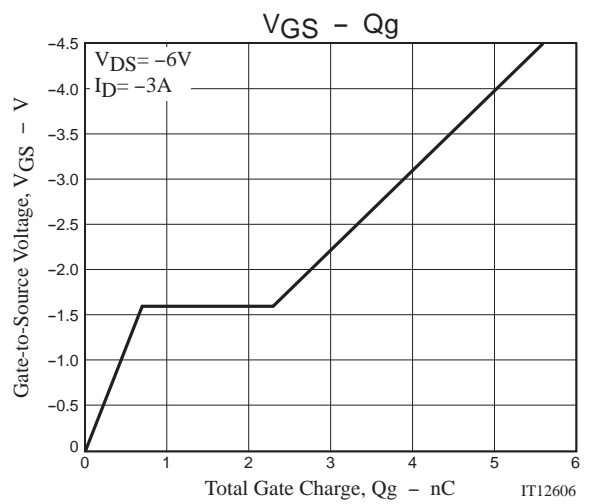
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
CPH3348-TL-E	CPH3	3,000pcs./reel	Pb Free





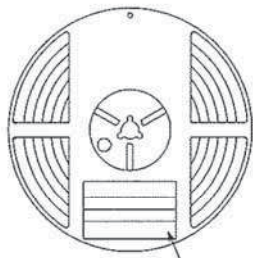
## Embossed Taping Specification

CPH3348-TL-E

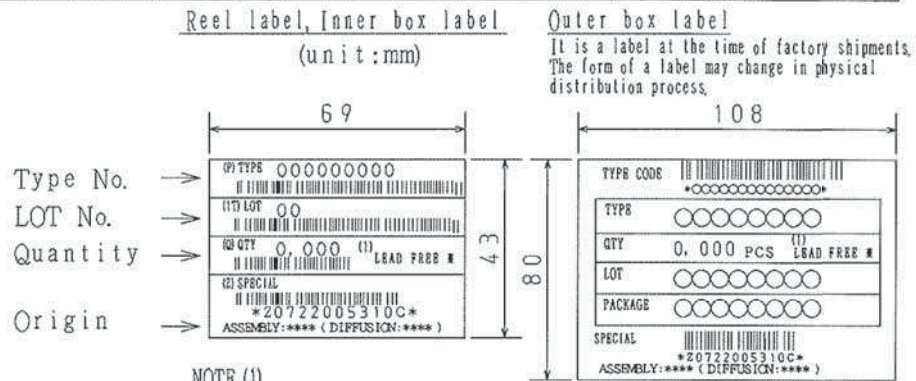
## 1. Packing Format

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)
CPH3	CPH3	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

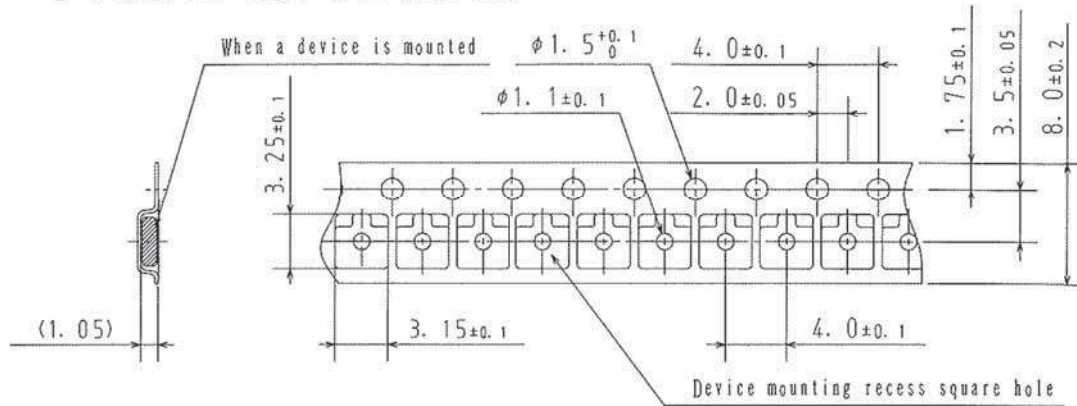


Reel label

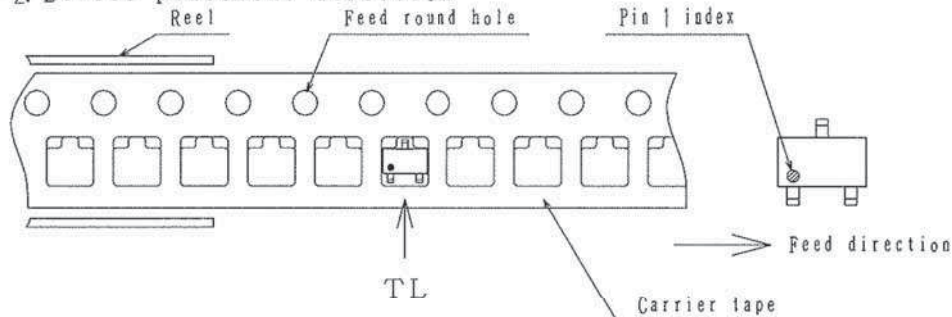


## 2. Taping configuration

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

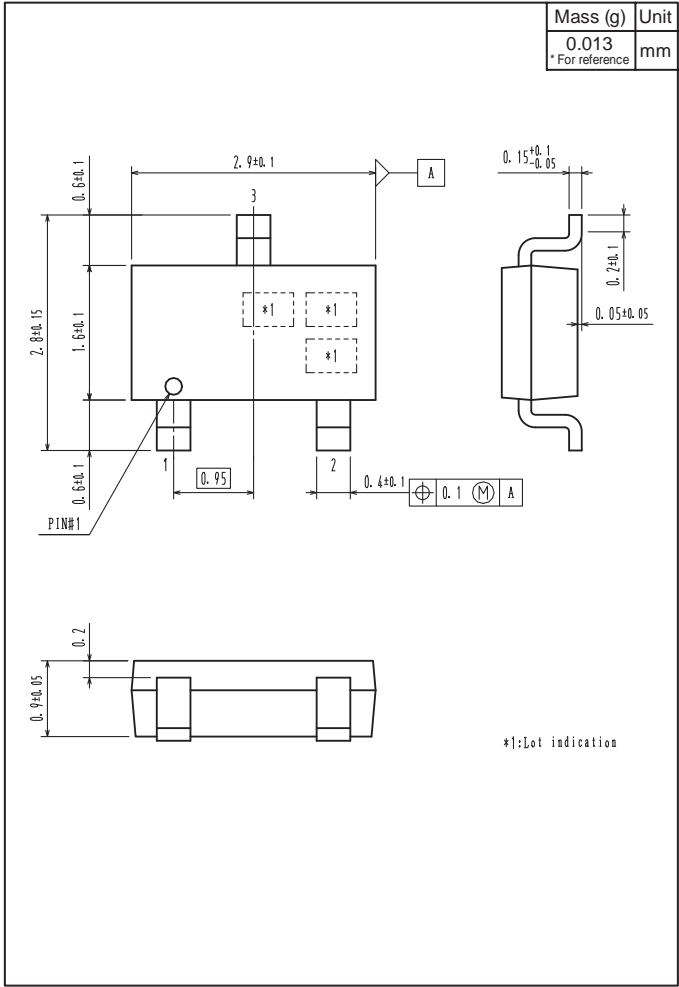


## 2-2. Device placement direction

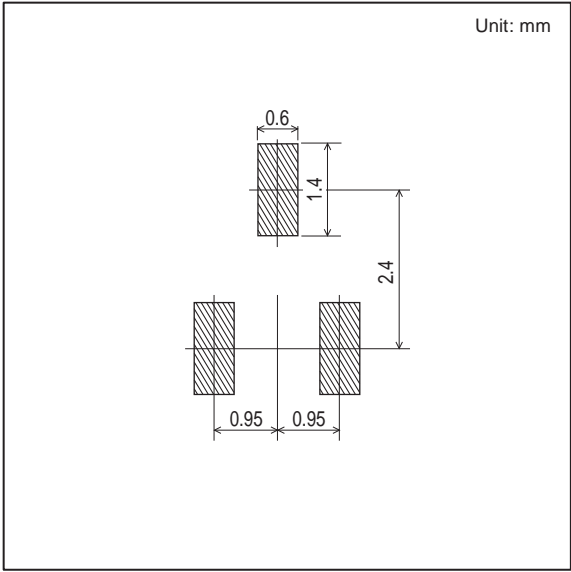


Those with one electrode terminal on the feed hole side.....TL

Outline Drawing  
CPH3348-TL-E



Land Pattern Example



Note on usage : Since the CPH3348 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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