



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH3474 — N-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

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

Specifications

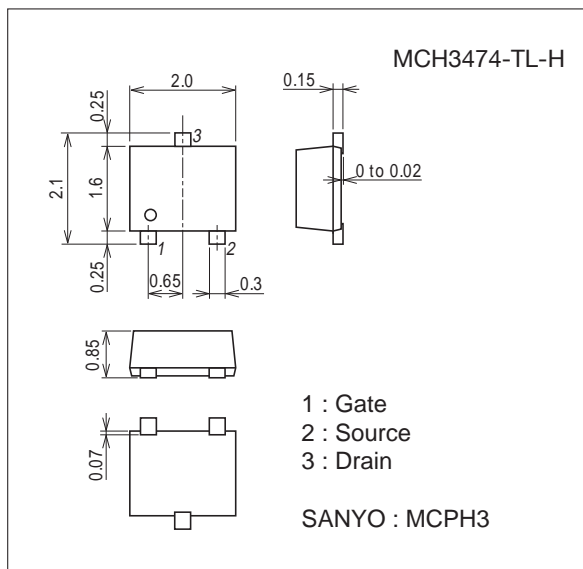
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		30	V
Gate-to-Source Voltage	V _{GSS}		±12	V
Drain Current (DC)	I _D		4	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	16	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

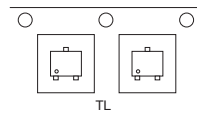
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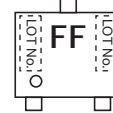
Product & Package Information

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

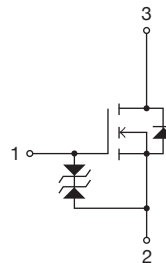
Packing Type : TL



Marking



Electrical Connection

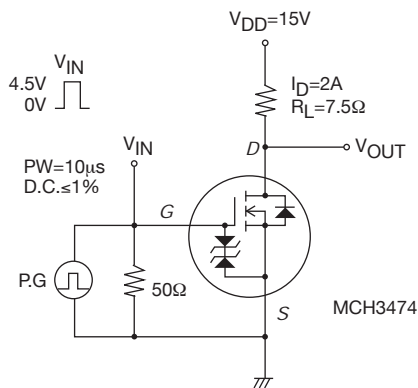


MCH3474

Electrical Characteristics at $T_a=25^\circ\text{C}$

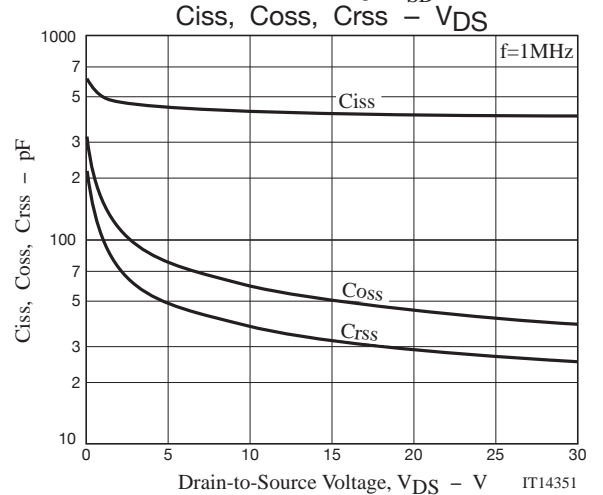
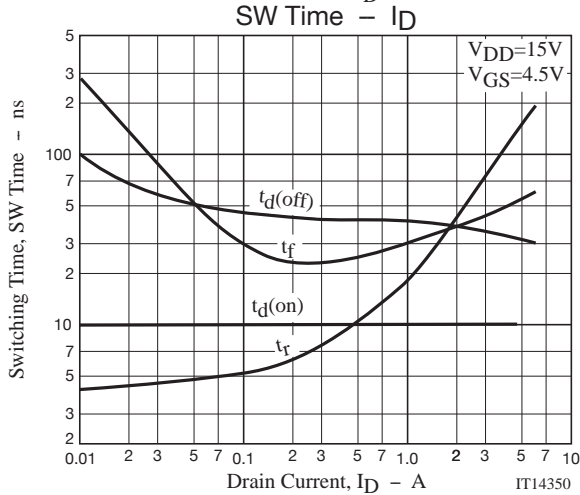
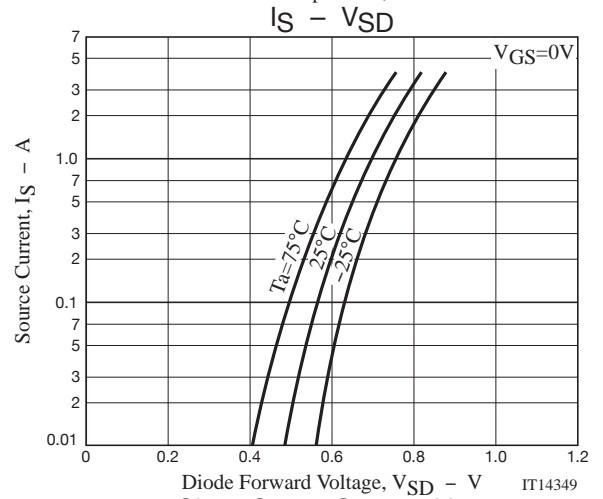
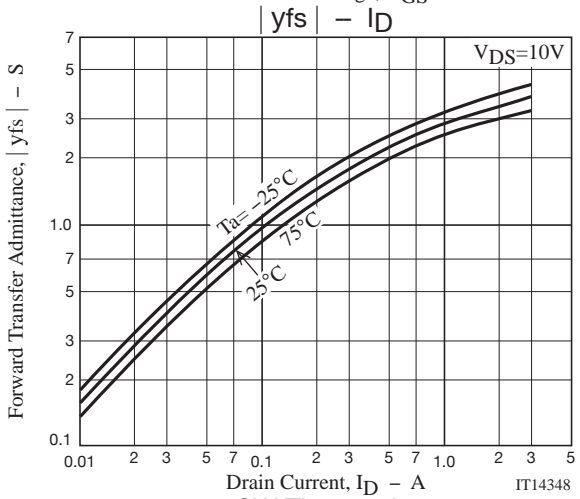
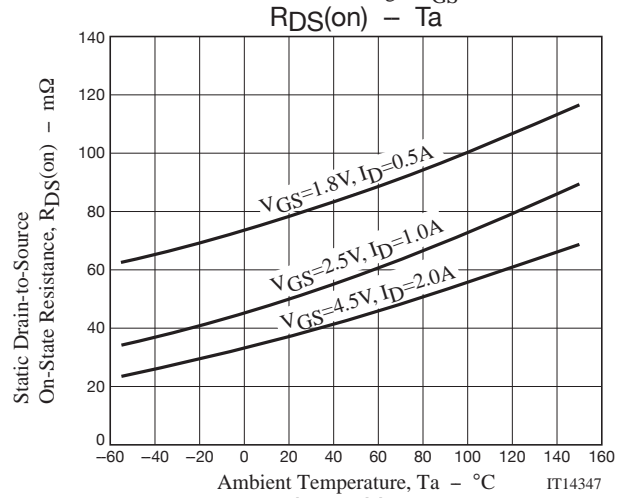
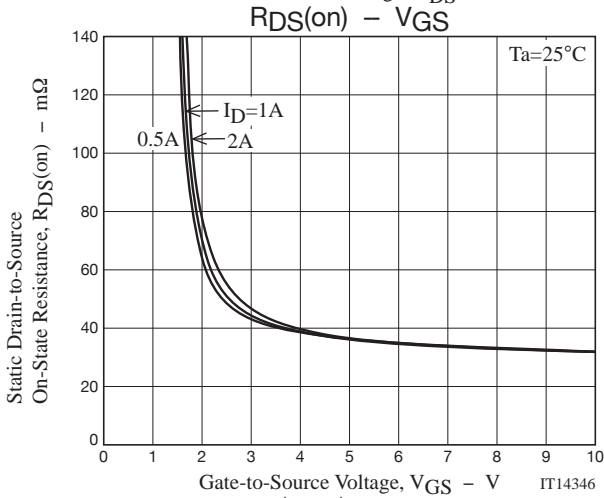
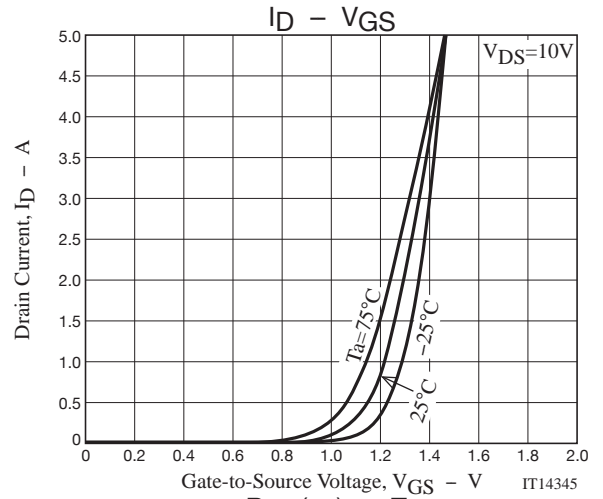
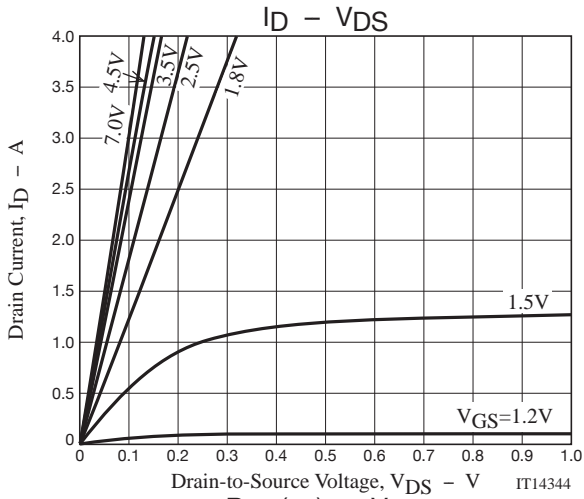
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0\text{V}$	30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$, $I_D=1\text{mA}$	0.4		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$, $I_D=2\text{A}$	2.0	3.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=2\text{A}$, $V_{GS}=4.5\text{V}$		38	50	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=1\text{A}$, $V_{GS}=2.5\text{V}$		51	72	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=0.5\text{A}$, $V_{GS}=1.8\text{V}$		80	130	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10\text{V}$, $f=1\text{MHz}$		430		pF
Output Capacitance	C_{oss}			59		pF
Reverse Transfer Capacitance	C_{rss}			38		pF
Turn-ON Delay Time	$t_{d(on)}$		See specified Test Circuit.		10	
Rise Time	t_r			41		ns
Turn-OFF Delay Time	$t_{d(off)}$			36		ns
Fall Time	t_f			37		ns
Total Gate Charge	Q_g	$V_{DS}=15\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=4\text{A}$			4.7	
Gate-to-Source Charge	Q_{gs}			0.8		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			1.1		nC
Diode Forward Voltage	V_{SD}		$I_S=4\text{A}$, $V_{GS}=0\text{V}$		0.82	1.2

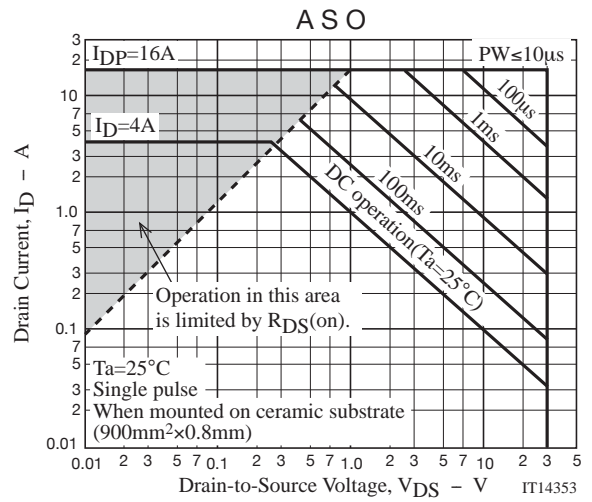
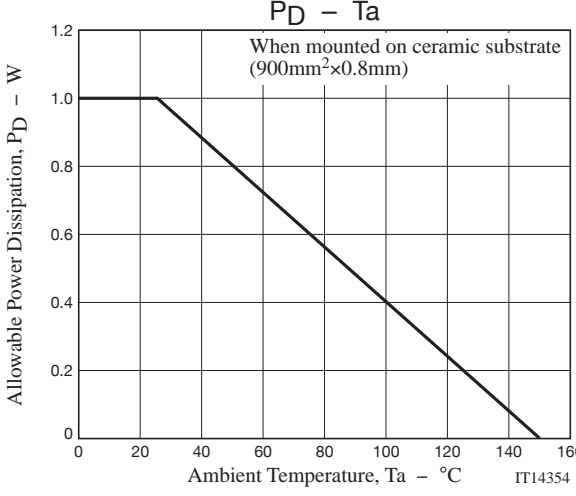
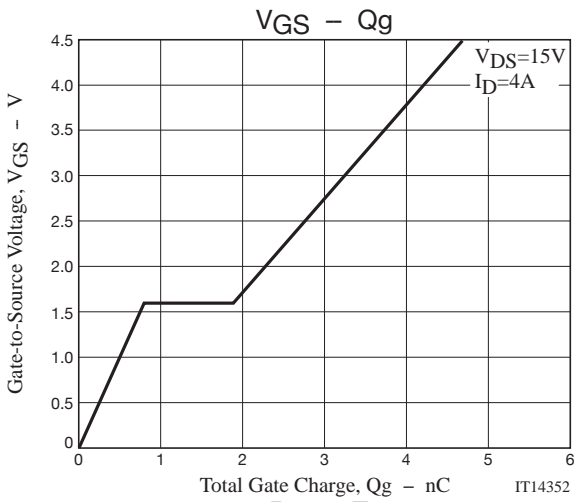
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
MCH3474-TL-H	MCPH3	3,000pcs./reel	Pb Free and Halogen Free





Taping Specification

MCH3474-TL-H

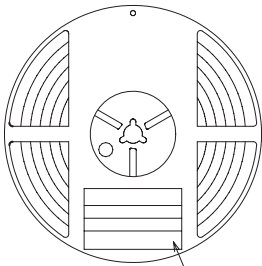
1. Packing Format

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)

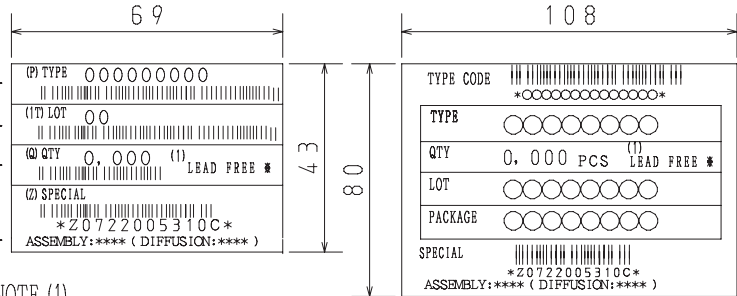
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



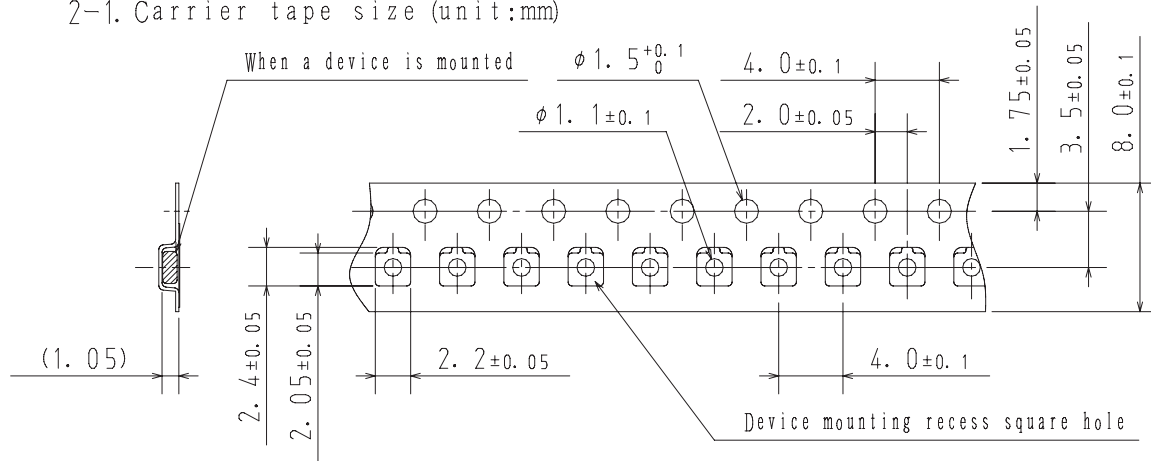
NOTE (1)

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

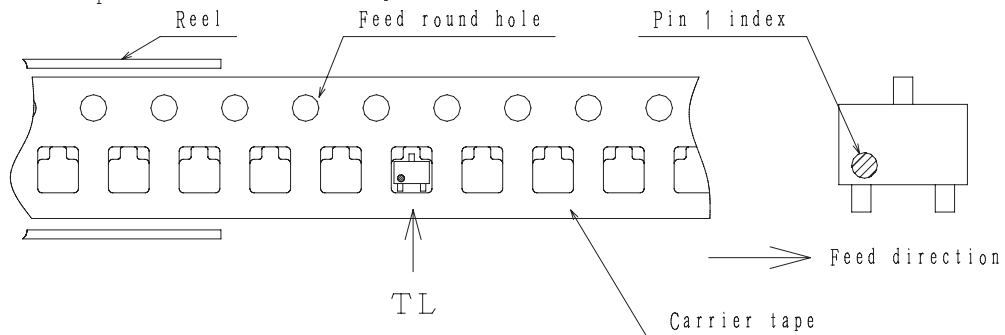
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

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

Note on usage : Since the MCH3474 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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