



5HN01M — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance
- Ultrahigh-speed switching
- 4V drive

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		50	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		0.1	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	0.4	A
Allowable Power Dissipation	P _D		0.15	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

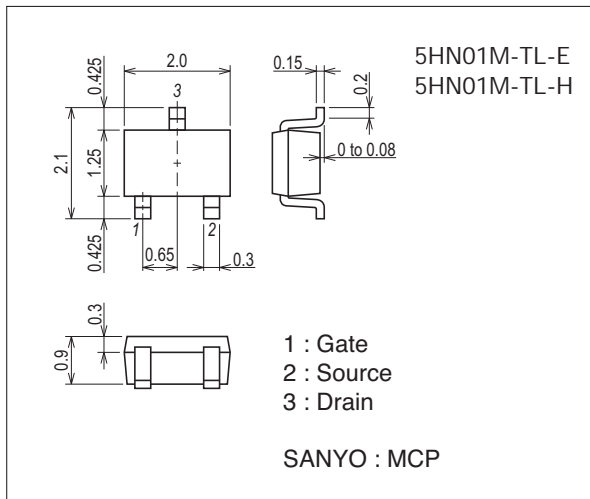
This product is designed to "ESD immunity < 200V**", so please take care when handling.

* Machine Model

Package Dimensions

unit : mm (typ)

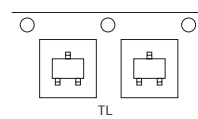
7023A-010



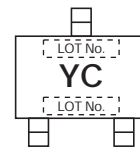
Product & Package Information

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

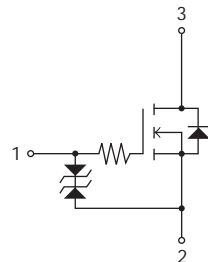
Packing Type: TL



Marking



Electrical Connection

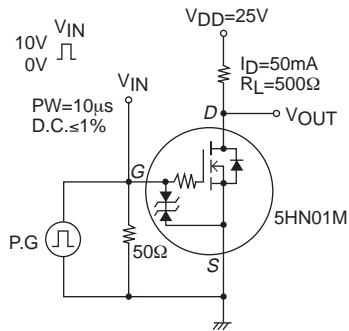


5HN01M

Electrical Characteristics at Ta=25°C

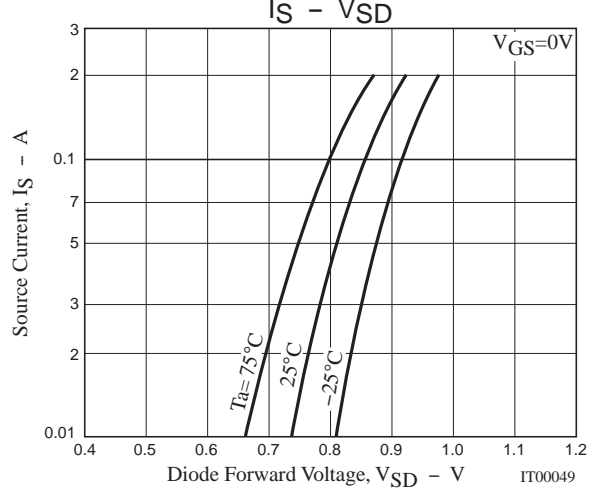
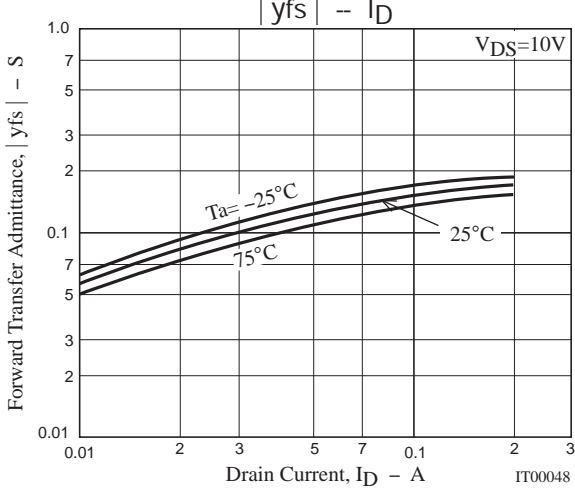
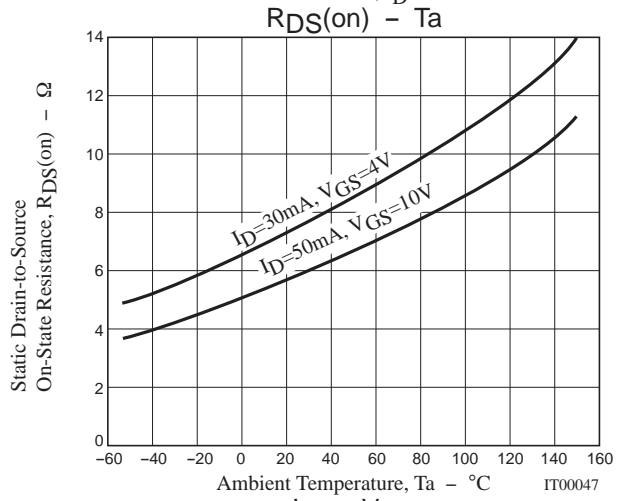
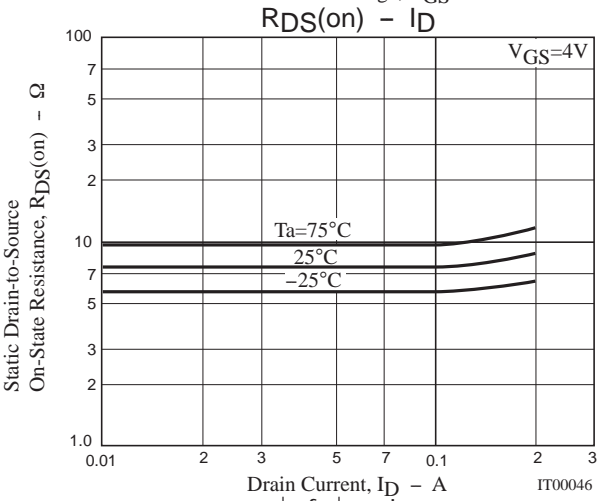
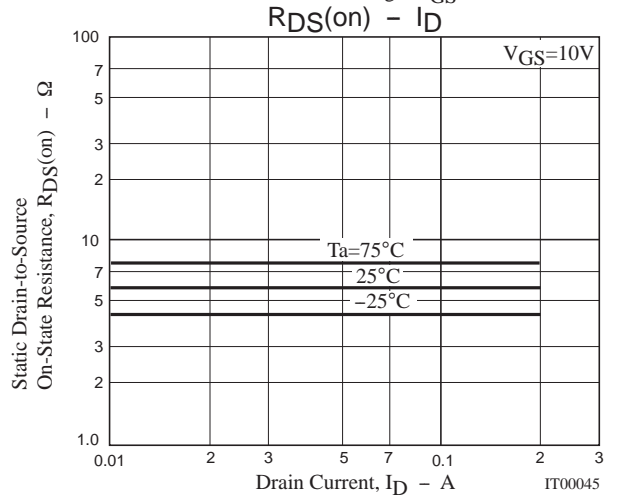
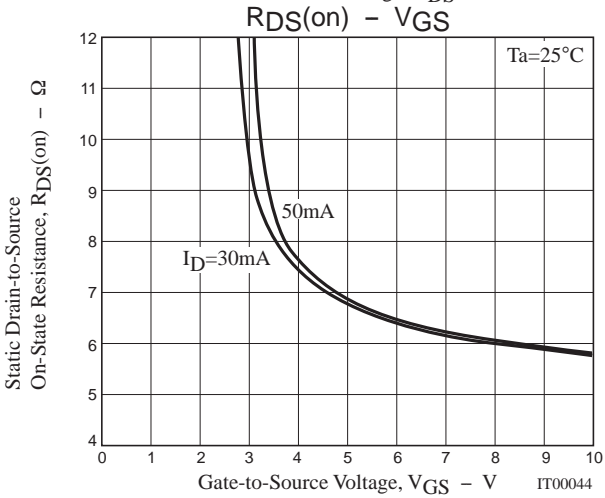
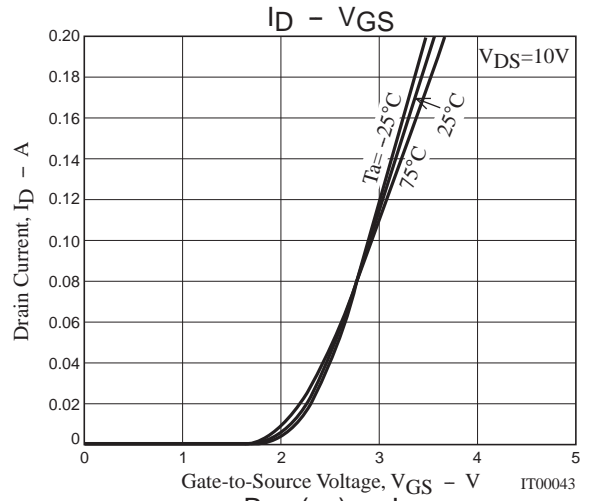
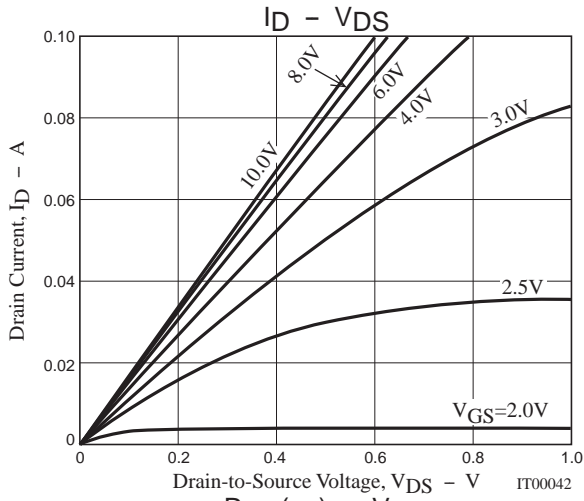
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	50			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =50V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =100μA	1		2.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =50mA	85	120		mS
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =50mA, V _{GS} =10V		5.8	7.5	Ω
	R _{DS(on)2}	I _D =30mA, V _{GS} =4V		7.5	10.5	Ω
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		6.2		pF
Output Capacitance	C _{oss}			4.4		pF
Reverse Transfer Capacitance	C _{rss}			1.5		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		10		ns
Rise Time	t _r			11		ns
Turn-OFF Delay Time	t _{d(off)}			105		ns
Fall Time	t _f			75		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =100mA		1.40		nC
Gate-to-Source Charge	Q _{gs}			0.21		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			0.34		nC
Diode Forward Voltage	V _{SD}	I _S =100mA, V _{GS} =0V		0.85	1.2	V

Switching Time Test Circuit

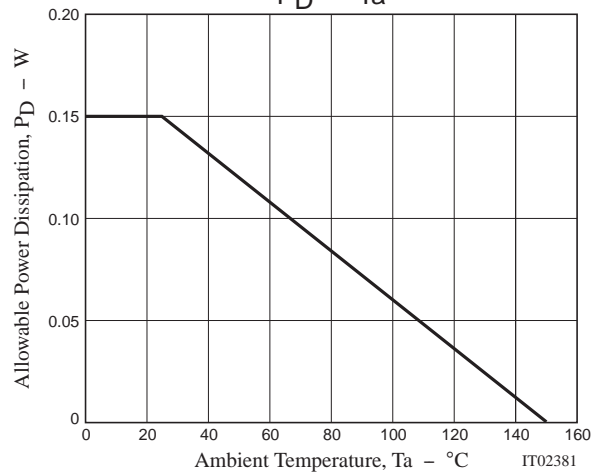
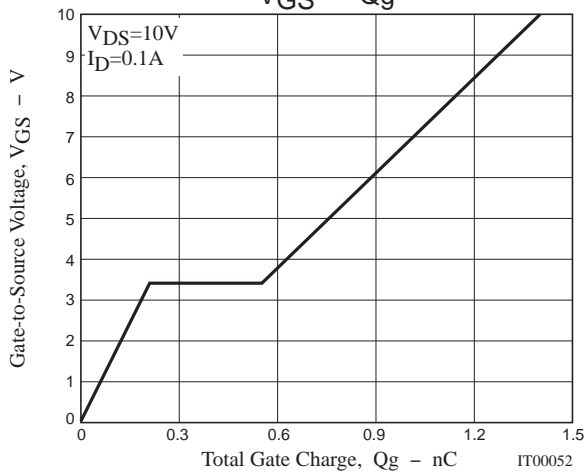
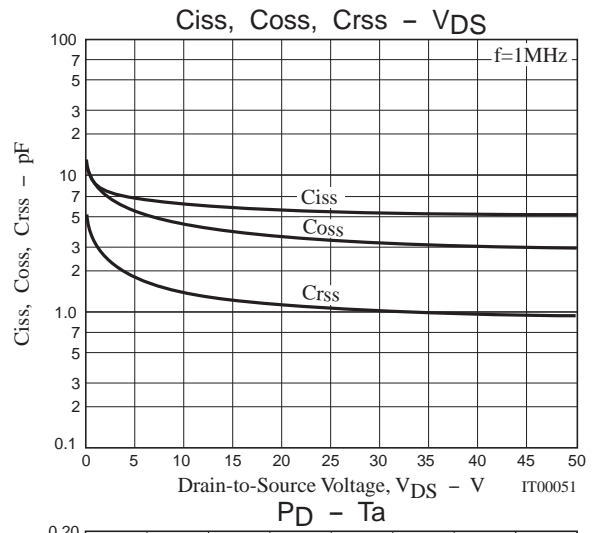
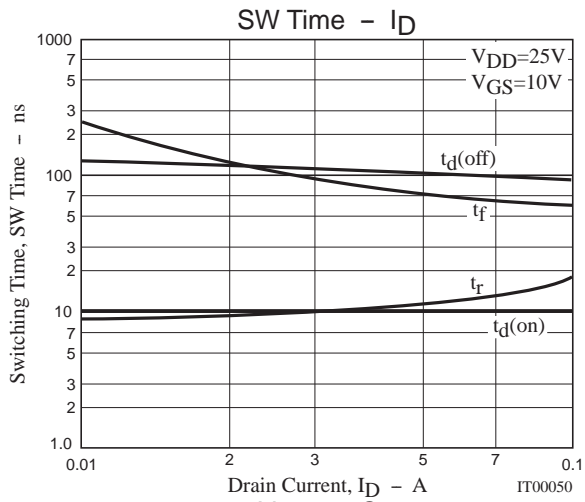


Ordering Information

Device	Package	Shipping	memo
5HN01M-TL-E	MCP	3,000pcs./reel	Pb Free
5HN01M-TL-H	MCP	3,000pcs./reel	Pb Free and Halogen Free



5HN01M



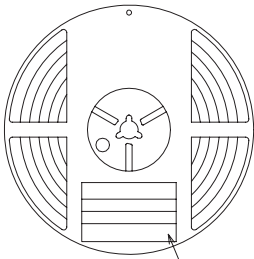
Embossed Taping Specification

5HN01M-TL-E, 5HN01M-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)
MCP	MCP	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

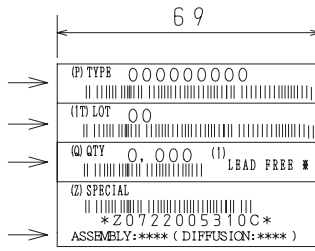
Packing method



Reel label

Type No.
LOT No.
Quantity
Origin

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.

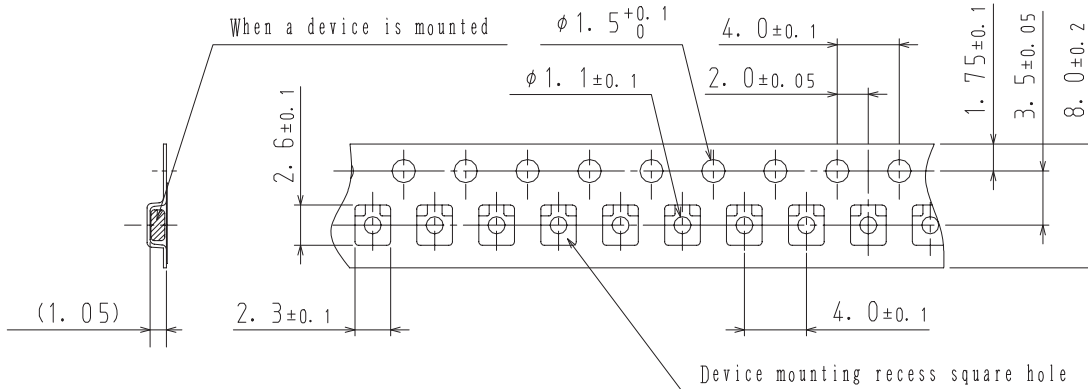
NOTE (1)

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

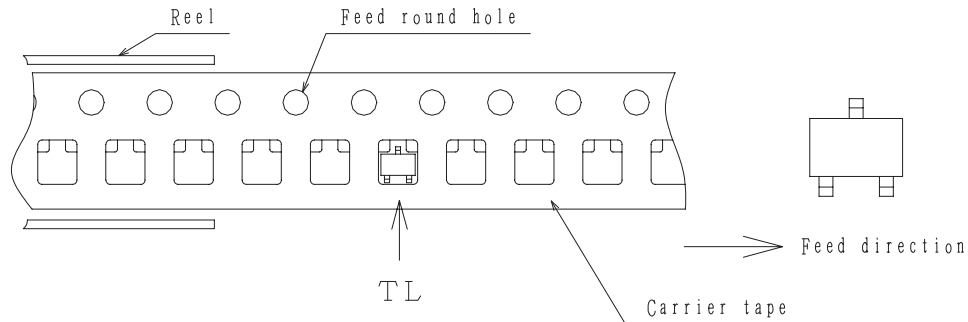
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

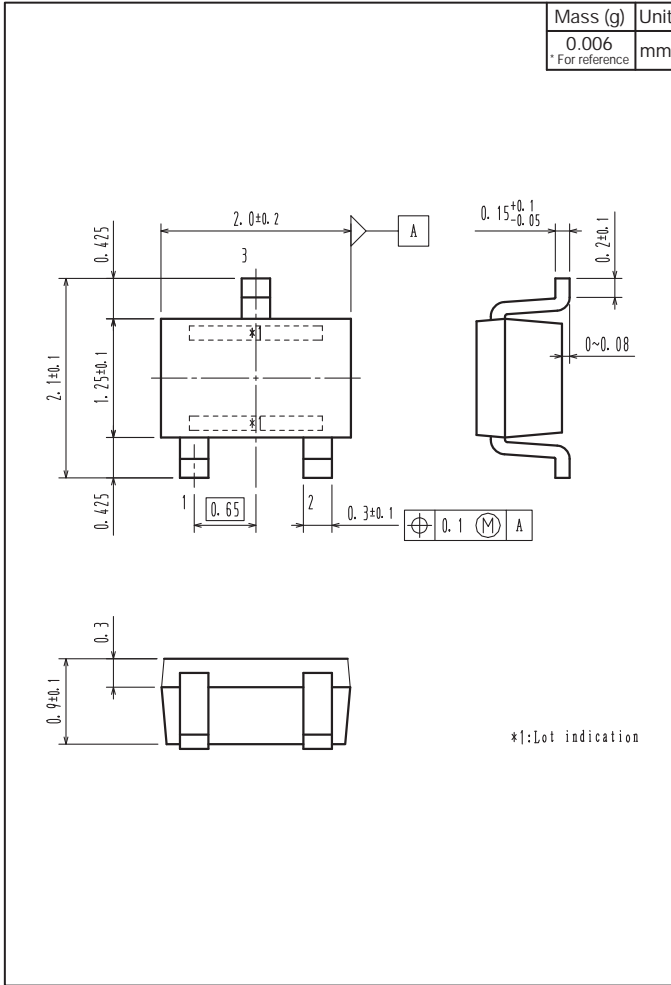


Those with oen electrode terminal on the feed hole side.....TL

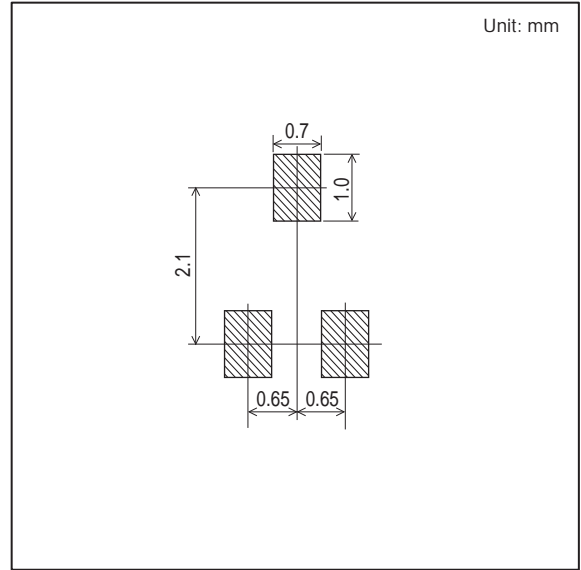
5HN01M

Outline Drawing

5HN01M-TL-E, 5HN01M-TL-H



Land Pattern Example





Note on usage : Since the 5HN01M is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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